CIVICRM

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1. WHAT IS CIVICRM?

CiviCRM is a powerful, web-based contact **relationship management** (CRM) system. It allows an organisation to record and manage information about the various people and other organizations it deals with. CiviCRM is more than just an address book, it also allows you to track your interactions with people and organizations and to get them to engage with, and potentially give money to, your organization through your website. The information you gather is all stored in one place but you can access it from almost anywhere.

CiviCRM focuses on the needs of **non-profits**. Most business CRMs are focused on managing commerce; CiviCRM emphasizes communicating with individuals, community engagement, managing contributions, and administering memberships.

CiviCRM is **open source**, which means there are no license costs or user fees associated with downloading, installing or using the software. You may incur costs if you use a consultant to implement CiviCRM to meet your specific needs and you may incur website hosting charges.

CiviCRM is **web-based**, which means it can be accessed by many users at the same time from different locations. It has been developed with the international community in mind, and translations and multi-language options are supported.

A MODEL FOR UNDERSTANDING CRMS

One way to understand what a CRM does is to think of your personal address book with enhanced capabilities. Imagine that every time you make a phone call to a given person, your address book automatically makes a note of it, together with brief description of the conversation. It can also decide whether to ask this person for a particular favor, based on whether she did this favor for you a week ago, and schedule a follow-up meeting following the call. After using this address book for a while, you could ask "What were my interactions with Ji Lao?" or "How many people helped me this month?" and it would give you the whole history.

Now let's say you're organizing a dinner party and you want to invite all the people you've met during the previous year. Just write the invitation and tell your address book to send the email. You don't have to worry about anything else after this point (apart from preparing the dinner!). Your address book handles the RSVPs from all invited guests, together with information about who is vegetarian and who is not. It even lets you know two nights before the event how many people you can expect.

It would be great to have such an "assistant", right? Organizations need one even more. It's hard to remember all of your meetings, phone calls and other forms of contact (especially over the long term), but the more you know about the people and organisations you interact with, the more successful your work will be. You'll be able to target your message to specific groups, because you know who will be interested in specific topics, and you'll be able to observe their reactions and adjust your next interaction, and continue to improve how you talk to different groups.

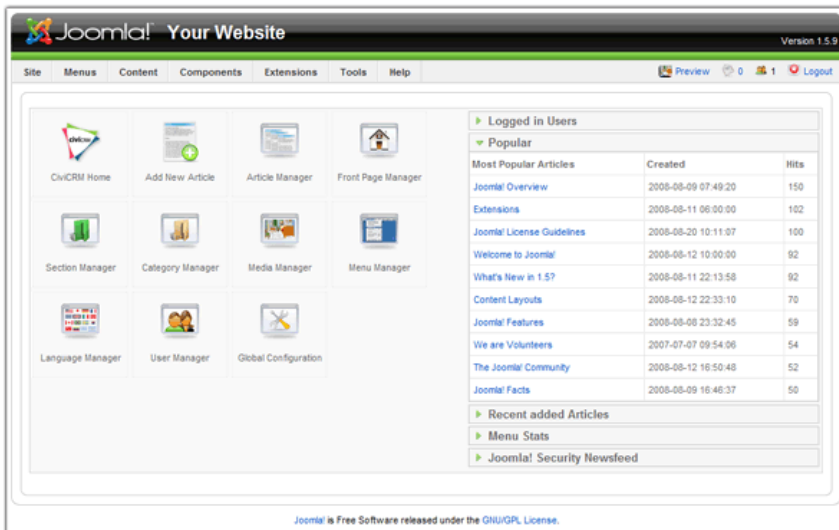## CIVICRM AND CONTENT MANAGEMENT SYSTEMS

CiviCRM works together with another common piece of software: a content management system (CMS). A CMS is a tool for creating and managing websites, and most websites these days are based on a CMS.

Integration with a CMS offers a number of advantages for CiviCRM, most notably:

- visitors to your website can carry out many activities on their own, such as renewing their membership, signing up for events, requesting email updates, and donating money
- you can share parts of your data, for example event information, with visitors to your website
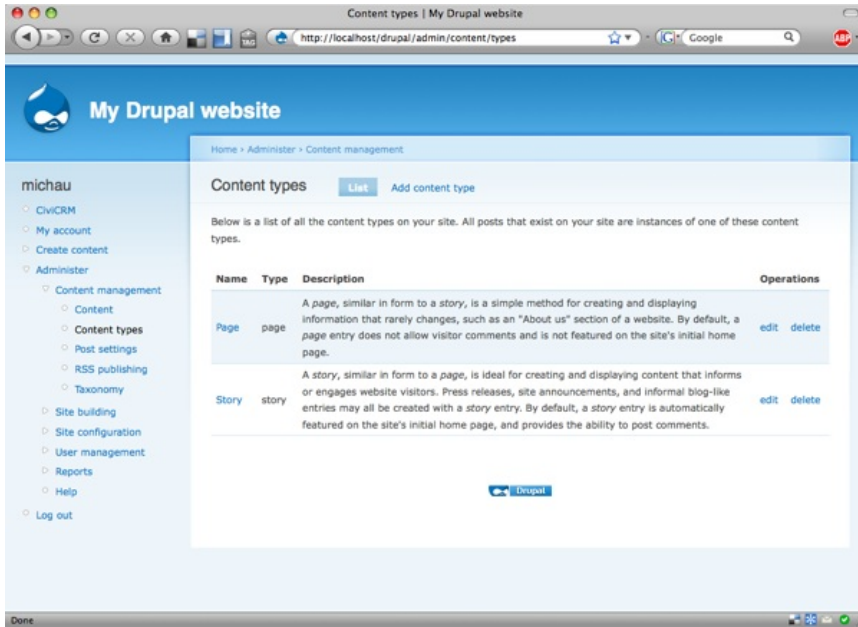
Drupal Content Management System - Content Types Screen

Joomla! Content Management System - Control Panel screen

2. REAL WORLD EXAMPLES

CiviCRM is used by all shapes and sizes of organisations that are located all over the world. Some have no paid employees, while others might have several hundred. Their needs range from very simple to fairly complex. In this chapter, we will have a look at real world examples of how organizations are using CiviCRM.

Throughout this chapter you will see references to CiviCRM features such as CiviEmail, CiviMember, CiviPledge, CiviCRM Profiles and others. These are all components of CiviCRM and we have included references to them so you can become familiar with the language of CiviCRM; however, it's not important to understand the finer detail of these features at this point.

A SPECTACULAR PERFORMANCE

This example shows how clubs can use CiviCRM for summer camps, regular classes and other events.

Wellington Circus Trust in Wellington, New Zealand is run entirely by volunteers. They have a mailing list of 500-600 people and run blocks of classes in circus skills such as trapeze and hula hoop. They also host events. For safety reasons, the Trust needs to gather information about who to contact in the case of a student being injured. The Trust processes about 200 enrolments a year.

Prior to using CiviCRM, the Trust maintained a Microsoft Access database, but data entry was time-consuming, keeping information up-to-date was difficult and emailing the resulting contact information to the tutors on a regular basis was challenging. The treasurer wanted members to be able to maintain their own details and wanted the tutors and volunteers to be able to access member's contact details from anywhere.

What They Did

After some research, the Trust decided that CiviCRM could enable them do the things they needed to do, and as soon as the system was up and running they began to make the most of it.

- They up online enrolment for circus skills classes with the CiviEvent component, and decided to pay a commission to a payment processing company so that credit cards could be used for online class payments. They also used CiviEvent to set limits on the number of students that could enroll in a given class.

- To track emergency contact information, custom data fields were created and added to a profile that was used as a form for event registration. This information was then stored in CiviCRM.

- They integrated CiviCRM with Drupal and set up user accounts for every contact in their database. The system's users were then instructed on how to use the Drupal 'reset my password' link to gain access to the system for the first time so that they could then update their own information.
- CiviMail was implemented to contact tutors, volunteers and students.
- Since the Trust applies for grants from funding bodies, they enabled the CiviGrant component.

The Results

Simply by implementing CiviCRM, tutors and volunteers can now access and manage information from anywhere in the world where they have internet connectivity.

By implementing CiviEvent with a payment processor and custom data fields, people are able to enroll in and pay for classes online and provide the important emergency contact information at the same time. Allowing people to sign-up online has greatly reduced the amount of time spent on data entry.

By integrating CiviCRM with Drupal and setting up user accounts, contacts are able to maintain and update their own information, greatly reducing administration time and improving the accuracy of the data.

Implementing CiviMail has made it easy to email tutors, volunteers and students, and removed the administrative burden of manually updating the mailing list and contact information because contacts can do their own updates. The treasurer also found that it saved her from having hundreds of sent items in her email client, which used to be the result of using Microsoft Office mail merges to send out email newsletters.

Prior to implementing CiviGrant, the Wellington Circus Trust had not been effective at tracking the status of grant applications. By using CiviGrant, they are now able to see at a glance what grant applications had been sent and the status of each application.

All up, the Trust estimates that installing CiviCRM has saved hundreds of volunteer hours over the course of a year.

After moving to CiviCRM, the Trust found that both contact management and class registration were easier. One issue they encountered was that some people were confused about having to reset their Drupal passwords. The Trust thinks that putting more effort into the way they explained this on their website would have helped. Another issue was the standard PayPal interface which was initially implemented as a payment processor; people found this difficult to use, and after six months the Trust invested in developing a payment processor more appropriate to New Zealand.

They also learned that a cheap hosting provider is not always the best option: quite a bit of time was wasted before they switched from a free provider to one that costs them approximately $NZD20 per month and provides significantly better service.

SUFFERING RELIEVED!

The American Friends Service Committee (AFSC) is a large, Quaker-based, peace and social justice organisation with over 400 employees. Worldwide, they run programmes that work to relieve and prevent suffering through both immediate aid and long-term development, and they seek to serve the needs of people on all sides of violent strife.

Their main headquarters are located in Philadelphia, Pennsylvania. They have nine regional headquarters located throughout the United States, some 50 area offices also located in the USA, and numerous international field offices located in Africa, Asia, Europe, Latin America, the Caribbean and the Middle East.

Lists of constituents are maintained by each office. The specific CRM system needs of each office vary but the general needs are: searching for constituents that meet certain criteria; sending emails, newsletters, postal mail and announcements; and collecting the contact information of people who sign online petitions and register for events online.

Through a survey conducted by the AFSC Information Technology Department, it was revealed that AFSC staff were using a variety of systems to keep track of their constituents. It also became obvious that these systems were not working effectively: repositories of data were everywhere, contact information was duplicated, staff were having a hard time managing their contacts and the IT Department was unable to provide adequate support.

The survey also found that staff members were frustrated with the systems they were using because they lacked the necessary functionality for them to effectively communicate and do outreach. Specifically: search capability was limited; there was no ability to send high-volume emails which meant that it was not possible to send newsletters or announcements; and there was no ability to collect information online.

After investigating several database systems, the IT Department finally decided that, all things considered, CiviCRM might be the best fit for the AFSC.

What They Did

Initially, CiviCRM sites with CiviMail, managed by an external vendor, were established for offices in Los Angeles, Rhode Island, San Francisco and Seattle. Los Angeles also chose to use the CiviEvent component to track event registrations and the CiviMember component to track contact information of committee members.

After implementation, an LA staff person discovered that certain functionality was missing from the CiviMember export component and this was preventing them from being able to compile a membership directory. AFSC talked to the CiviCRM Core development team and contracted them to add the missing functionality. This was a win-win situation: AFSC got the functionality they needed and because it was integrated back into the CiviCRM product, the entire CiviCRM community was able to benefit from the addition. An extra advantage for AFSC is that because the functionality became a standard part of CiviCRM they don't have to worry about compatibility with future upgrades.

The Results

The decision to have their sites hosted and managed by an external vendor turned out not to be a good one when the vendor ran into difficulties and was not responsive to issues or in providing the services that had been promised, such as timely updates for CiviCRM. Once the hosting issue was resolved, staff were able to take full advantage of the capabilities of CiviCRM and do all of the things that they had previously been unable to do.

The Los Angeles office is in full swing, using CiviCRM as the main repository to track their constituents, board, committee members and volunteers. Their constituents are able to sign up for events and petitions online, and staff can send volume emails for newsletters and announcements.

Getting rid of their old system and being able to send out a monthly newsletter was the main goal for the Colorado office, who came on board with CiviCRM a little later in the process. They are now able to identify newsletter subscribers and send the newsletter to them via CiviCRM. They couldn't be happier!

The AFSC currently has nine CiviCRM sites and the IT Department is now recommending CiviCRM as the "database of choice" for all of its offices. Support from the CiviCRM community is excellent and CiviCRM itself is improving every day, as more and more functionality being added. AFSC staff are now able to access their data from any place that has internet access, run complex searches, manage online event registrations and send online newsletters and postal mailings. CiviCRM has enabled them to better manage their constituents. This makes their life easier and in turn, is of great benefit to AFSC.

ACTIVATING THE COMMUNITY

The Healthy Environment Alliance of Utah (HEAL) is a grassroots environmental organisation working to protect Utahns from nuclear and toxic waste. Before moving to CiviCRM, they were stuck with a Microsoft Access database. They may have called it a database, but in fact it was a glorified spreadsheet that did little to facilitate their day-to-day operations. The goal for the CiviCRM project was to move to a system that would centralise all of their information across their organisation including email lists, volunteer tracking, donor history and more. As an advocacy and community action organisation, effective engagement with their supporters and tracking the relationships they build with their constituency over time is critical to their mission. They needed a tool to support that mission.

What They Did

HEAL has been using CiviCRM since the early days of the software and CiviCRM is now the central place to track all donors, volunteers, legislators, foundations and contacts. They use CiviCRM for donor management, email communications, event management, volunteer tracking, and advocacy.

- For advocacy purposes, constituents' legislative districts are monitored so that when issues arise that need action, HEAL can mobilise its members on a district-by-district basis.
- The system tracks volunteers, the activities they participate in, and their interests.
- HEAL holds large fundraising events with free admission where donations are solicited. CiviEvent handles all of the online registrations and collects data, such as guest names and interests. Invitations, reminders, and follow-up messages are sent via postal mail and the CiviMail component.
- CiviContribute allows HEAL to run donor reports as well as accept online donations.

The Results

There is no question that CiviCRM streamlined and consolidated HEAL Utah's data management and saved the organisation valuable resources. It is interesting to note that over the last several years their advocacy campaigns have been more successful and their impact in their community more noticeable - perhaps in part because they have been able to redirect limited resources away from administration and into the real work.

The biggest lesson that CiviCRM has brought to HEAL is to force them to always think about what role technology will play in their outreach and organising work.

A CRM EDUCATION

Schoolhouse Supplies (SHS) is a Portland, Oregon, USA-based non-profit organisation which gathers and distributes school supplies to students and teachers.

Prior to implementing CiviCRM, SHS used a combination of software programmes including Exceed, EROI, Constant Contact, Salesforce, Auction Pay (for online contributions) and, of course, hundreds of spreadsheets. In addition, SHS had a custom web application for managing its online store inventory and processing in-kind donations.

What They Did

By moving to CiviCRCM, SHS has centralised their operations and the management all their constituent data, and been able to unify and coordinate several of their core business processes.

All data from each source has been migrated to CiviCRM Standalone (an installation that is not integrated with either Drupal or Joomla! CMS). CiviContact and CiviContribute have replaced Exceed and Auction Pay. CiviMail has replaced EROI and Constant Contact. Salesforce data was moved into CiviCRM and the custom e-commerce application it supported was integrated with CiviCRM. Lastly, the inventory and in-kind management system was integrated with CiviCRM. Spreadsheets have been imported.

The Results

Each business process at SHS can now take advantage of their full constituent database and business activities are easily coordinated. More importantly, SHS is now in the process of taking manual business processes (such as volunteer coordination) and moving them to CiviCRM. New campaigns are now being planned and executed which would previously have been impossible or prohibitively expensive.

GROWING SATISFACTION

The New York State Nursery Landscape Association (NYSNLA) is a member-based association providing resources and advocacy support for nursery and landscape professionals throughout New York State. The organisation seeks to advance the interests of New York State's nursery and landscape businesses and professionals by promoting sound business practices, expanding state and local markets, and exercising leadership in the development of sustainable communities.

Prior to migrating to CiviCRM the Association went through several iterations of member-management solutions, beginning with a series of spreadsheet documents and later moving to a Microsoft Access database. The move to CiviCRM was prompted by the desire to consolidate data, provide members real-time access to contact details, and to create a searchable member directory to website visitors who may be looking for a nursery or landscape professional.

What They Did

Working with a CiviCRM consultant, NYSNLA began the process of analysing the structure and content of their existing database and mapping the various functions to CiviCRM structures. They determined that they would use CiviMember, CiviEvent, CiviContribute, and CiviMail to address their core database needs, and would consider using CiviPledge at some point in the future for soliciting contributions to their associated non-profit, the Nurserymen's Foundation.

One data area that required particular attention was their Certified Nursery Landscape Professional program (CNLP). CNLP is an intensive, on-going educational programme designed to increase the skills of garden and landscape employees. The programme was designed by members of the nursery and landscape industry with assistance from Cornell University. Interested individuals must apply to the programme and successfully pass a test. Certification lasts two years, after which time the individual must recertify.

NYSNLA used CiviCRM's membership functionality to track the status of CNLPs. The ability to define a rolling-period membership and to gauge when they are nearing expiration perfectly met their management needs. The initial application process, which also must be carefully tracked, was handled through CiviEvent, as an application to the programme is essentially a registration to attend one of the bi-annual test events.

The Association also took advantage of CiviCRM's open source platform to make some interface customisations that improved the way they view contact records. Because of the importance of the CNLP programme, they wanted to be able to look at all employees for a certain nursery/landscape company and quickly know if any of them are CNLPs or Lifetime CNLPs. They also needed to easily find out which employees are authorised to manage the company's records.

The Results

The Association has worked hard to communicate to the public the importance of using a qualified landscape professional. Essential to this effort was the inclusion of a searchable member directory on their website. Using CiviCRM, they were able to create a search page that included geographic segmentation (the Association divides members into 8 regions state-wide) and a list of services provided by members (using CiviCRM's tags feature). The resulting search tool, because it is directly connected with their contact data, ensures website visitors are always looking at current information. The Association is also able to provide members direct access to their own contact details so they can update and maintain their list of services provided and other information.

CAMPAIGNING FOR EFFICIENCY

The Green Party has been the third largest party in New Zealand politics for most of the last decade, with strong roots in the Values Party (the world's first national Green party) of the early 1970s. They achieved parliamentary representation in 1996 and after the 2008 election had 9 Members of Parliament, 5,000 financial members and some 50,000 contacts. The Party has more than 50 branches around the country and contest elections across all 67 electorates in the last election.

Prior to adopting CiviCRM, the Party and its parliamentary units employed a range of systems for managing members, donations, contacts, campaigning, media and advocacy.

The Green Party policy states:

- Development of IT must be socially responsible and sustainable.
- The use of free and open source software should be encouraged.

What They Did

CiviCRM was adopted by the Party in 2007 (version 1.7), with a switch to Drupal as a parallel project. This was inspired in part by work done by the Canadian Greens on developing a voter canvassing module for Drupal. A Party database was set up using CiviCRM and online donations, memberships and event registrations were instigated.

The Greens have over 100 different issues that they generate media releases about. These were reconstructed as a check-box custom data field, and Smart Groups were built for each of these, for use when sending out media releases via CiviMail.

The highly complex access control requirements of the party necessitated the development of an alternative approach to the use of ACLs (Access Control Lists) in order to provide a more easily managed, highly granular system. This approach has now been incorporated as a hook (something that can be utilised by developers to extend CiviCRM) into the core code.

For the 2008 election campaign, a look-up function was developed so that when new contacts were added to the database, addresses were checked against a table containing the Electoral Roll, and links were created where matches were made. "Soft" matches were also recorded.

The Results

In the 2008 election campaign, the Party made extensive use of online fundraising and greatly exceeded previous online income. Membership renewal has been streamlined with more online renewals occurring.

As of May 2009, the Party was still using CiviCRM v2.0 on Drupal 5 and therefore had not yet benefited from the many features that became available through the 2.1 and 2.2 releases. An upgrade was in progress at the time.

In a complex organisation such as the Green Party, training can be a limiting factor, as well as the need to nurture more in-house super-users. New features in CiviCRM have led to some rethinking about the Party's usage of custom data fields, particularly with regard to the use of CiviMail for media releases. New options for both nested groups and Drupal Organic Groups suggest that a more time effective approach may soon be possible.

QUEST FOR SUCCESS

QuestBridge is dedicated to helping bright, motivated low-income high school students get accepted to and able to pay for college. QuestBridge recruits high school juniors throughout the USA and invites them to fill out the QuestBridge application online. QuestBridge also partners with the USA's most selective colleges and universities with the aim to increase the socio-economic diversity of their student bodies. QuestBridge's college partners accept the QuestBridge application in lieu of their own admissions application.

What They Did

QuestBridge has built most of its business processes around CiviCRM. They wrote their online admission application using CiviCRM and extended it using the PHP scripting language. CiviCRM is used to store biographical and application information and communication histories about the students.

The Results

In the 2008-9 school year, QuestBridge helped more than 1200 students get accepted and pay for college at its 25 partner schools. They accomplished their goals in a very efficient manner, in part thanks to their effective implementation of CiviCRM. QuestBridge is currently planning to upgrade to the latest version of CiviCRM in order to take full advantage of the new email features.

If Questbridge were to start over they would have invested more in training on CiviCRM up-front.

CHANGING WITH THE TIMES

The San Francisco School (SFS), is a Preschool through 8th grade coeducational school with a diverse student body of about 270 students. Like all schools, communication between the school and families is very important. Whether it's updating a home phone number, email address or allergy, it is essential in meeting the needs of the students. The head of school was a strong supporter of the project from the beginning which led the staff and parents to be able to make a strong commitment to help the project move forward.

What They Did

They used CiviCRM to create a Parent Portal to:

- required parents to log in to view their contact information and their child's school information
- had an automated system to schedule parent teacher conferences
- used a computer to record after school class sign in and sign out
- managed after school class registration (example: music, cooking, sports) and view their child's after school fees

To ease the transition of the school community, each of the above features were shown gradually rather than all at the same time.

The Results

Enabling parents/guardians to view their contact information meant that they could confirm what the school sees and hence notify the school of any changes. Also, they could view their child's after school fees and view a record of what classes their child is signed up for. Online sign ups allow parents the flexibility to schedule parent/teacher conferences and after school classes on their own time. Changing the existing school systems to an online system allowed both parents and staff to work together, view the Parent Portal so that contact information is current, parent teacher conferences are scheduled in a timely manner, and that access to the information is widely accessible.

3. WHO IS CIVICRM?

CiviCRM has a unique and diverse community centered around developing, using, and documenting the software. Our community includes the CiviCRM core team, people at the non-profits that use CiviCRM; consultants working with a number of non-profit organizations; programmers and developers, power users, volunteers and community organizers! We are also closely related to many other open source projects.

Each member of the community interacts with CiviCRM in their own way, working to improve the software and how we organize ourselves. The strength of community comes from this diversity and the ease with which someone can join us, and means that we are constantly changing and improving, often in unexpected ways.

Like all communities your membership is characterised by your interactions. If you treat others well, have some fun, and help others, then you can expect to enjoy being a member of the CiviCRM community. But if you are prone to complaining or don't use a respectful tone in communications, or if you see the community just as a resource and not as a collection of very kind, generous and clever people, then you are probably not going to get much of a response. Treat people well and you can find the CiviCRM community fun and rewarding.

HISTORY

CiviCRM started in 2004 by Dave Greenberg, Donald Lobo and Michal Mach. The founders had a lot of previous experience working with non-profit organizations and tools. The group was influenced very early by Zack Rosen and Neil Drumm, who convinced them to use Drupal as a fundamental cornerstone for CiviCRM. This decision has meant that the developers have been able to leverage a lot of the functionality that Drupal provides, freeing the team up to focus on building the features necessary to make a great CRM.

In 2005 the first version of CiviCRM was released with two of the core modules in place: CiviMail and CiviContribute (you can read more about these later).

Since those early days CiviCRM has built a large community of users and contributors (there are now over 8000 installed sites), the software has gone from strength to strength (there are now 8 core modules and additional third party components), and the core team has expanded to 8 members. There is also a large ecology of free software contributors around the project and high-profile non-profit organisations such as Wikipedia, Creative Commons, Mozilla, and Amnesty International use CiviCRM.

IT'S GOOD TO TALK

CiviCRM is an open and learning community, and people are ready to hear your ideas. If you have a good idea, there's nothing to stop you carrying it out - but the best way to start, is to start talking about it.

If you're not sure where to start, the best place is probably the **community forum** (http://forum.civicrm.org/). Ask people what they think about your idea. There's a wealth of experience on the forum, and with a bit of luck, someone will have tried something similar before. CiviCRM people are a friendly bunch and their guiding philosophy is collaboration.

Depending on your idea, you'll be directed to the next best place - maybe an article on the **blog** (http://civicrm.org/blog/), a page on the **wiki** (http://wiki.civicrm.org/), a teleconference or a meeting up with another community member in real life, yes that's right, REAL LIFE!

BE THE CHANGE

So you have a great idea. Now you need an equally great action plan to accompany this idea and then you'll need to implement it. Although the CiviCRM community is friendly and supportive and will like to be involved and updated about your project, you'll need to be the driver. How will you get the resources together for your project? How can you fit it in with your day job? Finding a way to simultaneously achieve your own objectives and benefiting the CiviCRM community is the best way of getting things done.

AND FINALLY...

If you're a CiviCRM user who has an ongoing relationship with a consultant, there's nothing to stop you from also being an active member of the community. The community really benefits from direct feedback from end users - your consultant is only one person or organization - by asking on the forums you're opening yourself up to help and input from the entire community.

4. ABOUT THIS BOOK

Understanding CiviCRM - A Comprehensive Guide is written for CiviCRM version 3.3. The majority of the content is applicable for both older and current versions of CiviCRM.

Cover Art (faces) by Kapor Creative: Jake Mix & Trevor Parham (Jake created the illustrations, and Trevor developed the concept of the civi logos as eyes). Cover Art is CC-BY-SA

CONTENT AND STRUCTURE

This book aims to be a comprehensive guide to using CiviCRM for a wide range of audiences. It covers core CiviCRM functionality and CiviCRM's components. Both the book, and the component-specific sections of the book, have the following structure:

- **Introduction** - suitable for all readers
- **Planning** - should be read before configuring and using functionality
- **Configuration** - covers how to set up functionality for everyday use
- **Everyday tasks** - instructions on how to carry out every day tasks with CiviCRM

CONTRIBUTING

Like all other aspects of CiviCRM, this book is a collaborative and community-led project which you can contribute to and participate in. Instructions on how to contribute are at the end of this book.

PLANNING
5. Is CiviCRM for You?
6. Identifying Your Needs?
7. Project management

5. IS CIVICRM FOR YOU?

This chapter will help you to decide whether CiviCRM is the right tool for your organisation.

CiviCRM is powerful software and has the potential to help your organisation reach its goals - but it won't be the right choice for every organisation. Here are some ways that you can find out whether CiviCRM is right for your organisation:

- read the book *Understanding CiviCRM* (you might be doing that right now)
- play with a demonstration site
- install a test database
- talk to others who use CiviCRM
- talk to a CiviCRM consultant.

DEMONSTRATION SITES

CiviCRM hosts two demo sites - one for each of the two supported **Content Management Systems** (CMS) - Drupal and Joomla!. The demo sites present a working copy of the latest stable version of CiviCRM with sample data. You can use them to play around with CiviCRM but be aware that they are publicly viewable so you shouldn't enter personal data.

The demos are available at:

- Joomla! Demo: http://joomla.demo.civicrm.org/
- Drupal Demo: http://drupal.demo.civicrm.org/

Other people are likely playing on the demo sites at the same time as you, so they may be configured strangely, missing functionality or appear in different languages.

The demos have some limitations - you can't send emails from them, you can't set permissions for Drupal users or do a full exploration of online payment options.

If you are having trouble working on a demo site, contact the CiviCRM core team via the forum or IRC. If you want a more controlled evironment for exploring CiviCRM, install your own test site.

TEST INSTALLATIONS

If you have technical skills or are feeling adventurous, you can download and set up a local version of CiviCRM, that is a version that is stored on your local computer rather than on a server on the internet. You'll still access it through a browser, but it will only be visible on your computer. The advantage of a test installation is that you can configure CiviCRM in the way that you want to use it, and experiment with your data.

Up-to-date information for installations (including troubleshooting tips) is maintained at http://wiki.civicrm.org/confluence/display/CRMDOC/Installation+and+Upgrades.

TALKING TO OTHERS WHO USE CIVICRM

If you know of another organisation that uses CiviCRM, talk to them about their experience. Obviously the more similar they are to your organisation, the better. If you don't know anyone that is using CiviCRM, have a look on the CiviCRM forums, at case studies on the wiki, or try your local non-profit technology mailing list.

The CiviCRM forums (http://forum.civicrm.org) have a few boards for people who are new to CiviCRM, such as "Pre-installation Questions" (http://forum.civicrm.org/index.php/board,5.0.html). Remember that the forums are staffed mainly by volunteers so you will get a better response if you spend some time formulating an easily answerable question. You can also search the forums and browse for questions that others have asked. If you wish to ask questions or contribute to the discussions you must register first.

TALKING TO CIVICRM CONSULTANTS

Another option to help you understand CiviCRM is to make use of a professional. The CiviCRM website lists professional vendors and consultants that can walk you through CiviCRM (http://civicrm.org/professional), and there are many others; you may find a local website company who has experience with CiviCRM. Consider hiring a consultant for a day to discuss with you how CiviCRM could help your organisation.

6. IDENTIFYING YOUR NEEDS?

This chapter covers some basic strategies for identifying your organisational needs, and how they could be met by CiviCRM. It doesn't go into detail about CiviCRM functionality or how CiviCRM stores data (you will find that in other chapters). Instead, we encourage you to first take a step back and think about your organisation.

YOUR ORGANISATIONAL GOALS AND PRACTICES

For now, forget about technology and focus on your organisational goals and processes. Here's a list of questions to start you off:

- What are the high level goals of your organisation?
- What tasks are staff involved with on a day to day basis?
- What activities do staff carry out with your contacts (members, constituents, clients)?
- What different teams and roles exist within your organisation?
- What services do you provide to your contacts?
- How do you communicate with your contacts? (include information flows into and out of your organisation)
- What happens when you receive someone's contact information?
- In what ways does money flow in and out of your organisation?
- Does your organisation have a membership structure?

UNDERSTAND YOUR "CONTACT RELATIONS"

The CRM in CiviCRM stands for Contact Relationship Management. By contact, we mean an individual, household or organisation that your organisation has contact with (you may call them members, constituents, clients or some other term).

Many organisations make the mistake of not thinking about who their contacts actually are. Spend some time identifying all the people involved with your organisation. What different types of people do you interact with, and how do they differ from each other? The better you understand them and their interactions with your organisation, the better you can model them in CiviCRM. Anecdotal or systematic feedback from your contacts may be useful here.

TAKE ADVANTAGE OF INSTITUTIONAL KNOWLEDGE

In thinking about your contacts and their interactions with your organisation, talk to your co-workers, including those who have been around the longest and those who have just joined. Talk to as many people as possible to get a complete picture of their interactions with all kinds of contacts.

As well as talking to people, look at your organisation's data repositories: your databases, spreadsheets, file servers, address books, and any existing stored information you may have that can help you understand who your contacts are and how they interact with your organisation.

MAP YOUR NEEDS TO CIVICRM

CiviCRM has been designed to be flexible and adaptable, based on feedback from many different non-profits, but it may not map exactly to the ways that your organisation currently works. Doing things the CiviCRM way could mean adapting your workflow and adopting best practice in non-profit technology. Be pragmatic and flexible and consider whether your current working practices need to change.

It's worth remembering that CiviCRM offers many opportunities to interact with your contacts in ways that you have not previously had. Taking advantage of these new possibilities can lead to positive changes and improvements.

7. PROJECT MANAGEMENT

This chapter outlines the parts that typically make up a CiviCRM project and should be read by people about to embark on a CiviCRM project. Some of this information may be obvious to experienced project managers. A comprehensive guide to project management is beyond the scope of one chapter but we have outlined things that are typically encountered in a CiviCRM project and provided pointers on some things to watch out for.

First, some pop philosophy courtesy of Cynthia Tarasco:

"Life is a series of making decisions. Some decisions are easy because they do not require a substantial investment of time or money. Deciding which flavor ice cream to buy fits into this category: if you get vanilla today you can always get chocolate tomorrow. Other decisions are much more difficult because they require substantial investments of resources, and you will be living with your choice for the foreseeable future. Adopting a new CRM fits into this category, so planning and project management are vital".

When you start out on a new CiviCRM project you should spend time thinking about:

- the people who will be involved in the project
- what the business goals of using CiviCRM are
- how you will approach the initial development
- what ongoing support you will need
- the costs associated with hosting and your IT infrastructure
- training and documentation
- change management

PEOPLE AND THE PROJECT TEAM

Including a wide range of people that represent the different parts of your organisation will help with delivery of your project. A mixture of management and day-to-day staff helps the team to keep an eye on the big picture as well as ensure that the project is ultimately useful to frontline staff.

You'll be exploring new territory with your CiviCRM installation and this can sometimes be stressful. It might be helpful to share project management of the project with others who can give you a different perspective and moral support when you need it!

Managing a CiviCRM project will require a major time investment from people within your organisation, even if you employ an external consultant. Organisations often under-estimate the amount of time that will be required from their staff in implementing an IT project - such as training, modifying existing processes and providing new or updated information to relevant people. It's not something that can be tacked on to the end of an already busy schedule and this should be taken into consideration.

BUSINESS GOALS

You should have a good idea of the business goals for implementing CiviCRM. This could be something like: reduce administrative work in managing events with 25% or manage 25% more donations with the same staff. The goals should be SMART (specific, measurable, attainable, relevant, time-boudn)!

These business goals will help you in directing and managing your project. For example, if the project group for example want some customization that requires budget and effort, your business goals will help you decide one way or the other. The business goals will help you to focus on why you are implementing CiviCRM and what you want to achieve in the long run.

DEVELOPMENT

It often makes sense to break development up into smaller more manageable sections, which can be implemented in discrete stages or iterations. A common first phase of development is to choose something simple to implement in CiviCRM, or specific functionality for a team who can then act as CiviCRM evangelists within the organisation.

Implementing in stages allows staff to get used to changes gradually without feeling overwhelmed, and gives the developer or implementer the ability to be responsive to feedback from users during the development process.

Another reason that people choose to develop iteratively is that it is very hard for users to correctly or fully articulate their requirements at the start of the project. Giving users hands-on experience of an early version of the system helps them understand how it works and what is possible. They can then provide valuable feedback and might articulate requirements that they haven't thought of previously.

Implementing your CMS (Drupal or Joomla!) either before or after implementing CiviCRM is another convenient way to split up a CiviCRM project. As well as the normal advantages of breaking up the development into manageable chunks, this helps staff understand the important differences between a CMS and a CRM.

Pilot projects

Pilots help to reduce risk during a project implementation. For example, rather than moving your organisation's entire event management infrastructure to CiviCRM, run one pilot event using CiviCRM and evaluate it. You can then incorporate the learning back into the development process.

ONGOING SUPPORT AND DEVELOPMENT

It is a mistake to think about a CiviCRM project as a one-off development that will meet the needs of your organisation for the foreseeable future. Organisations constantly change and evolve and your CRM should evolve with you, otherwise it will eventually become out-of-sync with the organisation.

Once you have been using CiviCRM for a while and staff are comfortable with it, you will likely want to take advantage of other functionality. Each improvement or new piece of functionality that you decide to implement in CiviCRM will take resources, so you'll need to plan for these.

Even if your organisational needs don't change, there are ongoing support implications, including:

- keeping your site up-to-date with security patches
- upgrading to the latest version of CiviCRM (not necessary, but CiviCRM is improving all the time and your users will thank you for the improved usability and functionality each time you upgrade)
- upgrading the CMS (Drupal or Joomla!)
- hosting

TRAINING

Training is a significant aspect of most CiviCRM projects. Your training could take many shapes and sizes depending on your users, but it often makes sense to spend resources on formal and reusable training resources (user guides, lesson plans and so on).

CiviCRM's range of functionality can be overwhelming at first (especially to the less technically-minded). Remember that staff who were not involved in the project's early stages will need to have concepts explained clearly to them - things that are obvious to you may be quite foreign to others.

Trying to cover everything in one training session probably won't be effective; your staff will need time to digest the new ideas. Instead, hold smaller training sessions that introduce concepts and specific functionality, followed by periods of testing, piloting and feedback. Tailor your training for your audience: not everyone needs to sit through a two-hour training session on how to manage events if there is a single person responsible for event management and planning. And where possible, involve staff in training other staff members as this increases the sense of ownership and helps to embed learning.

Training is also ongoing. New staff will need to be trained, users familiar with the system can benefit from learning about more advanced topics, and staff will need further training when there are significant upgrades or new functionality added. If you plan to use CiviCRM for any large or mission-critical events, allow adequate time for additional staff training and testing.

HOSTING AND INFRASTRUCTURE

Hosting is a key aspect of any CiviCRM project. You will need to provide maintenance of the server on which CiviCRM is stored, and have someone available to fix problems that inevitably occur from time to time. If your site needs to be accessible 24 hours a day, you should have a support agreement with your ISP that covers this. Ensure that your budget is sufficient for appropriate hosting, and that effective backup procedures and policies are in place.

Keep in mind that in the hosting provider world, you get what you pay for. In many cases, cheap hosting providers keep their prices down by limiting the services or flexibility they provide. CiviCRM doesn't work well on cheap hosting, and under-budgeting for hosting may lead to other problems. Similarly, make sure that the computers your staff are using are powerful enough to provide a good experience with CiviCRM.

CHANGE MANAGEMENT

Introducing a new (or the first) CRM will cause changes in work flow and processes at your organisation. These changes may be "political", practical or technical. Either way, a lot of change at the same time can be difficult and stressful.

To mitigate this, give staff time to accept and support each change so that they share in ownership of the new system rather than feeling as if something has been forced on them. Focus on simple tasks at the beginning of deployment and introduce more difficult tasks as staff understanding of the system grows. Show staff how the new system will make their work easier and where their feedback has been incorporated.

Good planning can minimise the risks around change, but it is important to be flexible within your plan; unforeseen things often occur, and a rigid plan could prevent you from reaching the best solution.

CONFIGURATION
8. How data is organised
9. Extending core data
10. Using CiviCRM Profile
11. Installation

8. HOW DATA IS ORGANISED

This chapter covers the main building blocks that CiviCRM uses to store data, and describes their intended usage. It is recommended reading for working out how you should organise your data in CiviCRM.

A successful CiviCRM installation depends on having your data stored in the right place. This chapter goes through all of the places that you can store data and helps you to understand why you would store data in one place and not another.

Equally important to understanding the different building blocks presented below is understanding how they can be extended using **custom data** (described in the next chapter).

CONTACTS

Contacts are the main building block of CiviCRM. There are three types of core contacts in a standard installation:

- Individuals
- Organisations
- Households.

Contacts hold contact information, including:

- name, nickname, greeting, title
- website, email addresses, phone numbers, IM account name
- addresses
- communication preferences (which methods do they prefer being contacted by, and which methods do they not want to be contacted by).

All of the other building blocks of CiviCRM such as relationships, contributions and groups are connected to contacts in some way, so you can see events that a contact has attended, or what contributions they have made.

You can define further **contact types** to suit your needs, for example "students", "farms" or "churches". Each contact type you define is based on one of the three core contact types. For example, students would based on individuals, and farms could be based on organisations, or perhaps on households, depending on your situation.

A contact can be only one contact type. For example, they can't be a student and a teacher (but contact types are not the only way to differentiate your contacts).

All users of your content management system are also stored in CiviCRM as individuals. Their contact record in CiviCRM is linked to their user record in the CMS (Drupal or Joomla!). Note that only individuals can be linked to user records in your CMS. Organisation and household records in CiviCRM cannot be directly linked to user records in your CMS.

RELATIONSHIPS

Relationships are a way to connect two contacts to each other. Two out-of-the-box relationship types in CiviCRM are the "employer - employee" and the "parent - child" relationship types.

There are always two ways to describe a relationship in CiviCRM: one describes the relationship of A to B, and the other of B to A. For example, Adam is Bernard's son and Bernard is Adam's father. Sometimes both descriptions will be the same: Charlie is Diane's friend and Diane is Charlie's friend.

CiviCRM comes with a number of relationship types in the standard installation. You can define further relationship types to meet your needs, for example you might define a relationship type of "vicar - church".

It may be helpful to compare relationships to groups: relationships connect two contacts, while groups contain two or more contacts who have something in common.

GROUPS

Groups are useful to identify two or more contacts with something in common. For example, the advisory board of your organisation could be modelled as a group.

Groups are often used as mailing lists. For example, you could create a group containing all your newsletter subscribers, then use the group to send an email newsletter.

A group can be the "child" of a "parent" group. When a group is a parent, selecting the contacts in that group will also select contacts that are in the child group.

For some groups, such as your advisory board, you might want to capture other types of relationships than a simple "belong to" (eg. president, vice-president, member, substitute). Instead of creating a group, you might want to create a new type, "board", and a contact, "advisory board", then add the members of the group as relationships to that contact. For mailing purposes, you might want to create a smart group with all the related individuals (no matter the type of relationship) of that board.

Groups are also used in many other situations. For example, a search can be saved as a group (or a smart group) and groups can be used to provide permissioning. To find out more about groups and how they are used, read the chapter on groups and tags.

TAGS

Tags are in many ways similar to groups, but as well as being used to identify contacts they can also be applied to activities and cases that have something in common. To find out more about tags, and how they are different from groups, read the chapter on groups and tags.

ACTIVITIES

Activities are a key concept in CiviCRM. Activities track interactions between the organisation and its clients or contacts at a specific point in time. All of CiviCRM's components make extensive use of activities, such as to record contributions, event attendances, membership subscriptions, and emails.

You can create additional activity types to define specific activities that your organisation carries out, for example, "completed annual survey".

Activities have the following characteristics (most of these should be filled in for each activity and those in bold on the form are required):

- **time**: activities always happen at a certain point in time
- **status**: is the activity scheduled, completed, cancelled, etc.
- **added by**: the person who added this activity, or the contact if they carried out the activity themselves via the website
- **assigned to**: the person (usually within your organisation) that carried out (or will carry out) the activity (this is often the same as the person who added the activity)
- **with contact(s)**: the contacts in your database that are the subject of the activity.

Compare activities to groups. Would you choose activities or groups to record a membership pack that was sent to a contact? You could add all contacts that have received a membership pack to a group "received membership pack", but it would probably be better to record this as an activity. That way, you can record when the membership pack was sent, who sent it, any notes about what the person requested, and so on. You could also use the activity to schedule sending membership packs by setting the status to scheduled.

CONTRIBUTIONS

Contributions are a type of activity, and a fundamental concept of CiviCRM. Contributions are used whenever there is a financial element to an interaction. A contribution will be created for each donation or campaign contribution, for paid events and for membership fees.

CiviCRM comes with several predefined contribution types (including donations, campaign contributions, membership fees and event fees). You can define additional types to meet your needs.

Contributions have different statuses which reflect the process of receiving a contribution. Some of these statuses are are set automatically by payment processors.

For more information, see the section on CiviContribute.

MEMBERSHIPS AND MEMBERSHIP TYPES

Memberships are another type of activity. As well as the usual activity fields, they contain extra fields used for tracking memberships, such as start and end dates.

CiviCRM allows you to define different membership types with fees, start and end dates, and other settings. You can define the types that meet your organisation's needs.

Memberships can be renewed. When this is done, the start and end date will move on by the specific time period but the join date will remain the same (i.e. the same as the first membership start date).

If the membership has a fee associated with it, this will be recorded as a contribution and linked to the membership.

For more information see the section on CiviMember.

EVENTS AND EVENT ATTENDANCES

CiviCRM has a building block for events which contains fields to add events and give these events, times, locations, fees and other information.

When a contact registers for an event, a participant record is created linking the contact to the event. A participant record is a type of activity.

For more information see the section on CiviEvent.

CASES

Cases are a way to logically connect a series of activities. You can define different case types and associate a predefined series of activities with them. When you create a new case, you typically create a series of scheduled activities that need to be completed as part of that case. As the case progresses, you can record new activities, or series of activities, as part of the case.

For more information see the section on CiviCase.

9. EXTENDING CORE DATA

This chapter explains how you can extend the core building blocks (or objects) in CiviCRM by adding custom fields that represent the data that you want to collect. For example, you can extend organisations with a set of check-boxes about the clients that they serve. You can also restrict custom fields to certain types of that object. For example, you might have a custom field for one type of contact, students, listing the subjects they study.

Custom data fields are always stored in CiviCRM in custom field sets. Therefore, adding custom data is a two-stage process:

1. Create a custom field set for an object.
2. Add custom fields to this set. (You may find it helpful to read the information about custom fields first, but you will need to create the field set before you create the fields in it).

To clarify, a field is a unit of information entered into the database, such as someone's primary spoken language, or high school graduation date. A field set is a group of fields containing data about a common object or area.

CUSTOM FIELD SETS

Custom fields are always part of custom field sets, and each set has a scope as wide or as narrow as you choose. For instance, you might associate a custom field set called "nationality" with all contact types, another set such as "immigration status" with a specific contact type (e.g. Individuals), and yet another set with a specific component (CiviMember, CiviEvent), or with other elements such as Relationships and Groups. The scope of a custom field set is one of the few decisions that is irreversible (you will not be able to change it after creating it) so it is important to consider carefully what you want to associate your custom field set with when you start.

When creating custom field sets, you should ask:

- How will the fields in this set be used?
- What types of contacts or records will these fields be appropriate for?
- Will the fields have broad applicability, or are they relevant to a specific contact type, event, contribution type, etc.?

Taking the time to think through these questions helps keep your application screens as relevant and clear of superfluous fields as possible. For example, if your custom field set contains contact characteristics such as a field for the "color of eyes", you should associate them with the Individual contact type rather than the generic Contacts option, as this field would be irrelevant to Organization and Household contact types. Another example would be if custom data is specific to a particular event registration page. You should create this custom data for an Event type Participant for the specific Event.

Depending on how many custom fields you are creating, you should also consider grouping the fields topically. For example, you may associate 20 custom fields with Individual contacts, 12 of which fields relate to an online membership directory. Rather than group all 20 fields in a single custom field set, you may want to split them into two sets - one for the directory-related fields, and a second for more general Individual details.

To create a custom field set and custom fields, go to: Administer CiviCRM > Custom Data > New Set of Custom Fields. This form lets you assign a title to the field set, specify what type of records it will be used for, select the display characteristics, and enter help text. The form appears in the following image, and we'll describe each field.

Set Name

For custom field sets which are displayed inline, this name appears as the legend of the field set. If this set uses the tab display style, the name appears as the navigation tab label.

Used For

You can use this option to ensure that the fields appear only where they are relevant. The choices are:

- **Activity:** fields that may be assigned to all activities or to a specific activity type, such as Meeting or Phone Call.
- **Addresses:** creates an address block, which allows the administrator to create additional fields related to an address.
- **Contacts:** fields that may be assigned to all contacts.
- **Contributions:** fields that may be assigned to all contributions or to a specific contribution type, such as Donations or Event Fees.
- **Events:** fields that may be assigned to all events or a specific event type (e.g., Conference or Fundraiser). These fields are applied to an actual event, not the participant registration record.
- **Grants:** fields specific to grants.
- **Groups:** displayed in the Group settings (note that these fields are not searchable).
- **Household:** fields specific to the Household contact type.
- **Individual:** fields specific to the Individual contact type.
- **Memberships:** fields that may be assigned to all membership records or to a specific membership type.
- **Organization:** fields specific to the Organization contact type.
- **Participants:** fields that appear on the participant registration record. There are three options for these: general fields applied to all registration records, role-type fields assigned to a specific participant role, and event participant fields assigned to a specific event.
- **Pledges:** fields specific to pledges.
- **Relationships:** fields that may be assigned to all relationship records or to a specific relationship type, such as "Spouse of" or "Employee of".

Order

This controls the order in which your custom field sets are presented when you have created more than one set. Lower numbers (1, 2) are displayed above higher numbers (8, 9).

Multiple records

Each field usually contains a single option. For example, a person has either blue eyes or brown eyes, not both. However, some fields are more complex and may require multiple entries, such as a person's educational history. A single person may have multiple educational degrees, so a custom field set about educational history should allow multiple records.

CiviCRM provides this functionality for custom field sets assigned to contacts (whether to all contact types or to a specific type). To use this option, select the "Does this Custom Field Set allow multiple records?" option. This option has several restrictions:

- It is applied to the whole field set, not to a particular field.
- It must use tab display, not inline display.
- It can be used only for Contacts, not for Activities, Contributions, etc.
- It cannot be used in profiles, such as those used for Events.
- It cannot currently be exported.

Display style

Custom field sets for Contact records are displayed either "inline" on the contact summary page (the Summary tab), or as a new tab at the top of the contact record, along with Summary, Contribution, Group, Note, etc. We suggest using tab display for infrequently accessed fields and large sets of fields.

Custom field sets used for components, relationships, or other resources are always displayed inline. Also note that custom field sets configured to handle multiple records will be displayed in the Summary tab.

Is this Custom Field Set active?

If a custom field set is active, its fields can be viewed and changed. Otherwise, the fields are in the CiviCVRM system but hidden from the user interface. This option can be valuable for managing your data, especially if you are migrating from an existing database system.

For example, your existing database may have fields you would like to transfer to CiviCRM for historical data keeping purposes, but plan to then deprecate or migrate to a new data structure. Suppose you are importing membership records from an MS Access database. Each record in Access has a unique ID (key) field, which has no direct benefit in CiviCRM. Rather than ignoring it altogether, you could create a custom field to hold the value, import the records, and then disable (keep the Activate option unchecked) the field, thereby hiding it from view and minimising the interface clutter.

Though not visible to users, the field value is stored in the system and can be referenced at a later date. For instance, if you ever need to investigate archived data for a possible discrepancy or compare the field value with a printed record.

Individual fields can be made inactive in the form defining those fields, once the custom field set is active.

Pre-form Help and Post-form Help

If you enter text in Pre-form Help, your help text appears above the form field, and if you enter text in Post-form Help it appears below the form field. Use help at this level to provide instructions related to the entire set of custom fields.

Other settings

You can specify that you want the custom field set to be "collapsed" on initial display. If you check this box, only the title for this field set is displayed when the page is initially loaded, because the fields are hidden. This is helpful for field sets that are infrequently used because it reduces the screen real estate taken up when the page opens. A similar "collapsed" property is available for the display of custom data in Advanced Search.

CUSTOM FIELDS

Once you have created a custom field set, you can create custom data fields within the set. Click "View and Edit Custom Fields" followed by "New Custom Field" and you will see the screen in the image below. We'll explain each of the options in this section.

After completing the field configuration options, click Save to record the field and return to the field listing for your current custom field set, or click Save and New to save the field and begin defining a new field. You can view a listing of all the custom fields in a custom field set at any time by navigating to Administer > Customize > Custom Data and clicking View and Edit Custom Fields.

With the exception of the data and input field type selection, all of the configuration options may be modified after your initial creation of the field. You may also find it useful to preview your custom fields, as well as the whole set of custom fields, as you are defining them. This is particularly useful for checking the layout of radio button and check-box fields with a large number of choices.

Field label

What you want to appear next to the field when it is displayed to the user. The text you enter here is also the label shown when you export data. When using fields in a profile, you can overwrite the Field Label. So on this screen you can choose names that are suitable for administrators, and give more user-friendly names when exposing them in profiles.

Type

Custom fields can be of many different types, many of which you've probably encountered when you have filled out forms on web sites. When you create a custom field, CiviCRM shows you a dropdown list of types from which you can choose the type that best represents the data you plan to store. The menu on the left (shown open in the following figure) indicates what kind of data you want to store, whereas the menu on the right indicates the way you want to interact with the user.

The types of fields are:

- Alphanumeric (i.e. text and number fields), which can be of the following types:
    - Text: a simple area in which users can enter text.
    - Select: a dropdown box which limits choice to one selection.
    - Radio: a list of options where you can make one selection. Unlike a Select box, all the options are visible on the screen at the same time.
    - Yes and No: a special kind of radio list with two contrasting options.
    - Check-box: a list of options that allows multiple selections.
    - Multi-select: a list of options in a single box. You can select multiple selections using control+click.
    - Advanced Multi-select: two lists side by side in which items can be moved from one to the other.
    - Autocomplete select: an autocomplete widget. The user can start typing, and when the text entered uniquely identifies a selection, the field automatically fills in the complete selection.
- Note: a longer text box which allows multiple lines. Notes come in two flavours:
    - plain, and
    - rich text, which displays a WYSIWYG editor that allows HTML.
- Integer, i.e. a whole number. This can be displayed as a:
    - text box
    - select box
    - radio list.
- Number: i.e. any number that includes decimals, such as 3.175. This can be displayed as a:
    - text box
    - select box
    - radio list.
- Money: similar to a number, but treated according to the local currency as configured in CiviCRM's administrative pages. This can be displayed as a:
    - text box
    - select box
    - radio list
- Date: a way of entering a date (and optionally time) value using a calendar widget. You can set a range of years which can be selected prior to and after the current date.
- State/Province: a list of available geographical locations as configured in CiviCRM's Localization settings (Administer > Configure > Global Settings >> Localization). Can be offered as either a select box or a multi-select box.
- Country: a list of geographical locations. Can be offered as either a select box or a multi-select box.
- File: offered as a browser where the user can select and upload a file.
- Link: an active internet hyperlink.
- Contact Reference: an autocomplete widget for an existing CiviCRM contact.

We suggest you experiment with creating different field types to get an idea of how they behave. Different options have implications for use. For example, check-boxes enable you to use OR as well as AND searches in Advanced Search, whereas multi-select will not.

Database Field Length

The database field length allows you to specify the number of characters that this field will contain. You should normally leave this at the maximum. In certain cases (for example if you are dealing with extremely large field sets) it might make sense to shorten this field to improve performance and decrease storage space, but setting a shorter length won't make any difference to the vast majority of users.

Order

Controls the order in which the fields appear. You may assign the order in the field edit form, or use the up/down icons on the main field listing table to adjust the field presentation. By default, new fields appear at the bottom of the field list within a set.

Default Value

Where applicable, you may designate a default value for a field. This value is automatically displayed or selected when users go to a form containing this field. Note the format required for date fields (YYYY-MM-DD).

Pre-form Help and Post-form Help

Ideally, your field name is self-explanatory and users will immediately know what to enter. But in those cases where there is some ambiguity, or where you wish to help regulate how a certain field is used, you may enter help text here. If you enter it in Pre-form Help, your help text appears above the form field, and if you enter text in Post-form Help it appears below the form field.

You help text identified appears in all uses of the field in administration pages and is inserted as the default help text when fields are assigned to a profile. The person creating the profile can remove or change the help text there without impact on the original custom field definition.

Required

When selected, this means that a value must be provided for this field before the form can be submitted. Failure to do so will result in an error message directing the person to complete the required fields.

If you want a field to be required only when a user fills out a particular profile, you can leave this box unchecked but check the Required field in the profile.

Is this Field Searchable?

Makes this field appear in a panel of custom fields in CiviCRM's Advanced Search page. While you may be tempted to mark every field as searchable, doing so may unnecessarily clutter the Advanced Search custom field panel, when in fact certain fields will probably never be used in that way. You may toggle this option on or off at any time, so don't be overly concerned about arriving at a final decision when you first define a custom field.

Active

As with the active check-box in the form defining the custom field set, this box determines whether the field is disabled or enabled when CiviCRM shows it to the user.

View Only

This allows you to designate a field as visible but uneditable. There are two general uses for this field:

- To store data imported from another system that you want available for reference to the user, but do not want them to be able to modify.
- To store data that is controlled through a custom PHP hook rather than through the user interface. CiviCRM has a number of hooks defined that allow developers to modify data, as well as customise forms and screens, without modifying the CiviCRM code base. Read the chapter on hooks for more specific information.

Multiple choice options

For field types that involve selecting from a set of multiple options (such as Select, Radio, Check-box, Multi-select and Advanced Multi-select) you are given the choice of either using an existing set of options that you've already created for another custom field or creating a new set. You can enter these values while creating the field, and you can enter the values later. The option's label is displayed on the form, while the option's value is stored in the contact record. The label and value may be the same or different.

If you choose to use the same set of options for several fields, you will be notified when making any changes that this will affect an option set used by several fields.

When you create a new set, you have the option of initially entering up to ten multiple choice options in a table. If you need more than ten options, you can create an unlimited number of additional choices after saving this new field by using the Edit Multiple Choice Options link. Go to: Administer > Customize > Custom Data > View and Edit Custom Fields > Edit Multiple Choice Options. You can go to this screen at a later date to modify the label, order and active status of any multiple choice option, as well as add more choices.

Marital Status - Multiple Choice Options

Label	Value	Default	Order	Enabled?			
Single	S		↓ ↧	Yes	Edit Option	View	more ▸
Married	M		⊤ ↑ ↓ ↧	Yes	Edit Option	View	more ▸
Domestic Partner	D		⊤ ↑ ↓ ↧	Yes	Edit Option	View	more ▸
Widowed	W		⊤ ↑ ↓ ↧	Yes	Edit Option	View	more ▸
Other	O		⊤ ↑	Yes	Edit Option	View	more ▸

» New Option for 'Marital Status'

If desired, you can also mark one of the choices as the default option.

Inactive options are hidden when the field is presented.

CHOOSING BETWEEN FIELDS, GROUPS AND TAGS

Data fields, groups and tags are three major ways to associate information with contacts. Although it can be tempting to just create a custom data field for every attribute of your data, take time to learn about the alternatives. They offer powerful functionality that you may miss out on if you rely only on custom data. Furthermore, using data fields for information stored more appropriately as groups or tags can slow your system. Finally, proper use of groups and tags makes it much easier for administrative staff to maintain the records.

Some tips that may help you choose are:

- Data that can take a wide range of values, such as a person's address or biography, should be stored in an alphanumeric custom data field.
- Custom data fields can be grouped and displayed on their own tab on the contact's record.
- As the name implies, Groups are used to group contacts. For instance, you'll probably assign board members to one group, staff to another, volunteers to a third, and so on. If you use Drupal, you can assign permissions based on group membership. You can also define a group that CiviCRM automatically adds contacts to and deletes contacts from, based on some characteristic. This feature is called a Smart Group.
- If you plan to use CiviMail for mass mailings and you want certain contacts to get a particular mailing, those contacts must be assigned to a Group. For instance, you may want a press release to go only to certain contacts; those contacts should be assigned to a particular group. This group could be a Smart Group.
- Both Tags and Groups can be structured hierarchically. For instance, a group or tag labeled Regions can have a subgroup or subtag for each geographic region your organisation covers (see "Case study in hierarchical tags" later in this section).
- Tags support more powerful search options than data fields or groups. For instance, visitors can search through multiple tags with both AND and OR operators. Data fields support only lists of words (which is effectively the same as an AND operator), except for fields represented as check-boxes, which support OR operators.
- Tags have a more sophisticated user interface than data fields or groups. The interface allows the visitor to add and remove tags without reloading the page in edit mode.
- Custom data fields can be assigned to a specific record type (e.g., only households), whereas tags will be assigned to all types once the tags are defined.

10. USING CIVICRM PROFILE

A profile is a collection of fields (both predefined and custom) from your database. By creating a profile you are able to take only those fields relevant for a specific purpose, such as collecting information about a person registering for an event or displaying a directory of members on your website. The diagram below provides a visual explanation of how existing fields are assigned for use in a profile.
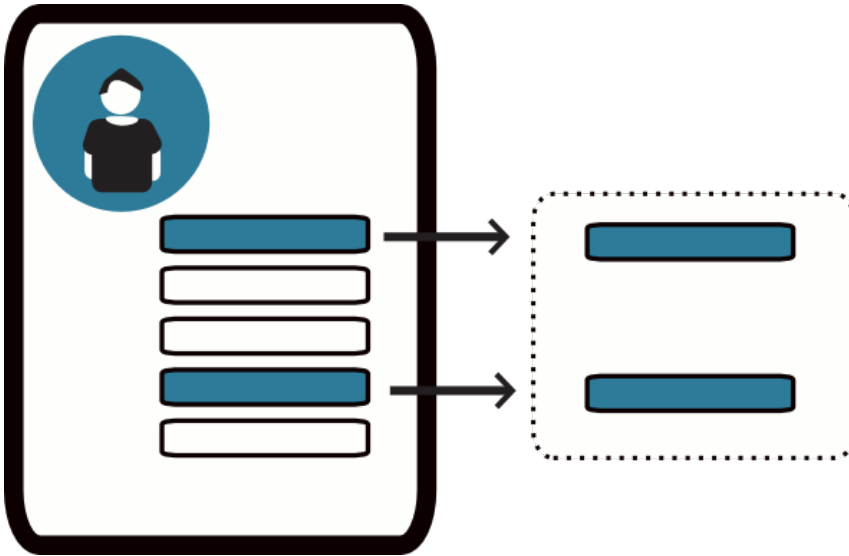
SCENARIOS

Profiles provide powerful tools for collecting information from your constituents as well as sharing that information through your website. These features can save significant staff time by allowing people to update their own data, and you can display up-to-date information from your database in a variety of ways.

For example, a membership-based organisation can provide a searchable membership directory on their website that is updated as soon as a new member joins. Another example is a form where people can sign up to receive emails from your organisation. Once submitted, they are automatically added to the correct email list. Profiles can also be embedded in online contribution or event pages to collect additional information about the constituent.

This section will outline how to use profiles for both collecting and sharing data.

OVERVIEW

Profiles provide an flexible set of options for creating forms, directories, and much more. Think of a profile as providing a window into your data. Just as you can have many windows in a house giving different views of the various objects inside, you can have multiple profiles which refer to the same or different fields.

There are many ways that profiles can be used:

- **Forms**: a profile can be used as a form to collect information from your contacts. You can also add profiles to contribution, membership sign-up, and event registration pages to collect additional information from donors, members, and event participants. Profile forms can also be used as simplified data entry forms.
- **View/edit user account (Drupal only):** it is often useful to allow your constituents to manage their own data through your website. This use of profiles allows people to edit their information when they are managing their Drupal account; this information is then automatically updated in CiviCRM.
- **Website user registration:** you can include a set of fields in the new account registration form (Drupal) or create a profile that includes website user registration fields (Joomla!).
- **Directory**: a profile can be used to create a searchable directory for visitors to your site.
- **Search results**: using profiles allows you to display selected fields in the results of an advanced search.
- **Batch data updates (mass updates)**: there is often a need to update a large number of records all at once; this process can be streamlined using profiles.

Another important point about profiles is that the same profile can be reused in multiple ways.

COLLECTING DATA FROM CONSTITUENTS

This section reviews the different methods by which you can use profiles to collect information from your constituents. A later section will discuss how to share information from CiviCRM with your constituents.

Volunteer sign-up form

Let's walk through an example of a profile used as a volunteer sign-up form. This simple form includes fields for First Name, Last Name, and Mailing Address. It also includes a reCAPTCHA widget to protect your site from automated abuse (described further below).

To build a a form similar to this one:

1. Go to: Administer > Customize > CiviCRM Profile and click on Add CiviCRM Profile.
2. Give the profile a meaningful name, and mark it to be used for a Profile:

Profile Name * [_____]

Used For 🗩   ☑ Profile ☐ Search Results ☐ Drupal User Registration ☐ View/Edit Drupal User Account

3. The next two text fields allow you to include help text to assist the person filling out the form.
4. The remaining options are listed under Advanced Settings (click on the gray bar to expand this section):
    1. **Limit listing to a group**: this is very important. If the profile is used for a searchable directory, by default CiviCRM will expose every record in your database; this is not ideal in many cases. Use this setting to limit the available records to contacts who are part of a regular or smart group. For example, if an organisation needs to limit a profile listing to show only active members, they can create a smart group of all members that have a status of New and Current. They then limit the directory to only show contacts in that smart group. Remember, smart groups are dynamic lists of records; when new memberships are added, the corresponding contact will automatically be included in the directory.
    2. **Add new contacts to a group**: this is applicable when using a profile as a sign-up form. You are able to directly add all the contacts who fill out the profile form to a particular group. For example, if your profile form asks contacts to offer their services as a volunteer, then all those who fill out the form can be automatically be added to a volunteer group.
    3. **Notify when profile form is submitted?:** who in your organisation should receive an email when someone fills out the form? Enter their email address here. If you want to send email to multiple addresses, separate them with a comma.
    4. **Redirect URL**: when someone clicks Save to submit the form, do you want to take them to a specific URL? Normally you would create a special thank-you page on your website to redirect people to. If this field is left blank, the user will be directed to a page which displays the information they've just entered (a profile view page). This setting does not apply if you embed your form in an event sign-up or contribution form.
    5. **Cancel Redirect URL**: similar to the previous item, what is the URL you want to redirect people to if they click Cancel on the form? Again, this setting does not apply if you embed your form in an event sign-up or contribution form.
    6. **Include reCAPTCHA**: CAPTCHA is a type of spam blocking software that requires the visitor to fill in text generated from a graphic. This prevents automated spiders (robots) from completing the form. It is highly recommended that you include it. You must have configured a free reCAPTCHA account before enabling this. Go to Administer > Configure > Global Settings > Miscellaneous Settings to configure your account (click the help icon for on that form for detailed instructions).
    7. **What to do on duplicate match**: use this option to control what happens when the contact data submitted from this profile matches an existing contact record. Options are to update the matching record, create a duplicate record, or give the user a "duplicate record" warning (in which case their input will not be saved). This setting is ignored if the profile is embedded in an online contribution, membership sign-up or event registration form. In these cases, a contact match always results in the transaction being linked to the matching contact. Note that if there are multiple matching contacts, the first matching record is used.
    8. **Proximity search:** if you are using this profile as a search form, you can choose to include proximity searching. When enabled, a proximity search block will be added to the search criteria. This block contains fields to set the proximity start address, and a field to set a "radius" (distance from that address). Set the proximity search as required if you want all searches using this profile to force the user to enter a start address and a radius.

Once you have saved the profile settings, it's time to add fields to the profile. If you plan to reference custom fields in a profile form, make sure that those fields have already been created.

Some important notes on adding fields:

- You can change the name of a field label for the profile. For example, the Postal Code field can be renamed Zip Code if your audience is more familiar with that term.
- Certain fields can be required (must be filled out). In this scenario, we would want to make at least First Name and Last Name required, and probably some sort of contact information such as email address and/or phone number.
- You can make a field View Only, which means it will be displayed on the profile form but not editable (this setting is not relevant for the volunteer sign-up scenario).
- If the profile is being used as a searchable directory, set the Visibility of any fields you want to include on the search form to Public Pages or Public Pages and Listings. For our volunteer sign-up scenario, we are only using the profile as a sign-up form, so we can set Visibility to User and User Admin only. This ensures that other visitors can not view any form data.

Linking to your Form

Once your profile sign-up form is built, it is ready to be used! There are several ways to do this.

- **Drupal:** if you intend to give your volunteers access to some back-office CiviCRM functions, you can add an item to the CiviCRM navigation menu which links to this form (from Administer > Customize > Navigation Menu). These users will need be given the "access CiviCRM" permission.

- **Drupal:** create link(s) to the form using the following path: **http://www.myorganization.org/civicrm/profile/create?reset=1&gid=N** where **N** is the **ID** of the profile (each profile has a unique numeric ID which you can find by going to Administer > CiviCRM Profile and checking the third column of the table).
- **Drupal:** create a link or a menu item for logged-in users to edit their own information. If they are logged in and go to the profile URL, the fields of the profile will be prepopulated and they will be able edit any fields needing updating. The URL path here is: **http://www.myorganization.org/civicrm/profile/edit?reset=1&gid=N** where **N** is the **ID** of the profile.
- **Joomla!:** use the Menu Manager to create a front-end menu item. After creating a new menu item, select CiviCRM and choose the type of profile display you would like to use. In the parameters pane, choose the specific profile to use.
- A great feature is to provide non-logged-in users with the ability to view and edit their contact information via a profile using CiviMail. To do this, insert the following link with appropriate tokens as shown into a CiviMail message:
  http://www.organisation.org/civicrm/profile/edit?reset=1&gid=N&
     id={contact.contact_id}&{contact.checksum}
  where N is the ID of the profile form you want them to use for editing. The token {contact.checksum} generates a special link that prepopulates the fields of the profile with any information that already exists for them in that profile. The special link lasts for 7 days from the day you send the mailing. This feature can be used for either Drupal or Joomla! sites.
- The last option is to not link directly to the profile at all, but simply embed the profile form into any page on your website - or ANY website, for that matter. On the Profiles Administration page, click **more**. There is an option called HTML Form Snippet. Clicking it takes you to a screen where you can copy the raw HTML code and paste it into any page on your site or any website where you want to collect information. Make sure the reCAPTCHA feature is NOT enabled for this profile; reCAPTCHA requires dynamic page generation so submitting a standalone form with reCAPTCHA enabled will always result in an error.

DATA ENTRY TOOL

If you have volunteers or interns who perform manual data entry for your organisation, you can make their task easier by creating a profile form which shows only the fields they need to input. This greatly simplifies data entry and reduces the chance of data being incorrectly entered.

INCLUDING PROFILES ON EVENT REGISTRATION AND CONTRIBUTION PAGES

Often you will want to define certain fields for inclusion in event registration and contribution pages. This process is similar to the volunteer sign-up example above. The only significant difference is that you can include fields in your profile that are specific to participant records (for event registration forms) and contributions (for contribution pages). Read the sections covering creating contribution pages and event registration pages for more information.

INCLUDING PROFILES IN DRUPAL'S USER REGISTRATION SCREEN

For websites that have logged-in users, you may want to allow people to provide additional information as they register for an account on your website. Similarly, when people fill out a profile form you may want to encourage (or force) them to sign up for a user account.

To include a profile form during the user registration process:

1. Create a profile that is used for User Registration:

2. Add the fields you want people to fill out as they register, using the same process described above. Make sure the field visibility is set to Public User Pages.

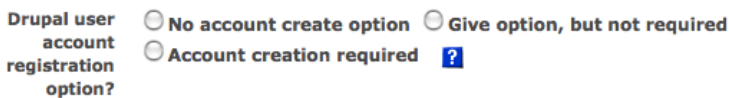## INCLUDING PROFILES IN DRUPAL'S MY ACCOUNT SCREEN

You can embed one or more CiviCRM profiles directly into Drupal's My Account screen. This makes it easy for logged-in users to review and update their information whenever they visit their My Account page.

To create a profile for this purpose:

1. Create a new profile, or navigate to an existing profile and click Settings.
2. Select View/Edit User Account in Used For.
3. Click Save.
4. Add the fields you want people to be able to edit from their Drupal My Account page.

NEW ACCOUNT CREATION DURING PROFILE SIGN-UP

If you want your constituents to create a Drupal or Joomla! account when filling out a profile, you can enable this with the "User account registration option" under Profile Settings > Advanced Settings. Anonymous (not-logged-in) users will then be invited (or required) to create an account when they visit the profile. Logged-in users will just see the profile fields.

You must include a Primary Email Address field in the profile for this feature to function properly. This feature also works when the profile is embedded in an online contribution page or event registration page. Hence you can invite or force anonymous visitors to sign-up for an account when they register for an event.

SHARING INFORMATION

Profiles and directories

Many organisations have data they would like to display on their website. Historically this has been difficult because it required updating the same data in two places - a website and a database. Using CiviCRM profiles solves this problem because it allows you to expose data from your database on your website while only needing to manage and update the data in CiviCRM.

For example, an organisation called Native Americans in Philanthropy (NAP) wanted to create a membership directory that their members could use to search and connect with other fellow members. Before CiviCRM, they would create a very expensive annual print directory and mail it to every member. This process was time-consuming and expensive, and some data would be out-of-date before the members received their directory. Switching to CiviCRM meant significant resource savings and, because their website became a portal for their members to connect, it helped to advance their mission.

To build your directory:

1. Go to: Administer > Customize > CiviCRM Profile.
2. Click Add CiviCRM Profile.
3. Set Used For to Profile:

Profile Name * `Membership Directory`

Used For [?]   ☑ **Profile** ☐ **Search Results**

4. Advanced Settings: there are a few options under advanced settings that are helpful when using profiles for directories.
   1. **Enable mapping**: a really cool feature available in CiviCRM is to allow visitors to map contacts in your directory using Google or Yahoo! maps. They can then obtain directions to a record's address dynamically. To use this feature, you must have already enabled mapping under Administer > Configure > Global Settings > Mapping and Geocoding.
   2. **Include profile edit links:** check this box if you want to include a link in the directory listings to allow people to edit the profile's fields. Only users with permission to edit the contact will see this link. More often than not you will not need to enable this setting as it is not commonly used in the membership directory scenario.
   3. **Include Drupal user information** (Drupal only): check this box if you want to include a link in the directory listings to view a contacts' Drupal user account information (e.g. their My Account page). This link will only be included for contacts who have a user account on your website.

   ☐ **Enable mapping for this profile?**   [?]

   ☐ **Include profile edit links in search results?**   [?]

   ☐ **Include Drupal user account information links in search results?**   [?]

Now it's time to include the fields that will make up the directory. For profiles used as directories you have total control over which fields:

- are searchable in the directory
- appear in the results columns of your search
- appear in the record detail View page.

The important options you must configure in the fields for directory purposes are shown below:

Visibility * `Public User Pages and Listings ▾`

Is this field hidden from other users ('User and User Admin C
Search form ('Public User Pages' or 'Public User Pages and Lis
also click the field value when viewing a contact in order to lo
live in Poland).

Searchable? ☐

Do you want to include this field in the Profile's Search form?

Results Column? ☐

Is this field included as a column in the search results table?
User Pages and Listings' visibility.

- Visibility for all fields in your directory must be set to **Public Pages** or **Public Pages and Listings**. The difference between these two options is that those configured as Public Pages and Listings will have the field in detail view hot-linked, enabling the user to generate a follow-up search for other records which also have that same field value. For example, you might set City to Public Pages and Listings. After the user conducts a search and views the details for a record they can click on the city value and run an immediate search. The search will run as if they had selected that city in the profile search screen.
- The **Searchable** option determines if visitors to your directory can search the directory by this field. In common directory uses, almost every field is set to searchable. The more fields you set to searchable, the more power you provide to your visitors to find the information they need.
- The **Results Column** check-box determines if the the field is displayed as a column in the list of results. For example, your directory may have a field for website, and if you set the website field to appear in the results column, it will appear in the results table. If you do not check the results column the field will still appear in the view mode for a record. In other words, checking Results Column? will allow the field to appear in the results column AND in detail view mode.

The image below shows the search mode for our membership directory.

Once you hit search you get this result set. Profile fields that have Results Column checked are shown in the listing.

Clicking the view link gives you more details about the constituent, showing all profile fields.

As we've seen, building a directory for your website can provide a valuable tool for your constituents.

Linking to Your Directory

You have several options to link to your directory:

- **Drupal:** link to the directory search page using this path:
  http://www.myorganization.org/civicrm/profile?reset=1&gid=N where N is the ID of the profile directory.
  - If you add **&force=1** to the above URL it will directly show a result set.
  - If you add **&force=1&search=0** it will hide the search criteria and directly show the result set.
- **Joomla!:** use the Menu Manager to create a front-end menu item. After creating a new menu item, select CiviCRM and choose the profile search option. In the parameters pane, choose the specific profile to use.
- You can also prepopulate any search criteria in the URL. These options are described here: http://wiki.civicrm.org/confluence/display/CRMDOC/Linking+Profiles

OTHER PROFILE USES

Search results

Searching is outside the scope of this section but, assuming you are familiar with searches, you may wish to change the columns used to display the results of an advanced search. To do this:

1. Create or open a profile and mark it as used for Search Results:

Profile Name *	Custom Search Results
Used For [?]	☐ Profile ☑ Search Results ☐ User Registration ☐ View/Edit User Account

2. When adding fields to this profile, you will need to set Visibility for the fields to Public Pages and check the Results Column box.

When conducting your advanced search, use the Search Views dropdown menu in the top right of the page to select your profile.

Batch updates

The final way that profiles can be used is to perform batch updates of data. For example, you have a custom field called "volunteer interests" and you want to update the volunteers group with a certain interest. You can easily update the entire group using a profile.

1. Create or open a profile and mark it as used for Profile:

Profile Name *	Update volunteer interests
Used For [?]	☑ Profile ☐ Search Results ☐ User Registration ☐ View/Edit User Account

   No other profile settings are relevant for this type of usage.

2. Add your fields to the profile. Only add the fields you want to batch update. In the above example, the only field you would need is your custom "volunteer interests" field (contact name is always displayed when doing batch update). Remember, fields added to the profile must all be of the same contact type. You cannot add fields that are specific to both organisations AND individuals.

Once your profile is created, and you have conducted your search, select **Batch Update via Profile** from the actions dropdown menu and click Go. Then select the profile you want to use.
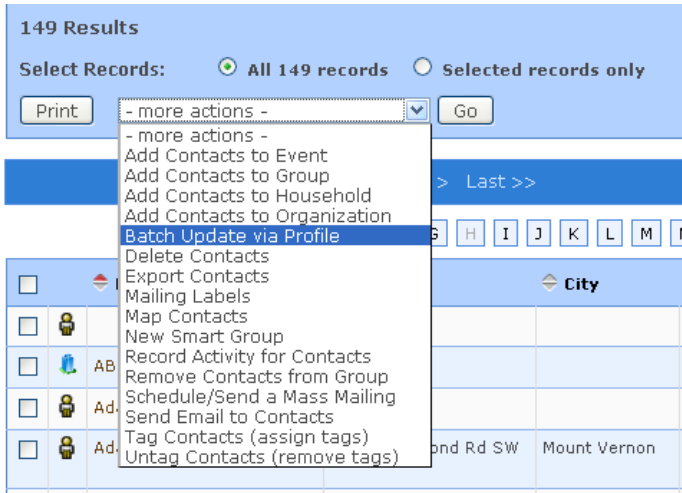
You will see a grid with the fields in your profile. You can update each field and row individually. If there is a field where you want to enter the same value for ALL records, you can enter that value in the first row and then click on the "copy values" icon to the left of the column header. This will copy the field value to all the rows in your grid.

Don't forget to click the Update Contacts button at the bottom of the page to save your changes.

Batch update limitations

- You cannot perform batch updates for different types of contacts (individuals and organisations, for example) at the same time.
- If you wish to update participant fields, you must do the update from a Find Participants search (and only include participant fields in your profile).
- You may only perform a batch update for 100 records at a time.

COMBINING RECORD TYPES IN A PROFILE

A profile usually contains fields of one record type. For example: First Name and Last Name (Individual fields). But in some cases, such as online event registration and online contribution pages, you can combine fields from two different record types (e.g. Individual + Participant fields or Individual + Contribution fields). You can also combine Individual fields with general Contact fields (e.g. Last Name + Email Address).

If you try to combine fields with an unsupported combination of record types, you'll get an error when you try to save the field.

11. INSTALLATION

Before reading further, please be aware that much of the information contained here is intended for technicians and may be difficult to understand if you have little or no experience in setting up web applications. If you don't understand this topic, you may wish to either seek help, or point your organisation's technical staff to this material.

PREREQUISITES

CiviCRM must be installed on a computer that has been configured with a **web-server**, **PHP**, and **MySQL**. Some people prefer to try out CiviCRM on their own local computer before installing it on a dedicated web-server. If you are doing this and don't have the pre-requisites just mentioned, you can download packages from the Internet such as WAMP, XAMPP, MAMPP and LAMP, which will quickly install an Apache web server, PHP, and MySQL. (The first two packages are for Windows and the second two are for the Macintosh and Linux respectively).

Before you can begin installation, you need to decide whether you are going to use CiviCRM integrated with Drupal or Joomla!. Refer to the appropriate section in the online CiviCRM Installation Guide for the latest system requirements and specific installation steps:

http://wiki.civicrm.org/confluence/display/CRMDOC/Installation+and+Upgrades

NETWORK ACCESS

Once you are ready to start using CiviCRM in your organization, you'll probably want CiviCRM to be available on the Internet. However, some organizations only want internal staff to have access. In this case they may choose to install CiviCRM on an intranet or local area network.

UPGRADES

New versions of CiviCRM are released two or three times a year, and you will need to apply upgrades to your CiviCRM site periodically in order to take advantage of new features and improvements. It's important that you plan for the resources (people and time) required to apply upgrades to your site. You need to plan on testing upgrades on a copy of your live site to make sure the process runs smoothly. It's also critical to make backups of your site and database prior to running an upgrade.

Refer to the appropriate section of the online CiviCRM Installation Guide for specific upgrade procedures. Be sure to select the procedure that is targeted for the **environment** you are running (Drupal or Joomla!), and the version you are upgrading to.

CONFIGURATION

Now that you have CiviCRM installed and running on your web-server, it's time to review the initial configuration tasks which allow you to customize CiviCRM for your organization.

You can easily access each of the configuration screens described in the following screen from the Configuration Checklist. Log in to your CiviCRM site and navigate to Administer CiviCRM -> Configure -> Configuration Checklist. This section will cover the general tasks, while component-specific configuration will be covered in each component section.

Site Configuration	
Localization	Localization settings include user language, default currency and available countries for address input.
Domain Information	Organization name, email address for system-generated emails, organization address
Viewing and Editing Contacts	
Site Preferences	Configure screen and form elements for Viewing Contacts, Editing Contacts, Advanced Search, Contact Dashboard and WYSIWYG Editor.
Address Settings	Format addresses in mailing labels, input forms and screen display.
Mapping and Geocoding	Configure a mapping provider (e.g. Google or Yahoo) to display maps for contact addresses and event locations.
Miscellaneous	Contact search behaviors, RECAPTCHA configuration.
Sending Emails (includes contribution receipts and event confirmations)	
Outbound Email	Settings for outbound email - either SMTP server, port and authentication or Sendmail path and argument.
From Email Addresses	Define general email address(es) that can be used as the FROM address when sending email to contacts from within CiviCRM (e.g. info@example.org)
Online Contributions / Online Membership Signup / Online Event Registration	
Payment Processors	Select and configure one or more payment processing services for online contributions, events and / or membership fees.
Permissions for Anonymous Users	You will also need to change Drupal permissions so anonymous users can make contributions, register for events and / or use profiles to enter contact information. (learn more...)

TOKENS

Tokens are special blocks of text that refer to specific fields in your database. They are used to control what fields are included in address display and mailing labels, and can also be used to personalize emails. This is described in more detail later in this chapter. If you've used "mail merge" in your word processor, you've already used tokens.

Tokens are always surrounded by curly brackets, and include the record type followed by the field name. An example is *{contact.street_address}*. Address values are taken from the contact's **primary location**.

Tokens are skipped when they refer to a field that is empty for a particular contact.

EXAMPLE: The default Individual Name Format includes *{contact.middle_name}*. If a contact doesn't have a middle name, that token is skipped.

EXAMPLE: The default Mailing Label format includes *{contact.supplemental_address_1}* on a separate line. If there is no supplemental address for a particular contact, that entire line is omitted - there will *not* be a blank line in the label.

LOCALIZATION

Localization involves adapting CiviCRM for use in a specific country or language by translating the text displayed on the screen and setting region specific formats for dates and money (including currency). By default, CiviCRM is localized for the United States. If you are using CiviCRM in a different country, need to store contact addresses that appear in countries other than the United States, or want to use CiviCRM in another language, you will need to review and update the values on this screen.

CiviCRM has been translated into a number of different languages. These translations are contributed by community members. So your first step is to determine if a complete translation exists for the current version by visiting the Translation Server home page at http://translations.civicrm.org/. If you find a completed translation, you can download it and select it on this screen. Otherwise you will need to consider whether you have resources for contributing a translation.

It is also possible to configure your site to support multiple languages. In this mode, your users will be able to choose from a list of available languages after logging in. You can also create and store multi-language versions of text. Examples include custom field labels, an online contribution page, campaign information, and event descriptions.

Further reading:
Localization overview - http://wiki.civicrm.org/confluence/display/CRMDOC/CiviCRM+Localisation

DOMAIN INFORMATION

Use this screen to enter identifying information for the organization or entity which "owns" this CiviCRM installation. The organization name and address are used to identify your organization in **CiviMail** mailings when you include the *domain.name* and *domain.address* tokens.

You should also enter a valid email address belonging to your organization, which will be used as the From field in system-generated (automated) emails.

SITE PREFERENCES

This screen allows you to modify the screen and form elements for the following tasks:

- **Viewing Contacts** - Controls the tabs displayed when viewing a contact record. EXAMPLE: If your organization does not keep track of Relationships, uncheck this option to simplify the screen display. Tabs for Contributions, Pledges, Memberships, Events, Grants and Cases are also hidden if the corresponding component is not enabled.
- **Editing Contacts** - Controls the sections included when adding or editing a contact record. EXAMPLE: If your organization does not record Gender and Birth Date for individuals, then simplify the form by unchecking Demographics.
- **Contact Search** - Controls the sections included in the Advanced Search form. EXAMPLE: If you don't track Relationships, you will not search for that section. Simplify the form by unchecking this option.
- **Contact Dashboard** - Allows your constituents to view the groups they are subscribed to, their contribution history, event registration information and more. You can control the sections that should be included in the dashboard here. EXAMPLE: If you don't want constituents to view their own contribution history, uncheck that option.
- **WYSIWYG Editor** - The editor provided to users to enter text in fields that allow HTML formatting (such as the introductory section for your online contribution pages). You can choose either CKEditor or TinyMCE. It's a good idea to try out both and see which is more comfortable for you and your users.
- **Individual Display Name** - Display name format for individual contact display names.
- **Individual Sort Name** - Sort Name format for individual contact sort names.

ADDRESS SETTINGS

CiviCRM allows you to modify the default fields for adding and editing contact and event address data. You can also change the address field layout used for screen display and mailing labels. Review the out-of-the-box defaults by adding a new contact record and noting the address fields provided on the form. Save the record and note the order in which the fields are displayed on the Contact Summary screen. If you plan on generating mailing labels for contacts, review the label layout (select Mailing Labels from the *-actions-* drop-down after doing a search using the Find Contacts menu option).

After reviewing the default fields and layouts, review the Address Settings screen and make changes as needed.

- **Mailing Labels** - Controls formatting of mailing labels here. The default format is:
  {contact.addressee}
  {contact.street_address}
  {contact.supplemental_address_1}
  {contact.supplemental_address_2}
  {contact.city}{, }{contact.state_province}{ }{contact.postal_code}{contact.country}
  You must include the *{contact.addressee}* token here in order to include the name of the addressee in your labels. Users will be able to select from a variety of label types corresponding to the label manufacturer code when they generate the labels from a list of contacts. It's a good idea to test your format with the type of label and printer you plan on using to verify spacing.
- **Address Display** - Controls the layout of contact and event location addresses displayed on CiviCRM screens. The default format is:
  {contact.address_name}
  {contact.street_address}
  {contact.supplemental_address_1}
  {contact.supplemental_address_2}
  {contact.city}{, }{contact.state_province}{ }{contact.postal_code}{contact.country}

  TIP: This format applies to event locations, despite the use of the *contact* record type in the layout. The *{contact.address_name}* token is particularly useful for events where you need to include a location name (e.g. "Smithson Hall").

- **Address Editing Fields** - Modify the available address editing fields here. You can hide fields that you don't plan on using in order to simplify the forms. EXAMPLE: If you don't plan on recording OpenIDs for contacts, you can uncheck that field.
  - **Street Address Parsing** - CiviCRM uses the US Postal Service's (USPS) Postal Addressing Standards to parse an address into fields to hold the address elements: Street Number, Street Name, and Apt/Unit/Suite. It's best \to enter address information that conforms to the Postal Addressing Standards, not only for consistency in your data, but also to best take advantage of the the Street Address Parsing function. You can edit and or view the parsed address by clicking on Edit Address Elements next to the Street Address field of the Address Area of the Summary tab when viewing a contact record. You can learn more about USPS' Postal Addressing Standards at http://pe.usps.com/text/pub28/welcome.htm.
- **Address Standardization** - CiviCRM includes an optional feature for interfacing to the United States Postal Services (USPS) Address Standardization web service. You must register to use the USPS service at http://www.usps.com/webtools/address.htm. If you are approved, they will provide you with a User ID and the URL for the service. The URL provided by USPS will not be prefixed with "http://". When entering this URL into the CiviCRM settings field, you must prefix it with "http://".

MAPPING AND GEOCODING

CiviCRM includes support for both the Google and Yahoo mapping services. These services allow your users to display contact addresses and event locations on a map. To enable this feature, select your mapping provider and obtain a key for your site from that provider.

Once a mapping provider is enabled, your contact and event records will be automatically **geocoded** (the latitude and longitude for that address is inserted) as you add or edit address data.

SEARCH SETTINGS

These let you adjust search behaviors such as the use of wildcards and which data to include in quick search results. Adjusting search settings can improve performance for large datasets.

A wildcard character is a special character that can be used to substitute for any other character or characters in searches. CiviCRM allows you to use the percent (%) character to substitute for zero or more characters, and the underscore (_) character to substitute for any single character. Wildcards are useful for broadening your search results.

EXAMPLE: Typing 'Volunteer%' as your Activity Subject will match any record whose subject starts with "Volunteer" (e.g. "Volunteer for Open House" or "Volunteering Opportunities").

- **Automatic Wildcards** - By default, when users search for contacts by Name, the Search interface treats the text as if it was surrounded by percent signes. EXAMPLE: Searching for 'ada' will return any contact whose name includes those letters - 'Adams, Janet', 'Nadal, Jorge', etc. Disabling this feature will speed up searches significantly for large databases, but will make users explicitly use wildcard characters ("%" or "_") for partial name searches.
- **Include Email** - By default, when users search contacts by Name, the Search interface also searches for the text in email addresses. Disabling this feature will speed up searches significantly for large databases, but users will need to use the Email search fields (from Advanced Search, Search Builder, or Profiles) to find contacts by email address.
- **Include Nickname** - By default, nicknames are automatically *not* included when users search by Name. Change this value to Yes if you want nicknames to be included.
- **Include Alphabetical Pager** - If disabled, the alphabetical pager will not be displayed on the search screens. This will improve response time for search results on large datasets.
- **Include Order By Clause**- If disabled, search results will not be ordered. This will improve response time for search results on large datasets significantly.
- **Default Contact Search Profile** - You can select a Profile to override the columns displayed by default in Find Contacts search results.
- **Smart group cache timeout** - Smart groups are basically saved searches. The list of contacts for each smart group is **cached** in the database in order to avoid running the saved search every time you access a smart group. This field determines the number of minutes to maintain the cache before refreshing it. The default value of 0 means the cache is emptied immediately when any contact is edited or a new one is added. If your contact data changes frequently, you may want to try setting this to a value of 5 minutes (or even longer) to reduce processing load on your server. The drawback of delaying the refreshing of the cache is that old data will still be served up to users for a few minutes after new data is added.
- **Autocomplete Contact Search** - If enabled, selected fields will be displayed in autocomplete dropdown lists and the "Quick Search" box on the navigation menu. The contact name is always included.

MISCELLANEOUS: VERSION CHECKING, RECAPTCHA, USE TRASH, LOGGING

Use the Miscellaneous Settings screen to configure and control the following behaviours:

- **Dashboard Cache Timeout** - The number of minutes to cache dashlet content on the dashboard.
- **Contact Trash and Undelete** - If enabled, deleted contacts will be moved to the trash (instead of being destroyed). Users with the proper permission are able to search for the deleted contacts and restore them (or delete them permanently).
- **Logging** - If enabled, all actions performed on non-cache tables will be logged (in the respective log_* tables). By default, these tables will be created in the same database. However you can configure CiviCRM to write logging tables to a different database by editing your site's *civicrm.settings.php* file. Specify the separate logging database in the CIVICRM_LOGGING_DSN setting. After enabling this feature you can review changes to contact records using the Contact Logging Report. Go to Reports > Reports Listing > Contact Logging Report (Summary).
- **Version Checking and Statistics Reporting** - This feature automatically checks the availability of a newer stable version of CiviCRM. New version alerts are displayed on the main CiviCRM Administration page. Statistics about your CiviCRM installation are also reported anonymously to the CiviCRM team to assist in prioritizing ongoing development efforts. The following information is gathered: CiviCRM version, versions of PHP, MySQL and framework (Drupal/Joomla!/standalone), and default language. Record counts (but no actual data) are also reported. You can set this field to No if you are not comfortable with having this information reported for your site.
- **Attachments** - You can increase or decrease the maximum number of files (documents, images, etc.) that can be attached to emails, activities, and grant records. The default value is 3.
- **File Size** - Maximum size of a file (documents, images, etc.) which can attached to emails or activities. Note that your PHP configuration files, *php.ini*, should support at least as big a file size as the value specified here.
- **reCAPTCHA** - reCAPTCHA is a free service that helps prevent automated abuse of your site by requiring users to read a random pair of words and type them into the form. To use reCAPTCHA on public-facing CiviCRM forms, sign up at recaptcha.net, enter the provided public and private reCAPTCHA keys here, then enable reCAPTCHA under the Advanced Settings section in a Profile where you want it used.

If you want to use reCAPTCHA protection for online contribution, membership signup or event registration forms, you'll need to configure a Profile with reCAPTCHA enabled, and then include it in those forms.

CONTACT TYPES

Here you can modify the names of the built-in contact types (Individual, Household, Organizations), and create or modify "contact subtypes" for more specific uses (e.g. Student, Parent, Team, etc.).

SENDING EMAILS

CiviCRM will use the default From address defined here when sending automated emails. If you've already entered an email address in the Domain Information screen, that address will be listed here (as illustrated on the leftmost field of the following screenshot).

Label	Value	Description	Order	Default	Reserved	Enabled?
"Client Services" <clientservices@example.org>	2	Use this for all general emails.	1	[x]	No	Yes

When users send an email using CiviCRM, their primary email address is used as the From address by default. However, they can also select one of the general email addresses defined here as an alternative.

Outbound email

If you are sending emails to contacts using CiviCRM, you need to enter settings which allow CiviCRM to connect to your mail server. Such emails include sending receipts to contributors, sending confirmations to people registering for events, and using CiviMail to send bulk mailings.

CiviCRM supports three different methods of connecting to a mail server: mail (the built-in PHP mail function); SMTP (Simple Mail Transport Protocol); and Sendmail. Each method requires that you enter specific settings. If you're unfamiliar with these terms, or unsure of the correct values for these settings, check with your system administrator, ISP or hosting provider.

You should always send a test email after you enter or modify the settings. Simply click "Save and Send Test Email"(shown in the following screenshot). An email will be sent to the email address associated with your user login account. The From email address will be the default From address you've configured in the previous section.

Save   Cancel   Save & Send Test Email

If CiviCRM is unable to send the test email, you will see a message on your screen with the specific error and some suggestions for trouble-shooting the problem.

Disabling outbound email

If you do *not* want users to send outbound emails from CiviCRM at all, select "Disable Outbound Email". However, if you disable outbound email, and you are using Online Contribution pages or online Event Registration, you will need to turn off the automated receipting and registration confirmation features (these are enabled by default). Otherwise your constituents will see error messages after they've completed a contribution or registration.

PAYMENT PROCESSORS

Payment processors are companies that handle credit card transactions for merchants and non-profit organizations and that transfer funds to the organization's bank account. If you plan on using CiviCRM to accept online contributions, online membership signup and renewal or online event registration, you will need to select and configure a payment processor for your site.

CiviCRM includes support for several different processors, and provides a way for third-party developers to add support for additional processors based on their clients' needs. Each processor has their own pricing structure and features, and you will want to investigate each available option to determine the best fit for your organization. Refer to the "Contributions" section for a list of factors to consider in selecting a processor.

The actual steps involved in configuring and testing your payment processor connection are different for each processor. For more information, visit:
http://wiki.civicrm.org/confluence/display/CRMDOC/CiviContribute+Payment+Processor+Configuration

PERMISSIONS FOR ANONYMOUS USERS

Note: This section applies to Drupal sites only.

If you are using CiviCRM with Drupal, you will need to review Drupal's user permissions to ensure that people can get to your signup forms, contribution pages, membership pages and event registration pages.

You must be an administrator for your Drupal site to review and modify user permissions. Log in to your Drupal site, and navigate to Administer > User Management > Permissions.The following screen is displayed.

Permission	anonymous user
civicrm module	

make online contributions	☑
profile listings and forms	☑
register for events	☑

Review each of the permissions listed. You should enable them for the anonymous user role if you want these features to be accessible to people who visit your site without logging in-- outsiders registering for membership or events, for instance:

- **Make online contributions**:
  If you plan to use CiviContribute and want to allow online contributions, enable this permission by checking the box.

- **View event info** and **Register for events**:
  If you plan to use CiviEvent and want to allow online event registration, enable both of these permissions.

- **Profile listings and forms**:
  If you want to collect contact information from constituents or expose a searchable directory using a profile, you must enable this permission.

- **Access all custom data**:
  You must enable this permission for any role which you want to view or for which you want to edit custom data fields. This permission sounds like one that should be given out with care, but in reality most sites give this permission to anonymous users because it is required for simple tasks like filling in information about themselves in the data fields you include in the event registration process. If your site uses Profiles that include custom fields, make sure the roles that need to access these Profiles have this permission.

Now that you have reviewed all the basic configuration tasks, you're ready to begin exploring the ways in which you can record and use contact data.

SYSTEM WORKFLOW TEMPLATES

Review and modify the templates used for system-generated emails, including contribution receipts and event registration confirmations.

GETTING AROUND
12. Menu and dashboard
13. Contacts
14. Groups and tags
15. Searches and actions
16. Importing Data into CiviCRM
17. Deduping and Merging
18. Exporting Your Contacts
19. Postal Mail Communications
20. Everyday Tasks

12. MENU AND DASHBOARD

This chapter gives an overview of CiviCRM's dashboard (it's 'home page') and the navigation menu available for people working in CiviCRM.

THE NAVIGATION MENU

The navigation menu is a small bar at the top of every "back office" page of CiviCRM.
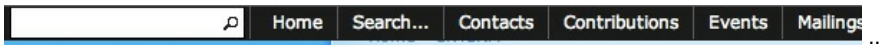
It provides access to nearly every function of CiviCRM and is broadly organised into headings by individual CiviComponents (such as Contributions, Events and Mailings), with a few exceptions for Search and Administer, both of which cover all of the enabled CiviComponents.
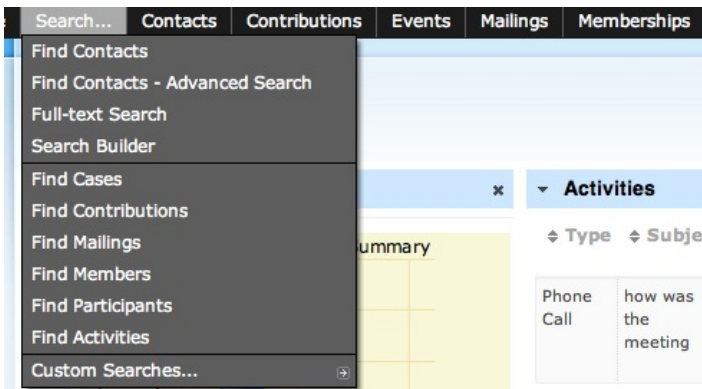
The menu also features a Quick search field for finding contacts. Typing any part of a contact's name or email address into the Quick search field will pull down a list of possible matches that you can click on to go directly to the contact's summary page:
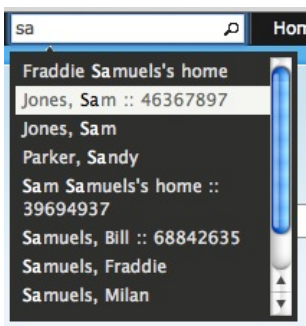
You can modify the navigation menu by going to: Administer > Customize > Navigation Menu and then adding or rearranging menu items on the screen. Remember that changes you make to the navigation menu will be seen by everyone who has the appropriate permissions to see the menu, for better or for worse, so be careful when modifying the navigation menu.

THE DASHBOARD

When you first log into CiviCRM, the first page that you will see is the dashboard (CiviCRM Home). The dashboard allows you to see important information about your site and CiviCRM by displaying a series of "dashlets". A dashlet is a snippet of information about a part of CiviCRM: many dashlets come with CiviCRM by default, and you or your administrator can create additional dashlets that are specific to your organisation's needs. Some examples of dashlets that come with CiviCRM are:

- Donor Report: a bar graph of the amount of total contributions per month for the last five months.
- Activities: a list of recent activities that have been recorded by CiviCRM (this could include emails sent to constituents, donations that have been made, or meetings that have been scheduled in CiviCRM).
- Membership Report: a table summarising information about Members tracked by CiviCRM and broken out by month. This includes the number of Members of each type total amounts of payments made and the number of contributions made, among other things.

You can add these dashlets to your CiviCRM dashboard by clicking the Configure Your Dashboard button. You will see a list of dashlets that can be dragged into the right or left column of your dashboard.

Clicking the Done button will allow you to save the dashlets to your dashboard. From now on, you will see updates to the status of your dashlets every time you log in (if you'd like to check and see any changes that have occurred more recently, you can always click Refresh Dashboard Data - this will reload each dashlet and pull in any new information).

Almost any CiviCRM report can be made available as a dashlet. Select a report from Reports > Create Reports from Templates. Update the report criteria as needed. For example, you may want the dashboard version of the report to always show data for "This Quarter" or "This Year". You can also choose to display the report as a table or as a bar or pie chart. Preview the report display. Then check the "Available for Dashboard" checkbox under Report Settings. (Refer to the Reporting section for more details on working with reports.)

13. CONTACTS

CiviCRM uses contact records as central hubs for data about your organisation's contacts. There are three distinct contact types defined in CiviCRM, each suited to a common type of contact your organisation may want to track:

- **Individual**: any person your organisation wants to keep a record of.
- **Organization**: this could be another non-profit, a company, a chapter of your organisation, or a committee. You will generally want to create at least one contact of the Organization type to represent *your* organisation. This is particularly useful when you are configuring memberships.
- **Household**: a family or group of people who share a physical location.

CiviCRM provides different fields for each contact type, according to the different kinds of data you will probably want to track. For example, *gender* only applies to individuals, not organisations or households, so the gender field is only available for Individual contact types and subtypes. You can also define additional data that you want to collect and apply it to only one type. You could choose to create a custom data field to record the Chairperson or CEO's name and only apply this field to organisations.

ADDING A CONTACT

The simplest way to add a single contact to CiviCRM is to use the navigation menu at the top of any non-public page. To create a new Individual, go to: Contacts > New Individual:
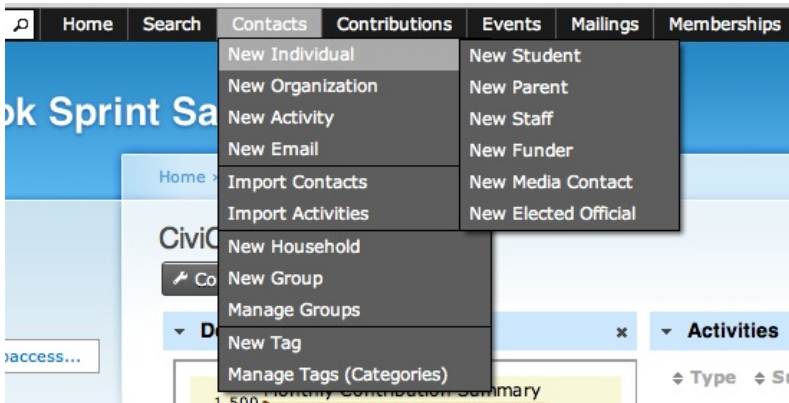
Note that the Contacts menu item allows you to create every kind of contact and contact sub-type.

Clicking on New Individual will bring you to the New Individual form. All of the contact creation forms are similarly arranged, with basic information (name, email etc.) at the top of the form and more specific fields below grouped by type or subject in accordions (such as address fields, communications preferences and any custom fields that you have added for the contact type).

You can fill out as many of these fields as you like, however it's recommended that you have at least a name and email address (it is only required that you have first and last name OR email address). Remember that there is no difference between the contact add and edit screens, so you can always go back and make changes as needed.

Once you have filled out the form, you have the choice of three buttons to click:

- Save will save the contact record and take you to the contact screen.
- Save and New will save the contact and clear the form so that you can add another.
- Cancel will discard the entered information and return you to your CiviCRM dashboard.

THE CONTACT SCREEN

The best way to understand contact management is to have a look at the different screens that are used to store and display information about contacts.

You can find a contact from your CiviCRM dashboard (or any other CiviCRM page) by entering part of their name or e-mail address into the Quick search box in the navigation menu. If you leave the search box blank and click the Search button, it will find all the contacts in your database.

Below is a search for "sa" that has returned Sam Jones, as well as other contacts with the letter combination "sa":
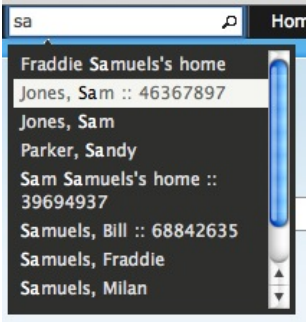
CONTACT ACTIONS RIBBON

Across the top of all contact records is an Actions Ribbon with a variety of buttons that allow you to perform actions related to the current contact. Clicking the Actions button will produce a dropdown menu with a number of actions that can be performed *on this contact*. For example, you could add a note to this contact, or record a new contribution, meeting or other activity.

Some of the activities you can perform here are:

- To change any information about this contact, go to the editing screen by clicking the Edit button. There is also a button to Delete the contact.
- Click Print Summary to go to a print-friendly view of this contact's information, ready for printing.
- The vCard link will import the contact's details into your email client (don't do this if you want your emails to this person to be recorded in CiviCRM).
- Click Contact Dashboard to access the the screen that allows users to view and modify their own group subscriptions, and see the history of their own contributions, memberships and event registrations.

If you're using CiviCRM in conjunction with Drupal or Joomla, you may also see a link to View User Record. This link is shown when the contact is a registered user of your site. It links to a CMS-specific User Account screen.

CONTACT TABS

A list of tabs underneath the Actions Ribbon break up the contact's information into related chunks. We will cover the contact summary tab here in some depth, and then look at other tabs that may be available to you depending on your configuration.

If you think that some of the tabs are not useful and will not be used in your deployment, you can disable or enable specific tabs from Administer > Global Settings > Site Preferences. If you don't see some of the tabs described below, you may need to enable them. The visibility of some tabs is dependent on which components are enabled in your installation. For example, the Contributions tab will be hidden if the CiviContribute component is disabled.

SUMMARY TAB

The summary tab gives you an overview of information about your contact. Here you will find names, addresses and contact details. The information on this page appears fairly straightforward, but take a closer look and you will find some pretty clever stuff is going on.

CiviCRM includes a complete set of fields "out-of-the-box" to store basic contact information. These are usually referred to as **built-in fields** and include:

- Name fields
- Job title and employer
- Phone numbers, email address(es) and instant messenger screen names
- One or more mailing addresses. If Map this Address appears above an address, you can bring up a map (either using Google Maps or Yahoo Maps, depending on your system's configuration) showing where this person lives. If it doesn't show on your screen, this feature hasn't yet been configured for your site. You can add map support from Administer CiviCRM > Global Settings > Mapping and Geocoding.
- Basic demographics (gender and birth date).

Note one small but important feature of the summary screen: if you have a number of long sets of fields, it may become useful to collapse some of them. In the example below, Communication Details has been collapsed, while Constituent Info - Individuals is expanded. Some field sets can be set to be expanded or collapsed by default. This happens for example when a contact has more than one location entered. The first one is shown by default, the rest of them will be collapsed. Clicking on the header will toggle the status of the field set.

▶ Communication Details	▼ Constituent Info - Individuals	
	Constituent Type	Donor
	Other Name	
	Staff Responsible	
	Date Started	
	How Started	

Name Fields

Each contact's name can include the following fields: Prefix, First, Middle and Last Names, Suffix and Nickname. You don't have to use all of them, but they are available in case you want to store all of this information.

If you wish to record a prefix such as Mr., Ms. or Dr. for your contact you can do so using the dropdown menu on the edit screen. If you require other prefixes such as Sir or Father, you can add these to the dropdown menu from Administer CiviCRM > Option Lists > Individual Prefixes (Ms., Mr...). The same applies to name suffixes.

Locations

A location is a group of address-related fields consisting of phone, email and postal address field groups.

CiviCRM can hold more than one location for a contact. For example, if a person has a home address, a billing address and a work address, these can be recorded as separate locations. One of these locations will be marked as Primary. It will be used for any postal mailings that you do. You can explicitly choose which location will be primary for a particular person, or let it default to the first one entered. If a person pays you by credit card, the details used for Billing Address in credit card payments will be stored in the Billing location for the contact.

You can share addresses between contacts. For example, you may need to keep information about individual contacts and the organizations where they work. When creating or editing the "work" address for an individual, check the "Share Address With" box. If their employer already exists in your database, you can select them from the quick search box that appears. Otherwise, you can create the employer's organization record on the fly by selecting "New Organization" from the "create new contact" dropdown..

You can also store multiple phone numbers and email addresses for each location. One of these email addresses can be explicitly marked as the address which receives all bulk mailings (e.g. emails your organisation sends using the CiviMail component).

RELATIONSHIPS TAB

Relationships are connections between contact records in your database. Each connection can be named to describe the nature of the connection, and a contact may have many relationships to other contacts in the database. In the example below you can see a list of Current Relationships as well as a list of Inactive relationships. Contacts can have relationships with set start and end dates. For example, a contact could have a relationship "Committee Chair" to an organisation for a one year period. In order to track past Committee Chairs, you can keep a record of the contact having an inactive Committee Chair relationship.

Another example of a relationship that might be tracked in CiviCRM is the Employee-Employer relationship. Richard is an employee of the organisation Acme Org, and to store this information in the database you can set Richard to be an "Employee of" Acme Org. You do this by creating a relationship between Richard and his employer. Once you do this, you will be able to see this connection from both Richard's and Acme Org's records.

The Employee/Employer relationship is a special one. If you look at the Summary tab again you can see that the Current Employer field shows the name of the employer. This name is a link to the ABC Org contact record. Entering in an Employer in this field is a shortcut way to define an employment relationship. Whenever you fill in the Current Employer field, a record with a matching name will be looked up and the appropriate relationship will be created. If no record for this organisation exists, one will be automatically created before creating the relationship.

The Household Member relationship is used for connecting individuals with households. When editing a contact, you can opt to "Share Address With" a household. You can either select an existing household, or create a new one by selecting "New Household" from the "create new contact" dropdown. When you have opted to use a household address for a contact, a link to the Household's contact record will be displayed along with the usual address information in the contact Summary tab. Using a household address for a contact also automatically creates the Household Member relationship between the contact and household.

Apart from the two special relationship types, you can create and register any other type of relationship. The Relationships tab shows all of a contact's existing relationships with other contacts (individuals, households or organisations in the database).

To create a new type of relationship, go to Administer CiviCRM > Option Lists > Relationship Types. Relationships can be also extended with custom fields if you need to store additional information for them.

Additional powerful characteristics of relationships include the ability to set a start and end date, or disable them manually if they are not valid anymore. This means that you can store the history of relationships in your contact records.

ACTIVITIES TAB

The Activities tab does two things. First, it displays all your interactions with the contact over time; this includes all CiviCRM's built-in activities like event attendance, contributions, membership sign-up and renewal, phone calls, emails and user-defined activities. Second, it allows you to record activities with contacts. Clicking on the icons at the top of the screen (Send an Email, Meeting, Phone call) will bring up a screen where you can enter those details.

This tab can also be used to record any custom activities that you've defined for your CiviCRM installation (from Administer CiviCRM > Option Lists > Activity Types). The ability to define custom activity types, and extend them with custom fields provides a powerful tool for tracking a wide variety of organisation activities. For example, you could choose to track activities such as press releases, press conferences, site visits or voluntary work.

Activities are a great way to store interactions that happen at a specific time, or that link specific people. If it is important for you to know who at your organisation carried out a task, then record it as an activity. Another advantage of activities is that they record when something has happened, which is useful if you need to report on the volume of activities performed during a specific time period. You can record an activity between a given contact and multiple other contacts by adding as many contacts as you like in the With Contact field on the Add Activity form.

Activities usually have their status set to Completed or Scheduled, however you may add other types of activity status as appropriate for your organisation.

| Summary | Contributions 0 | Memberships 0 | Events 1 | Activities 3 | Cases 0 | Relationships 2 | G |
| Notes 0 | Tags 0 | Change Log 3 | Voter Info 0 | Grassroots Info 1 | School Information 0 | | |

- new activity -

Activities

⇕ Type	⇕ Subject	⇕ Added By	With	Assigned To	⇕ Date	⇕ Status		
Event Registration	Rain-forest Cup Youth Soccer Tournament - December 27th, 2009 7:00 AM - Attendee - Registered	kurund@access.co.in			April 26th, 2010 12:19 PM	Completed	View	Fil
Print PDF Letter		josue@ptp.org	Adams, Anne; Adams, Anne; Adams, James; Adams, Monica; Adams, Pat(more)		April 25th, 2010 6:13 PM	Completed	View	Ed
Print PDF Letter		josue@ptp.org	Adams, Anne; Adams, Anne; Adams, James; Adams, Monica; Adams, Pat(more)		April 25th, 2010 6:10 PM	Completed	View	Ed

CONTRIBUTIONS TAB

The Contributions tab shows any financial contributions made by the contact whose details you are viewing, as well as a summary of the contribution activity of the contact (total amount of contributions over time, total number of contributions, and average amount of contributions).

The Contributions tab also allows you to record off-line contributions using the Record Contribution button, or record a credit card transaction on behalf of the contact (useful if the contribution has been made by phone) using the Submit Credit Card Contribution button. Both of these buttons lead to forms that allow you to select the contribution type in addition to the normal contribution information collected from public contribution pages.

MEMBERSHIPS TAB

This tab displays the memberships a contact has signed up for. From this tab you are able to add memberships and submit credit card payments for memberships that require a fee. You can also renew or delete memberships from the "more" link on each membership in the contact's existing memberships.

EVENTS TAB

The Events tab displays events related to this contact, whether they are events the contact has registered for, attended, volunteered at or is any other of the user-configurable event statuses.

From this page you can register the contact for an event, and use the Submit Credit Card Event Registration button if the event requires payment. The related payment will then appear up on the contact's Contributions tab in the first row.

You can also modify the event information as it relates to the contact by clicking the Edit link. For example, you can change the contact's event status from "registered" to "attended".

Summary | Contributions 1 | Memberships 1 | Events 2 | Activities 8 | Cases 0
Relationships 4 | Groups 1 | Notes 1 | Tags 1 | Change Log 0 | Voter Info 0 | Grassroots Info 0
School Information 0

This page lists all event registrations for Mrs Bruce M Jones Sr since inception. Click Add Event Registration to register this contact for an event. Click Submit Credit Card Event Registration to process a new New Registration on behalf of the participant using their credit card.

[⊕ Add Event Registration]   [» Submit Credit Card Event Registration]

⇕ Event	⇕ Fee Level	⇕ Amount	⇕ Event Date(s)	⇕ Registered	⇕ Status	⇕ Role		
Fall Fundraiser Dinner (participants)	Single	$ 50.00	March 3rd, 2010 - March 5th, 2010	December 13th, 2009	Attended	Volunteer	View	Ed
Rain-forest Cup Youth Soccer Tournament (participants)	Tiny-tots (ages 5-8)	$ 800.00	December 27th, 2009 - December 29th, 2009	April 26th, 2010	Registered	Attendee	View	Ed

GROUPS TAB

The Groups tab shows the groups that the contact is a member of. Groups can be used in a variety of ways including mailing lists and permissioning (**ACLs**).

You can add and remove the contact from groups, and see a history of groups the contact has unsubscribed or been removed from.

The Status column displays who has added the contact to the group. Whether users can add themselves to a group is one of the settings you can configure when creating a group. When you set a group's visibility to "Public Listings" users can join via **Profile** forms. You may want to familiarise yourself with the discussion on using Profiles for mailing list sign-ups covered in a later section.

Summary | Contributions 1 | Memberships 1 | Events 2 | Activities 8 | Cases 0 | Relationships 4
Groups 1 | Notes 1 | Tags 1 | Change Log 0 | Voter Info 0 | Grassroots Info 0 | School Information 0

Current Groups

⇕ Group	⇕ Status	⇕ Date Added	
Newsletter Subscribers	Added (by Admin)	September 22nd, 2009 10:41 AM	[Remove]

Add to a group *   [- select group - ▾] [Add]

NOTES TAB

The Notes tab is a place where you can record random bits of information about a contact. Generally you would use custom fields for information you plan to collect about your contacts, but in some cases it may be useful to record additional, ad-hoc notes about a contact. Since this information is unstructured, you should be careful about using the Notes tab, unless you know that you or other people using your CiviCRM implementation will remember to look at that tab. When creating a Note both the subject and the content are free-text fields (i.e. the subject field does not have to be chosen from predefined options).

You can specify "Author Only" privacy for a note. This means that only the person who wrote the note, or someone with "view all notes" permission (Drupal only) can view or edit it.

TAGS TAB

Tags are one way of categorising contacts in your database (other methods are Custom Data and Groups). You can configure which tags you wish to use for your organisation. You can search on tags and create Smart Groups based on them.

The tags next to Keywords are part of the Keywords Tagset. A Tagset is a specific grouping of tags that you can create. Tagsets are non-hierarchical, and you can create a new tag in a tagset simply by typing a new tag into the field. Existing tags that match what you type will also show up as a list from which you can select.

CHANGE LOG TAB

This tab gives limited information about changes made to a contact record. It shows the change date and who made the change, but not what was changed.

NOTE: Administrators can use the Contact Logging Report to get detailed information on changes to contact records (who, what and when).

MODIFYING THE CONTACT SCREENS

After working with the contact editing and summary screens for a while, you may realise that there are sections and/or fields that aren't useful for your organisation. The good news is that you can easily hide some fields and sections. For example, if your organisation doesn't need to store demographics information, you can remove it by configuring the Site Preferences:

- Log in to CiviCRM using an account with Administer CiviCRM privileges.
- Go to: Administer CiviCRM > Global Settings > Site Preferences.
- Uncheck the Demographics box under Editing Contacts.
- Click Save.

Similarly, if you want to remove (or add) fields in the postal address section:

- Go to: Administer CiviCRM > Global Settings > Address Settings.
- Check or uncheck fields under Address Editing.
- Click Save.

14. GROUPS AND TAGS

Groups and tags are two key methods of organising data in CiviCRM. When used properly, both allow for powerful segmentation and searching of your database.

Since both groups and tags are methods of categorisation, it can be difficult to determine whether a tag or a group is more appropriate in a given situation. Identifying the differences in their workflow and functionality will help you to decide which to use.

It can also be good to have a conceptual understanding of the differences between the two. Though there are different takes on how tags and groups should be used, a common philosophy is that tags should be used for descriptive categories and groups should be used for grouping people within a cohesive entity that functions or will be treated as such. From this perspective, things like *volunteer, ally organisation, vegetarian*, and *musician* would be tags with which you could categorise contacts while *Volunteer Committee, Allied Organisations Coalition, Vegetarian Newsletter*, and *This Awesome Band With A Bad Name* would be groups to which you could add contacts.

GROUPS

Groups are an incredibly important feature within CiviCRM. In addition to their fundamental use as collections of contacts that have something in common, they play a critical role in CiviMail and Profiles, and can be used to set up advanced access rights (on Drupal). Well-defined groups are one of the most important tools available when segmenting your CiviCRM contact database.

There are two kinds of Groups - **Regular Groups** and **Smart Groups**.

- **Regular Groups** allows you to manually place contacts into a group. For example, you can manually assign your organisation's board members to a Board of Directors regular group. You can then easily send board-related emails to each person who is a member of the Board of Directors group without having to search through CiviCRM and select each member individually for the mailing.

- **Smart Groups** are automatically populated groups that are configured to include contacts that share a certain set of characteristics or activities. As contacts are added or edited, CiviCRM automatically checks them and adds them to Smart Groups if they meet the characteristics that you have configured. For example, you can create a Smart Group for "2010 Contributors from California" that includes contacts who have made a contribution in the year 2010 (an activity) and have an address in California (a characteristic). When new contacts located in California make a contribution in 2010, they are automatically added to this group. Another example is a Smart Group of all donors who have not yet been sent a thank-you letter. As you send your letters, the donors receiving them will automatically leave the smart group, allowing you to always have an accurate list to work from.

Group settings and functionality

Each group should have a clear, easily understandable group name and a description of the group and its purpose, both of which will allow users to quickly figure out what particular groups are for when working in different contexts (e.g. CiviMail). This clarity and specificity is especially important once your organisation has amassed many different groups. If a group is created for a specific person within your organisation, it is a good idea to mention in the description who the owner of the group is, so that in the future someone can check if this group is still used or if it can be deleted.

Groups can be assigned the following types:

- **Mailing List** is used if you plan to use this group as a mailing list in CiviMail. This group type is available for both Regular and Smart Groups.
- **Access Control** (Drupal only) is used to assign CiviCRM access permissions to a set of contacts. Only Regular Groups can be assigned the Access Control group type.

Visibility determines permissions for joining and removing contacts from groups. Select "User and User Admin Only" if membership in this group is controlled only by authorised CiviCRM users. Select "Public Pages" if you want to allow contacts to join and remove themselves from this group via Registration and Account Profile forms.

Some organisations find it useful to create a hierarchy of groups. In CiviCRM, this is done by creating one or more parent groups and then assigning other groups to them. When a user sends a mailing to a parent group or searches for contacts in a parent group, all contacts in the associated child groups are automatically included.

For example, an organisation that has a national office and 5 regional offices puts constituents in each region into their own group. Then they create a National group which is assigned as the parent group for all regional groups. The national office can now send mailings to the National group, knowing that all contacts in the regional groups that are children of the National group will be included.

Adding and removing contacts

You can add contacts to groups in multiple ways:

- through the Tags and Groups section of the Contact Details edit screen
- through a contact's Groups tab
- by using the "Add Contacts to Group" batch action after conducting a search
- and by clicking a group's Contacts link in Navigation Menu > Contacts > Manage Groups.

The first two methods also allow you to remove individual contacts from a group; the last two methods allow you to add multiple contacts to groups at once.

Individual contacts can be added to a Group either in the contact edit screen or via the Groups tab. Multiple contacts can be added to a group at once by conducting a search, and then selecting Add Contacts to a Group using the More Actions menu. The second way allows you to add multiple contacts to a group by going to Manage Groups, selecting Members for the relevant Group and then using the Add Members to this Group option at the top of the screen.

Contacts can also be added to a group as a result of filling out a Profile (see below).

Managing Groups

To view and manage all groups, go to: Navigation Menu > Contacts > Manage Groups.

You can use the Find Groups form at the top of the Manage Groups screen to search for groups by name, type, visibility and whether the group is enabled or disabled. You can also scroll or browse through the list of groups further down the Manage Groups screen. This list includes both regular and smart groups.

You can:

- add contacts to a group by clicking the Contacts link in the group's row
- edit the group by clicking the Settings link
- disable or delete a group using the links in the "more" pop-up menu.

Group IDs

CiviCRM assigns a unique numeric ID to each group. These group IDs can be used for a variety of operations. For example, the group ID can be used to define a URL for group sign-ups. You can find a group's ID by checking the ID column in the tabled list of groups at Navigation Menu > Contacts > Manage Groups.

Finding contacts in a group

The Contacts page for each group includes a form for finding contacts within the group. You can search contacts within a group by name, email address, contact type, group status (added, removed, or pending) and tags.

Creating and managing smart groups

Smart groups are created by conducting a search (either quick or advanced) based on the criteria you'd like to use to determine who is automatically added to or removed from the smart group, then using the New Smart Group batch action in the Actions menu on the search results page. The smart group creation page is similar to the regular group addition page, except that it displays the smart group criteria at the top.

Though smart groups are automatically maintained by CiviCRM based on the criteria you've set, contacts can be manually added to or removed from a smart group whether or not they match that criteria. For example, if someone unsubscribes from a mailing that is based on a smart group, they will be recorded as removed from the group even if they still meet that smart group's search criteria. Similarly, you can manually add a specific individual to a smart group. For example, you can add someone who is moving away from a city to that city's newsletter smart group so that they continue to receive the newsletter despite their address not matching the criteria for the smart group.

To manage smart groups, go to: Navigation Menu > Contacts > Manage Groups and click the Settings link for your chosen group. Smart group management pages include links for manually adding contacts and editing the smart group's criteria. When you edit a smart group's criteria, CiviCRM will update the members in the group and future members will be automatically added according to the new criteria.

Using groups in a search

When using Advanced Search, if you select several groups in the Group list near the top, it will treat the search as an OR search, and return results for contacts who are in any of the groups you select. If you want to find contacts who belong to all of the selected groups, you will need to use Search Builder.

There is also a very useful built-in custom search, "Include/Exclude Contacts in a Group/Tag", that enables you to find contacts who are in one group but not in another, which you can find by going to Search > Custom Searches in the navigation menu.

Groups and ACL (Drupal only)

Access Control Lists (ACL) provide finer grained permissioning than what is available through Drupal's Permissions and Roles. Setting up ACLs requires a good understanding of the concept, which is thoroughly explained in the online CiviCRM documentation here:
http://wiki.civicrm.org/confluence/display/CRMDOC/Access+Control

As with many processes, the key is to make sure you have assembled all the parts before you try to join them together. In this case, you must set up the required Groups, Custom Data Groups, Profiles and Roles before you can use them in ACL.

Groups and Organic Groups (Drupal only)

The Organic Groups CiviCRM module (http://drupal.org/project/og_civicrm) integrates Organic Groups from a Drupal site with CiviCRM groups. This is useful for groups that require Organic Group functionality on their website but also need to be tracked within CiviCRM. Once an Organic Group of Drupal users are integrated into CiviCRM, the Drupal group can be used for mailings, tracking address information, tracking activities or anything else normally done with CiviCRM contacts.

Once the Organic Groups CiviCRM module is installed and enabled in Drupal it automatically creates two CiviCRM groups for each existing Drupal Organic Group:

- A normal group containing a contact record for each corresponding user who is part of an Organic Group. This group is assigned the same name as the linked Organic Group.
- An access control group containing the contact record of the administrator of the corresponding Organic Group. This gives the OG group admin the ability to view and edit members of their group in CiviCRM.

The groups are synchronised one way only, from the Drupal Organic Groups to CiviCRM groups. When a new user is added to or signs up for an Organic Group, they are automatically added to the corresponding CiviCRM group. If they leave the Organic Group then they are removed from the CiviCRM group. If an Organic Group is deleted, the CiviCRM group is also deleted. However, the reverse of each of this situations is not true; a contact added to the CiviCRM group will not appear in the Drupal Organic Group, a contact removed from the CiviCRM group will still remain in the Drupal Organic Group, and if you delete the CiviCRM group, the Drupal Organic Group will still remain. Therefore, this integration is meant to be used when you administer the group from the Drupal side.

TAGS

Tags are used to categorise contacts, activities and cases in CiviCRM. You can create as many tags as needed to classify the contacts in your database, though it is advisable to avoid duplicating existing tags or adding too many tags that aren't really necessary. It can be useful to create a standard process for creating and using tags within your organisation to avoid these problems.

Viewing, creating, and editing tags

To view tags, go to: Contacts > Manage Tags (Categories) in the navigation menu.

A tag can be edited or deleted using the respective links in its row. New tags can be created by clicking the Add Tag button on the Manage Tags (Categories) screen or by going to Contacts > New Tag in the navigation menu.

Tag	ID	Description	Parent ID	Used For	Tag set?	Reserved?	
Company	2	For-profit organization.		Contacts			Edit Delete
Government Entity	3	Any governmental entity.		Contacts			Edit Delete
Topics of interest	17			Contacts, Activities, Cases	✔		Edit Delete

Each tag should have a clear and unique name and an explanatory description to help users understand the tag's purpose. Tags can be structured hierarchically and designated as subtags of an existing tag by selecting a Parent tag from the dropdown list.

Tags can be designated for use for contacts, activities and/or cases. If a tag is designated for use for contacts, it will be available for all contact types and subtypes; tags cannot be specifically designated for use for only one type of contact.

Tags are a flexible tool and every user can create more if needed. However, very important tags can be locked to prevent them from being modified or deleted by users who do not have the "administer reserved tags" permission (this permission is available in Drupal only).

Tags can be assigned to contacts, activities and cases in the following ways:

- while creating or editing the record
- from the Contact Summary Tags tab
- by using the Tag Contacts batch action after conducting a search.

You can also use the first two methods to remove tags.

Tag sets

Tag sets allow you to create free tagging taxonomies which users can add their own tags on the fly, without having to access the Manage Tags page described above.

Tag sets are created by going to: Contacts > Manage Tags (Categories) in the navigation menu and clicking the Add Tag Set button. Tag sets are configured identically to regular tags. However, they function quite differently. When you create a new tag set, it creates a new field on the edit pages of the entity's activities or cases as well as in the Tags tab for contacts.

This is a tokenising autocomplete field: as you begin to type, CiviCRM looks for matching tags in this tag set and displays any matches below the field. You can select an existing tag or create a new one by typing the entire tag and pressing the Enter key. The tag will then appear within the field in a box. Clicking on the X will untag the entity (contact, case or activity) that you are editing.

Tags created within a tag set can be viewed and edited from the normal Contacts > Manage Tags (Categories) list. However, tags created within a tag set will only be available within that particular tag set.

TAGS OR GROUPS?

This is a common question on any project, and the philosophy described in the introduction of this chapter is a guideline, but rules might need to be bent based on how you intend to use your contact segmentation.

One interesting benefit of having both groups and tags is that you can perform more refined searches using AND and OR. For instance, if you have journalists, volunteers and members as groups and use tags to identify topics of interests such as development, art and history, you can find all the journalists who are interested in art or development, all the volunteers or members that are interested in history, or any other combination.

Beside that, groups have some features that tags don't:

- Groups are integrated into several other CiviCRM functions (most notably CiviMail).

- Contacts can be added to smart groups automatically based on characteristics.
- Groups can be associated to Drupal Organic Groups.

Think of it this way: tags can be applied to contacts, activities, and cases, whereas groups can only consist of contacts.

15. SEARCHES AND ACTIONS

This chapter covers different ways to find information you've stored in CiviCRM. Two of the techniques in this chapter - finding contacts and the "search-action" work flow - are core functions in CiviCRM, so most if not all users will find this chapter helpful.

We will start off with some simple searches and then move on to more advanced techniques. CiviCRM beginners should be familiar with Quick search, Advanced search and the component searches. More advanced users should also look at reports, custom searches and search builder.

There are three main reasons to search:

- Finding a specific contact: the Quick search box can find contacts by name or email address, and an Advanced search can find contacts by other characteristics.
- Performing an action on a contact that meets certain criteria: a common workflow in CiviCRM, called a "search-action", is to find contacts that meet certain criteria and then perform an action on them. For example, you might want to find all contacts in the advisory group in order to invite them to a meeting, find all those whose memberships have recently expired to send a renewal reminder, or find all contacts aged under 25 in a specific location to send them an email about an upcoming event nearby.
- As a form of ad-hoc reporting.

For reports, searching is often useful but has limitations. For example, you can't group results by particular criteria, or summarise or easily produce graphs of the results. For more advanced reporting, read about CiviReport in the section Reporting.

Note that when you search for character strings, the search is not case-sensitive. For example, if you search for 'brooklyn', the search will return strings with capitalised letters if the string exists, e.g. 'Brooklyn' or 'BROOKLYN'.

QUICK SEARCH FOR CONTACTS

The easiest way to find a specific contact, if you know part of their name or email address, is to use the Quick search box that appears in the navigation menu at the top left of the screen. Contacts that match the phrase you enter will appear in a dropdown list below the box. For example, entering "peter" will find

- people who's first or last name is Peter
- people who have Peter appearing as part of their name, e.g. Mary **Peter**son
- people who have Peter as part of their email address, e.g. home@**peter**xyz123.net
- organisations with Peter in their name, e.g. **Peter**sfield Community Centre.

You don't need to type the full name of the person - just the first few letters. The following screenshot shows that two contacts turn up in our database when we search just for "pe".
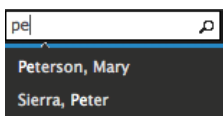
ADVANCED SEARCH

Advanced search allows you to search across all the information you have about your contacts. For example, you could find "all contacts in Venezuela" or "all advisory group members". If you specify two or more categories of information, the search displays every contact that matches all the categories. For instance, you can combine the two criteria just mentioned to find "all advisory group members in Venezuela".

The Advanced search screen is accessible from the navigation menu Search > Find Contacts > Advanced Search. On this screen, search criteria are grouped into sections which refer to different types of data that you can search on, such as address data, notes and information from components such as Contributions or Events. Each group of criteria is shown as a gray bar. If you click on a gray bar, it expands to reveal the options within that group. For example, if you want to search for all people in your database from 16 to 18 years old, click on the Demographics bar. It expands, as shown in the following figure, and you can specify the birth date range you are interested in.

Combining search criteria

Different criteria are combined by "ANDing" them. For example, if you select the tag "major donor" and the country "Mexico", the search will return major donors from Mexico.

Within criteria groups that allow you to check boxes for more than one value, these options are also combined by "ANDing". For example, if you can search for contacts whose Preferred Communication Method is both Email AND SMS.

With fields that allow you to select values from a drop down list, options are combined by "ORing". For example, you could find contacts that live in Mexico OR the United States by selecting both countries in the country field.
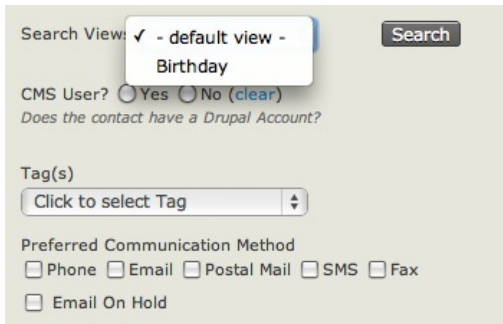
Display Advanced Search results as ...

Advanced Search returns your results as Contact records by default. However, you may want to get another record type instead. For example, you may want to see all the Contribution records which match your search criteria (while taking advantage of the rich set of search filters available in Advanced Search). Simply select the record type you want from the dropdown in the upper right corner of the Advanced Search form.

Modifying search columns

Advanced searches allow you to use to change the columns displayed in your search results. The default columns are Name, Street Address, City, State, Postal Code, Country, Email and Phone. If you want to display a different set of columns (perhaps to include a custom field or remove a column you don't need), create a Profile with the Search Results option selected. Make sure that the fields in this Profile are set to "Public User Pages and Listings" visibility, and are marked as Results Columns. (For more information about creating Profiles, which are described in detail in the Profiles chapter in the Configuration section.)

The Profile will appear in the Search Views dropdown menu in the upper right corner of the form, as shown below. The following screenshot shows what the menu displays after someone has created a Profile called "Birthday".
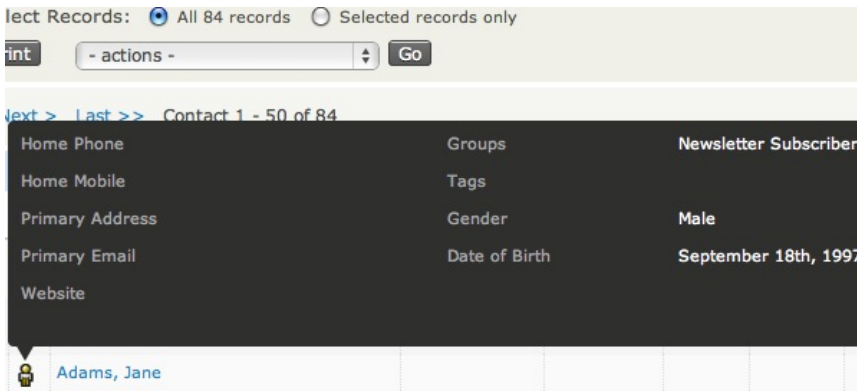

Combining this feature with the "Batch Update via Profile" action provides a powerful method of viewing and updating a specific set of fields across a batch of contact records.

INSTANT VIEW POP-UP

You can see a pop-up box with detailed information for any contact listed in your search results by hovering over the contact icon in the left column, as shown below. You can adjust the fields shown in this "pop-up view" by modifying the fields included in the "Summary Overlay" profile (Administer > Customize > CiviCRM Profile).

THE "SEARCH-ACTION" WORKFLOW

After you retrieve your search results, you can perform a number of actions. An Actions box appears above the results. You can select either all records or specific records, then carry out an action with the selected records. Different actions are covered in more detail in the chapter on Everyday Tasks.
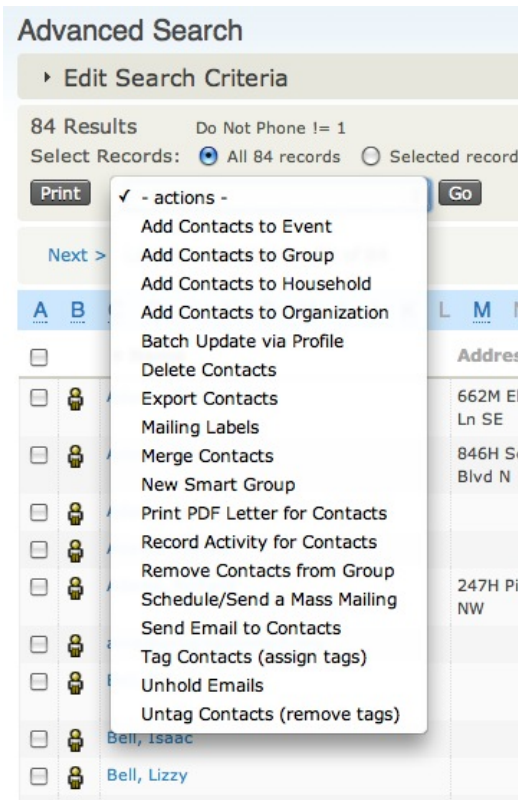
Some of the most commonly used actions are Add Contacts to Group, Export Contacts, Map Contacts, and creating and printing Mailing Labels. (To use Map Contacts, you will need to configure Mapping and Geocoding. You can read more about this in the Installation chapter of the Configuration section of this manual).

For example, to send email to a selected number of contacts, mark the contacts you are interested in and then select Send Email to Contacts in the dropdown list of actions.

THE WILDCARD (%)

Understanding wildcards greatly expands your search options. A wildcard represents "any character" (letter, numeral or punctuation mark). In CiviCRM, the wildcard is represented by the % symbol (you may be familiar with other symbols such as * from other applications). It is most easily understood through examples.

Suppose that somebody asked you to find a contact with a first name similar to "Michael", but possible something different such as "Michelle" or "Michał". If you search for "Mich%" you will find all these variations, including a contact who is supposed to be named "Michael" but whose name was misspelled as "Micheal". Wildcards can be used before, after, or even within words. For example, searching on 'Mich%el' will exclude "Michał" and "Micheal" but still find "Michelle" and "Michael".

This search is not case sensitive. Entering "mi%el" in lowercase will also find contacts with an upper case 'M' in their name.

COMPONENT SEARCHING

Most CiviCRM components offer a search on the data they maintain, such as Find contributions, Find members, etc. These forms work in a similar way to Advanced search but return rows of the main objects associated with the components, instead of contacts. Find Members returns memberships, Find Participants shows event registrations, Find Contributions returns contributions and so on.

Each component search has its own Action list. See the Component sections for more details.

SEARCH BUILDER

Advanced search lets you choose from a wide range of criteria, but it has limitations. The main limitation is that the search criteria you enter into different fields are "ANDed" together.

The Search Builder tool provides an alternative for situations when you need to search using OR for some criteria. For example, you can build a search for contacts who are born within a range of dates OR who are female. To do this, access the Search Builder tool and Edit Search Criteria from the navigation menu: Search > Search Builder.

Search Builder is intended for advanced users and requires you to use specific formats for your search values. Refer to the online documentation at http://wiki.civicrm.org/confluence/display/CRMDOC/Search+Builder before you try to create your own searches.

CUSTOM SEARCH

Custom searches are designed to answer specific questions that can't be easily answered using Advanced search or Search Builder. A good example are the "Exclude Contacts" and "Exclude Groups" options, which, in combination with a previously run advanced search, allow you to find contacts that do *not* meet certain criteria.

Go to: Search > Custom Search in the navigation menu and look at the list of available custom searches. These customised searches have been written by members of the CiviCRM community to meet their own needs, and then contributed back to the community to share with others who need the same or similar custom searches. It's worth spending some time exploring these searches as some may be useful to you, and they will give you an idea of the sorts of things that are possible.

It is possible to write your own custom searches, but you'll need to be comfortable with MySQL and PHP. See the section of this manual called Extending CiviCRM for more information about how to do this. If you create a custom search that you think could be useful for others, consider contributing it back to the community.

By combining Include and Exclude options, you can find contacts who are in one group but not in another. You can find these options, which are shown in the following screenshot, in the navigation menu Search > Custom Searches.

Edit Search Criteria

Include Group(s)

| Administrators |
| Advisory Board |
| bgm test |
| Case Resources |
| Donations w/o thankyou |

Add >>
<< Remove

Exclude Group(s)

| Administrators |
| Advisory Board |
| bgm test |
| Case Resources |
| Donations w/o thankyou |

Add >>
<< Remove

Include Tag(s)

| Company |
| Government Entity |
| Jack's Tag Set |
| JackTag |
| Keywords |

Add >>
<< Remove

Exclude Tag(s)

| Company |
| Government Entity |
| Jack's Tag Set |
| JackTag |
| Keywords |

Add >>
<< Remove

Search

16. IMPORTING DATA INTO CIVICRM

Most organisations have data in sources outside CiviCRM, such as previously used database platforms, spreadsheets created on the fly for specific events or other purposes, and email address books. Because manually entering large amounts of data can be tedious, CiviCRM provides a way do import data en masse if the source can export it into some common format such as a Comma Separated Version (CSV) file.

CONSIDERATIONS BEFORE IMPORTING

It might be useful to think about your pre-existing data in the same way as the contents of a house or apartment when you need to move. People often use moving as a chance to say, "Do we really need this? This stuff is too old; let's trash it and get some new stuff once we have moved in."

To apply this metaphor to your data, look for fields that have no purpose, such as old organisational divisions that you've abandoned or office locations in a facility you no longer occupy.

Some old data will have continuing value. For instance, one organisation in a financial pinch decided to use an old list of founding donors who had not given money for many years. It turned out that these lapsed donors still had strong emotional ties to the organisation that they had founded and they came to its financial rescue. In that case, saving old data was crucial.

Moving to a new living space doesn't just provide an opportunity to evaluate what's really important to keep and what can be left behind; it also gives you a chance to clean up everything that you do decide to take with you. Just as you wouldn't pack up dusty picture frames and dirty dishes because that would make your nice new clean place as dirty as your old place, you'll want to clean up your data *before* moving it into CiviCRM so that you're starting off with as clean and useful a database as possible.

In planning for a move to CiviCRM, prepare to spend a good amount of time looking at your old data; standardising how different elements of contacts' records are stored (e.g. are states entered as NY or New York?) and deleting obvious duplicates, accidental entries, outdated information, and corrupted records.

For many US-based organisations, an important element of cleaning your data is standardising addresses to conform to the conventions defined by the United States Postal Service's Standards for Addresses. Standardising how addresses are entered into CiviCRM will allow for more accurate search results when searching by address, as CiviCRM can parse addresses based on the USPS standards if you choose to do so. (To find out more about how Address Parsing is handled and used in CiviCRM, refer to the Installation chapter of the Configuration section of this manual.) When adding or editing contacts, you will enter and edit such address elements as street number, street name, and Apt/Unit/Suite number according to these standards.

To find out more details about the USPS' Standards for addresses, refer to their Publication 28 at http://pe.usps.com/text/pub28/welcome.htm or http://pe.usps.com/cpim/ftp/pubs/Pub28/pub28.pdf for the pdf version.

PREPARING TO IMPORT DATA

Importing data requires considerable attention and care, so we'll present some concepts here that you should know before you start your first import. You can import both core and custom data for contacts, as well as data for event attendance, activities, memberships and contributions. This chapter focuses solely on the import process for contacts, though the processes for other data are similar.

There are two ways to import data:

- from CSV files. Most database and spreadsheet applications (e.g. OpenOffice.org Calc, Google Spreadsheets, Microsoft Excel) can create and manipulate files in this format. It is often easier to view and clean your data when it's in a CSV file than while it's still inside your old database.

  Each column in your CSV file will map to a field in CiviCRM, so make sure you use a different column for every distinct bit of information.

  Depending on your country or region, fields in your CSV files might be separated by semicolons (;) instead of commas. If so, you'll need to change the Import/Export Field Separator value in the CiviCRM Localization settings by going to the navigation menu and choosing Administer > Configure > Global Settings > Localization.

- from another SQL or MySQL database stored on the same server, using an SQL query.

If you do not have a clear understanding of your existing data and how it will map to CiviCRM fields, you will experience frustrations and problems when you try to import the data. Please read about each type of data in other sections of this CiviCRM Manual and visit the CiviCRM online documentation for more information:
http://wiki.civicrm.org/confluence/display/CRMDOC/Importing+Data

The following rules and recommendations will help you to import data with minimal problems:

- Always test your data import with a small subset of your records. After importing the test set, visit the records within CiviCRM and ensure that the data was imported and functions as you expected.
- It can be helpful to create a test contact that has every attribute you've defined in your existing data set. Then import the contact and check results to ensure that CiviCRM correctly represents all the data.
- When you map the columns or fields from your source data to CiviCRM fields during the import, CiviCRM can save this field mapping as an *import map* for future use. This is helpful if you will be importing multiple files with the same structure. To save an import map for future use, click the "Save this field mapping" check-box at the bottom of the Match Fields screen of the import wizard and enter an appropriate name and description. To reuse a saved import map, select it from the Load Saved Field Mapping dropdown menu on the Choose Data Source screen (step 1) of the import wizard.
- If your imports are timing out or taking too long, try splitting up the imports into smaller batches. If you have the appropriate permissions on your web server, you can also increase the memory_limit and max_execution_time values in the file php.ini.
- You can add all of the contacts imported in an import to new or existing groups or tags. All of the contacts in a single import will be given the same groups and tags. This limitation has a couple effects on your import:
    - Make sure that you assign groups and tags that are applicable to every contact in the imported set. If you need to assign groups or tags on a contact-by-contact basis, import contacts in small, discrete batches in which all contacts share the same tags and groups. Alternatively, you can create searchable custom data fields in CiviCRM that contain the groups and tags that you want to assign to imported contacts. After the import you can run searches on those fields and use the "Add Contacts to Group" or "Tag Contacts" batch actions on the search results.
    - You can use this feature to manage the import. Consider adding contacts to a new group or tag that indicates what batch of imports the contacts were a part of, thereby allowing you to easily identify when a contact was imported and undo an entire import if necessary.
- CiviCRM stores first names and last names in separate fields, so these should appear as separate columns in your CSV file. The same goes for city and postal code/zip code. Most spreadsheet programs contain tools that automate the process of splitting text across fields.
- Ensure that your country names are expressed in the same way as they are in CiviCRM, i.e., 'United States', not 'United States of America', and 'United Kingdom', not 'Britain'.
- If you are importing multiple locations, the first location will be set as the primary location address. You may want to move your columns around to ensure that the desired location becomes the Primary Location. You may also need to split your import so that some records have one type of record as their Primary Location, while others have a different one.

- If you are importing data into multi-choice (e.g. check-box or radio button) custom fields, your data source can use either the label (what's visible to the user in the CiviCRM front end) or the value (what's actually stored in the database for that choice). CiviCRM will recognise it and import it appropriately. When importing into multi-choice core data fields, you can specify only the value(s) in your data source, not the label.
- If you are updating multiple choice options, new values will replace the entire field. For example, if you update the value of the Colors field to be "orange" for a contact that currently has Colors set to "blue", the result will be that Colors is set to orange, not orange and blue.
- Make sure your data source uses an accepted date format and that you select the same date format on the Choose Data Source screen of the import wizard.
- Make sure any name prefixes and suffixes you use have been set up in the administration interface (go to: Administer > Option Lists in the navigation menu).
- If you plan to do additional imports of related data that's associated with your contact data, e.g. contribution data, event participation data, membership data, you can make things easier by ensuring that your contact records have unique IDs that are also associated with the related data. When you do the initial import of your contact data, import these unique IDs and map them to CiviCRM's External ID field, so that you can then use your original (or legacy data) IDs to match to the contact records records for later imports of the related data.

SETTING UP A CSV FILE FOR IMPORTING

Example of spreadsheet .csv format

First Name	Last Name	Grade	Student Number	Contact SubType	Father First Name	Father Last Name
Yonce	Johns	1	Student-111	Student	Meeka	Colla
Sophia	Camp	1	Student-112	Student	Jan	Rodney
Bel	Jason	1	Student-113	Student	Jilie	Jason
Lizzy	Bell	1	Student-114	Student	Martia	Bell
Helen	White	1	Student-115	Student	Karen	White
Isaac	Bell	2	Student-221	Student	Martia	Bell
Josie	Zen	2	Student-222	Student	Betty	Zen
Jenny	Zen	2	Student-223	Student	Betty	Zen
Anni	Stinson	2	Student-224	Student	Maggie	Stinson
Shane	Stinson	2	Student-225	Student	Maggie	Stinson
Al	Jason	3	Student-333	Student	Jilie	Jason
Ella	White	3	Student-334	Student	Karen	White
Greg	Camp	3	Student-335	Student	Jan	Rodney
Smita	Johns	3	Student-336	Student	Meeka	Colla
Lee	Stinson	3	Student-337	Student	Maggie	Stinson

When thinking about setting up your spreadsheet, think about the data that you are collecting and plan out your column headings. Keep in mind that you may need to create more than one .csv file and perform multiple imports before you are finished.

If you plan to import related data that pertains to a specific contact, e.g. event participant information, contribution data, etc., you will need to make sure that each contact record has a unique identifier or the contact record should have First Name, Last Name and Email, so that you can link their related data during later imports. If you have unique ID, you would map the ID to CiviCRM's External Identifier on import.

RUNNING AN IMPORT

The import process has four steps.

Step 1: Setup

Setup lets you specify the basic details of your import, including the source of the data. Data can come from either a CSV file, or an SQL query of a database on your server. A check-box lets you indicate whether the first row of your file contains column headers.

Imports use the default strict rule to decide whether a contact record is a duplicate (refer to the Deduping and Merging chapter in this section for information on duplicate matching rules in CiviCRM). You can specify what action to take when an import encounters a duplicate:

- Skip: skip the duplicate contact, i.e. leave the original record as it is.
- Update: update the original record with the database fields from the import data. Fields that are not included in the import data will be left as they are.
- Fill: fill in the additional contact data, if it contains fields that are missing or blank in the original records, and leave fields which currently have values as they are.
- No Duplicate Checking: this inserts all valid records without comparing them to existing contact records for possible duplicates.

Import mappings tell CiviCRM how the fields of data in your import file correspond to the fields in CiviCRM. The first time you import from a particular data source, it's a good idea to check the box to "Save this field mapping" at the bottom of the page before continuing. The saved mapping can then be easily reused the next time similar data is imported, by requesting that it be loaded at this step.

Step 2: Match the fields

If you had column headings in your file, these headings will appear in the first column on the left-hand side of the Field Map, while the next two columns show two rows of data in your file to be imported, and the fourth column is the Matching CiviCRM Field. If you loaded an import mapping in Step 1, your choices will be reflected here. You can change them if they are inappropriate for this import.

√1. Choose Data Source	»2. Match Fields	3. Preview	4. Summary

Match Fields (step 2 of 4)

Column Names	Import Data (row 1)	Import Data (row 2)	Matching CiviCRM Field
Title	MS	Mr	Individual Prefix
First Name	Paula	Peter	First Name *
Middle Name	A	William	Middle Name
Last Name	Smarts	Smarts	Last Name *
Nick Name		Pete	Nick Name
Email	psmarts@gmail.com	petesmarts@gmail.com	Email * Home

The matching CiviCRM fields include standard CiviCRM data such as First Name and Last Name as well as any custom data fields that have been configured for use with contact records on your site. Match the fields by clicking the dropdown list and selecting the appropriate data. For example, if the heading of the second column in your input is Surname, you should choose Last Name as your Matching CiviCRM Field.

Select "- do not import -" for any columns in the import file that you don't want to import into CiviCRM.

If you have a saved mapping for a specific set of spreadsheet columns, and your spreadsheet layout has changed (for instance, you need to import additional fields, so you add the appropriate columns of data in the spreadsheet), you can modify and save the field mapping. One tip to ease the mapping process when you need to import additional fields is to place the additional columns of data in your import spreadsheet to the right of the columns you've previously mapped in CiviCRM. This allows you to use the existing saved field mapping to map the initial import fields, and then continue mapping the new data fields.

☑ Save this field mapping	
Name	Student
Description	Student

[<< Previous]   [Continue >>]   [Cancel]

Note that if you add new data columns in your spreadsheet and do not position the columns AFTER the columns you previously mapped, you then can't use the saved mapping and will have to map all your import fields again.

Once you've mapped your fields, you can decide if you want to keep the original saved mapping unchanged, or check the box to "Update this field mapping" to include the new field mappings.

Step 3: Preview

This screen previews the results of importing your data, reports the number of rows to be imported, and allows you to double check your field matches.

If some of the rows in your spreadsheet contain data that doesn't match CiviCRM's requirements for one or more fields, you'll see an error message with a count of the invalid rows (see the screenshot below). Click the Download Errors link and review the errors reported in the downloaded file, so you can fix them before doing the import.

At the bottom of the form, you can choose to add the contacts to an existing group, import to a new group, create a new tag, or tag imported records. Adding imported records to a separate group is strongly recommended in order to be able to quickly find the imports and, if necessary, delete and reimport them.

Step 4: Summary

The final screen reports the successful imports along with Duplicate Contacts and Errors. If you have set the import to add all contacts to a Group or Tag, you can click through to see your imported contact records.

At this point it makes sense to check to make sure that your import has worked as expected. Search for the contacts that you just imported and examine their fields and custom data to make sure all is as expected.

IMPORTING RELATIONAL DATA

We have just described the process of importing one data file. But what about if you want to import related data, like parent child relationships, activities, contributions, etc.? For each type of data you want to import, you will need to import a seperate CSV file.

CiviCRM has specific tools for importing related contact data and a set of specific import tools for contributions, memberships, event participation etc. (and you should see specific chapters for details of how to use these tools). To import relationships, you should run multiple contact imports.

For example if we want to import data for children and then for both parents, we run three imports, one for the child, one for the father and one for the mother.

We first import the child remembering to include an external identifier that we can use to match the child to their parents. We then import the father, and then the mother, as related contacts, linking them to the child using the child's external identifier.

In the example below we have one CSV file which contains father and mother information. We use this CSV file twice as part of the import. Have a look at the fields below to understand what is happening.

We are linking the father to the original child using the external identifier and are then importing the related father name using the 'Child of' relationship type.

Mother First Name	Cento	Dean	- do not import -
Mother Last Name	Johns	Camp	- do not import -
Contact SubType	Parent	Parent	- do not import -
Home Phone	415-586-1000	415-282-5000	Child of Phone [Home ▼] [Phone ▼]
Fatheremail	rello@sbcglobal.net	jrody@yahoo.com	Child of Email * [Home ▼]
Motheremail	c3jon@yahoo.com	dean@tworks.com	- do not import -
Grade SIS	1	1	- do not import -

☑ Save this field mapping

Name [Parent 1]

Description [Parent 1]

[<< Previous]   [Continue >>]   [Cancel]

When the import is done, go back and verify the data by searching for the parent and examining the relationship tab. They should have a relationship linking them to the child.

You can then repeat this process for the mother, and also for other relationships as necessary.

FULL EXAMPLE OF A MULTIPLE IMPORT

A full example of a relational import based on an example of a school, which includes mothers, fathers, teachers, advisors etc, can be found on the wiki at:
http://wiki.civicrm.org/confluence/display/CRMDOC/Importing+Student%2C+Staff+and+Parents

The example has step by step instructions and can be useful in better understanding the import process.

17. DEDUPING AND MERGING

Duplicate contacts can turn up in your data for many reasons, such as mistakes by users who don't realise they're creating a contact for someone who is already in CiviCRM, duplicates that aren't caught in the import process, and duplicate records created when people fill in forms about themselves (maybe with their names spelled differently or use a different email address) on your site without realising they're already in your list of contacts.

CiviCRM is equipped with duplicate matching rules that are applied automatically when new contacts are created, and can be run manually at any time to search for duplicates. You can configure these rules to suit your needs.

To view the DeDupe rules:

1. Go to: Administer > Manage in the navigation menu
2. Select Find and Merge Duplicate Contacts.

This displays the following screen:

From the screen, here's an example of a process to dedupe all individuals in your data:

1. Start by looking for dupes using a strict rule: click the Use Rule link for the third row (Contact Type: Individual, Level: Strict).
2. Select All Contacts or a particular group.
3. Click Continue.
4. If duplicates are found, merge or delete the duplicate contacts.
5. Now look for dupes using a fuzzy rule to find those dupes that were missed with the stricter rule: Click the Use Rule link for the fourth row (Contact Type: Individual, Level: Fuzzy).
6. Select All Contacts or a particular group.
7. Click Continue.
8. If duplicates are found, merge or delete the duplicate contacts.

Different rules are configured for each contact type (individuals, organizations, and households.) A default fuzzy rule and a default strict rule is set for each contact type. The default rules are used when CiviCRM invokes automatic checking, in ways we'll explain in detail shortly.

STRICT AND FUZZY RULES

CiviCRM includes two categories of dedupe rules:

- Strict: this type of rule places a priority on avoiding false matches, and therefore applies relatively rigid criteria. It is therefore possible to sometimes miss real duplicates.

  Strict rules are invoked during imports to scan for duplicates without user intervention. These rules are used here because it is easier to sort out duplicates later than to disentangle two incorrectly merged contacts.

  An example of a strict rule is one that matches individual contacts only if three criteria are met: identical email addresses, first names, and last names. This rule would allow both Mike Tael and Michael Tael into the database because only two criteria are met: last name and email rather than first name, last name, and email.

  Default strict rules are also automatically checked when new contacts are created through online registrations including events, membership, contributions, and profile pages, and when you create a contact through CiviCRM's programming API.

- Fuzzy: this type of rule has a relatively loose definition of matches in the hope of catching as many possible duplicates as possible.

  Fuzzy rules are used in instances where human intelligence can be applied to decide whether a match is accurate. This means that a wider range of possible match results is both permissible and useful.

  Default fuzzy rules are automatically used to check for possible duplicates when contacts are added or edited via the CiviCRM user interface (the default strict rules are automatically used when contacts are added or edited via a Profile, the API, or on import). You'll probably also want to use a fuzzy rule when scanning your database for possible duplicates.

CONFIGURING RULES

To determine whether two contacts are duplicates, CiviCRM checks up to five fields that you can specify. You can also set a length value which determines how many characters in the field should be compared. For example, if you set a length of 2 on the "First name" field, a first name of "Mike" would match "Michael" and they would be recognized as duplicates, because the first 2 characters are the same. However, if you set the length to 3 instead, "Mike" would no longer match "Michael" and they would be accepted as different contacts. If the length value is left blank, the comparison is done on the entire field value.

Each field is also configured with a numeric weight that determines the relative importance of a match on that field. When a match is discovered on a field, that field's weight is added to the total weight for the rule. After each field is checked, if the total weight is equal to or greater than the numerical threshold set for the rule, the contacts being compared are flagged as suspected duplicates.

USING RULES AND MERGING DUPLICATE CONTACTS

Go to: Administer > Manage > Find and Merge Duplicate Contacts, and click the Use Rule link to scan for duplicate contacts using the selected rule. You can then select to search all contacts for duplicates or to search only a particular group. Contacts of the type to which the rule is assigned will be scanned and compared. If the match between two contacts exceeds the rule's threshold, the contacts will be displayed on the following screen of possible duplicates.

Clicking Merge for any pair of contacts brings up a table showing details for each contact. CiviCRM designates one record as the duplicate record and displays its information in the left column. The record in the right column is considered the original record into which selected data from the duplicate record will be merged. If you want to move the information in the opposite direction, you can swap the duplicate and original contacts by choosing "Flip between original and duplicate contacts".

For each field, you can choose whether to keep the original data shown on the right (don't check the check-box in the middle column), or use the value from the duplicate contact instead (check the box). For the email addresses or phone numbers, you can decide to keep both the value of the duplicate and of the original (check both the checkbox in the middle column and the "add new" on the right column) to copy the duplicate data. Note that associated tags, groups and activity data (including event attendance, contributions, etc.) will appear *in addition* to data already recorded in the original record, not in place of it. It is safer in general to keep the tags, groups and activities of both contacts after the merge.

18. EXPORTING YOUR CONTACTS

Exporting lets you share data with external applications by providing a copy of data from CiviCRM in a standard comma separated value (CSV) format. This format can be viewed and edited in spreadsheet applications, imported into other database applications, or merged with word processing documents.

You can either export a predefined set of fields or create your own custom export mapping which can be saved for reuse.

CiviCRM's export functionality is available:

- in any of the search tools
- when viewing contacts in a group
- in component-based search results, where the resulting records reflect the component specific data rather than simply core contact data. For example, from the Contributions > Find Contributions search, you could export your donors and their contact information for use in a thank-you letter in which the total amount donated is included.

Here's how you can export contact information:

Search for contacts. Carry out a search based on your desired criteria using one of the available search tools, e.g. Quick search, Find Contacts, Advanced search, Search Builder, or a custom search (you can find out more about performing searches in the Searching chapter earlier in this section)

Select contacts you wish to export. Select all records, or choose individual records for export using the check-boxes to the left of each record. From the "- actions -" dropdown menu, choose Export Contacts as shown in the following figure, and click Go. This takes you to the export wizard.
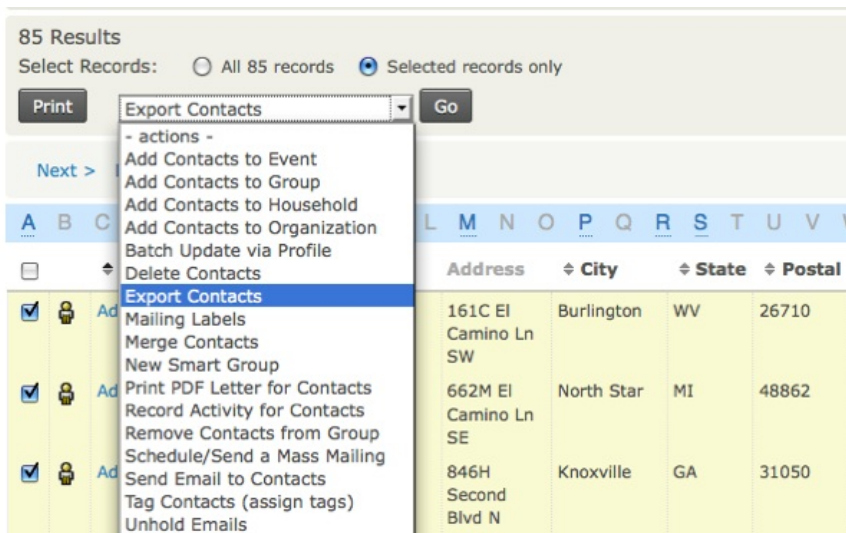
Export primary (default) or selected fields. Choose between exporting the primary fields or selecting your own set of fields for export. The primary fields include all core contact fields with email, phone, and address data. If this is satisfactory, click Continue >> and skip step 4 of this list.

If you want to add or remove fields to be exported, choose "Select fields for export" and continue with step 4. The default export uses primary location data, so if you wish to export non-primary addresses you need to select fields for export and explicitly specify the address type

Select Fields to Export Choose the fields you want to export. CiviCRM allows you to save this export mapping, which enables you to reuse the export field mapping at a later time. To save your selection of fields, click "Save this field mapping" at the bottom of the form and enter a descriptive name for this type of export.

Click Export to create your CSV file. By default, a comma is used as the field separator for import and export functions. In some locales, other characters are used (e.g. a semi-colon). You can change the separator value by going to Administer > Configure > Global Settings > Localization and modifying the Import/Export Field Separator.

19. POSTAL MAIL COMMUNICATIONS

This chapter discusses the different ways that CiviCRM helps with postal mail and post mail campaigns. It will help if you already have a strong understanding of CiviCRM's search features as well as custom fields, activities, profiles, and how to perform mail merges using word processing software.

PLANNING YOUR MAILING

Before beginning any communication activity, take the time to identify your goals and plan the steps. For our purposes, there are a few key questions to ask before sending out postal mailings.

- What types of mailing do you send out to your constituents?
- Are mailings always sent to everyone in the database or are they frequently targeted to a select group of contacts?
- How do you want to greet recipients (e.g. "Dear Jane" or "Dear Jane Doe")?

There are three ways that you can use CiviCRM in postal mailings:

1. Generate labels: print out standard address labels when you don't need to personalise the content, for instance to send a printed brochure.
2. Export contacts and do a mail merge to an external tool (such as OpenOffice or Microsoft Word). Refer to the chapter on Exporting in the Getting Around section.
3. Generate PDF letters and do the merge directly in CiviCRM.

TIP: Many nonprofit organisations in the USA need to sort recipients of a mailing based on zip code for bulk mailing purposes. If this is true for your organisation, it is recommended that you create your mailing labels using a word processor where you can control the sort order, rather than in CiviCRM. You can reuse the same spreadsheet for your mail merge.

Fundraising Mailings

Many non-profits have specific types of mailings such as thank you letters, renewal letters, and general fundraising appeals which need to be personalised. Here are some suggestions for how to handle those types of mailings.

- **Thank-you letters**: when sending personalised letters to donors thanking them for their support, it is often convenient to include specific acknowledgement of the donor's contribution amount. For example, a letter could say, "Thank you Judy for your recent contribution of $35." To accomplish this, create your list of recipients using CiviContribute because the results of a search using Find Contributions will include contribution amounts. These results also include contact information so can be easily used for mail merge purposes. You can also create a custom token to get the latest contribution then use the PDF letter action. For detailed information on custom tokens, see the Hooks chapter of the section Extending CiviCRM, and also the Mail Merge Tokens for Contact Data section in the CiviCRM wiki: http://wiki.civicrm.org/confluence/display/CRMDOC/Mail-merge+Tokens+for+Contact+Data).
- Similar to thank-you letters, **renewal letters** ask members and/or donors to renew their membership or previous donation level. In the case of renewals, it may be more useful to use Memberships > Find Members to retrieve their membership type and expiration date.

GREETINGS AND SALUTATIONS

An important part of a postal mailing is including a salutation that is personable and friendly. Some people prefer to be greeted in a special way if they are a doctor or esteemed person such as a politician.

You can set a specific postal greeting format for each contact. There are several options from the friendly "Dear John", to more formal "Dear Mr. John Doe". You can also enter a *customized greeting* ("Your royal highness"). Postal greetings can be edited in the Communications Preferences section of the contact edit form. If you need to set or reset postal greetings en mass, refer to the Command Line Script Configuration documentation:

http://wiki.civicrm.org/confluence/x/LIK9AQ

PRINT PDF LETTER

The workflow is to first select the group you want to target, then choose the action "Print PDF letter" from the dropdown menu. The letters will then be outputted as a PDF, allowing you to easily print them.

To create the letter:

1. Go to Search > Find Contacts or Find Contacts > Advanced Search.
2. Enter your search criteria and click Search.
3. Select the contacts who will receive the letter.
4. From the Actions dropdown menu, choose "Print PDF Letter for Contacts" and click Go.
5. Create your letter, using the formatting options provided. You can personalise the letter by using tokens, for example Postal Greeting is a commonly used token in this situation. Click in the body of the letter where you want to enter the token. Then click on "Insert Tokens" located above the letter at the top right and select the desired token.
6. Before you move to the next screen, decide whether the format of this letter could be used again. If so, check the Save New Template box and enter the Template Title.
7. When your letter is finished scroll to the bottom and click Make PDF Letters.
8. A pop-up window will offer the option of opening or saving the PDF. Open and review your letter and then print it, or save the PDF and review at your leisure.
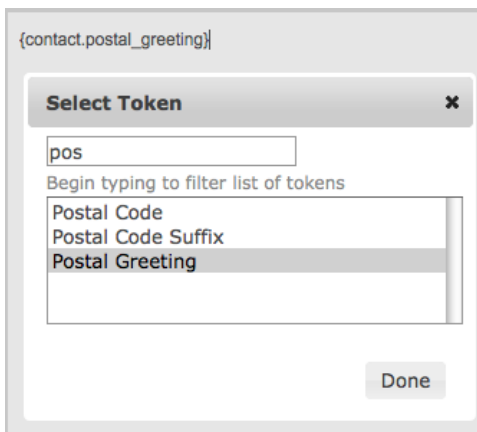
TIP: You can use this feature for any kind of document, not only letters. For example, you could use it to print attendance certificates for a workshop.

GENERATE MAILING LABELS

Generating mailing labels is a very easy and useful function.

1. Perform the search to select the contacts you want to target.
2. Choose Mailing Labels from the Actions dropdown menu and click Go.
3. Select the mailing label style
4. Determine if you want to exclude people with "do not mail" checked in their privacy options (checked by default and recommended), and whether you want to merge any records with the same mailing address into one label.

This last option is very useful when sending a mailing to a households or organisations where you don't want them to receive duplicate mailings. When the records are merged, each name at that address is listed on a separate line on the label.

Your system administrator can configure the fields included in mailing labels. Read the information on configuring address settings in the Contacts chapter to learn more about the options.

20. EVERYDAY TASKS

The following are step-by-step guides to performing common and useful tasks in CiviCRM.

ADDING CONTACTS TO GROUPS

1. Perform a search and select the contacts that you wish to add to your group from your search results (you can choose either specific contacts or all contacts).
2. Select Add Contacts to Group from the dropdown " - more actions - " menu, then click Go.
3. On the Add Contacts to A Group screen, select the appropriate radio button to either add the selected contacts to an existing group or create a new group for the selected contacts.
4. If you are adding contacts to an existing group, select the desired group from the Select Group dropdown menu, then click Add to Group.
5. If you are creating a new group, enter a Group Name. You can also optionally enter a Description and/or select a Group Type (refer to the Tags and Groups chapter of this manual for more information on Groups and Group Types.) When finished, click Add to Group.
6. You should see a message stating that the number of participants that you selected have been added to the group.
7. Click Done to return to your search results.

CREATING SMART GROUPS

Smart group are useful in many different situations. They are often used to assist organisational workflows. For instance, when you find yourself doing the same search over and over on your contacts, you can save the search as a smart group. Whenever you select that group, CiviCRM will run the search and display the results. Any new contacts that meet the search criteria will be added to the group, and contacts that no longer meet the criteria will be removed from the group.

Smart groups can be created from the search results generated by any of the search forms. For example, you can create a smart group of all donors who have not yet been sent a thank-you letter. As you send your letters, the donors receiving them will automatically leave the smart group, allowing you to always have an accurate list to work from. To create this smart group:

1. Go to: Search > Find Contacts > Advanced Search.
2. Scroll down to the Contributions section and click on Contributions.
3. Check "Thank-you date not set?" and choose Donation from the Contribution Type dropdown menu.
4. Click Search at the bottom of the page.
5. Click the button that selects all the records
6. From the " - more actions - " dropdown menu select New Smart Group, then click Go.
7. The next screen provides a review of the criteria chosen for the smart group. Give the smart group a name, a description (optional) and decide if you want to make this smart group a Mailing List (allowing you to include the smart group in CiviMail). Then click Save Smart Group.
8. You can view your smart group by going to: Contacts > Manage Groups where you will see your smart group in the list.

CREATING RELATIONSHIPS BETWEEN CONTACTS

CiviCRM allows you to represent connections between contacts by creating relationships. For example, if a mother and son are both in your database, it can be useful to be able to look at either record and see that they are related to each other. To do this:

1. Navigate to one of the records that you want to relate.
2. Click on the Relationships tab in the Contact's record.
3. Click New Relationship.
4. Select the Relationship Type. In this case it would be either "Child of" or "Parent of".
5. Click inside the Find Target Contact box and begin to type the first name of the person you are relating to this contact. One or more options will be displayed. Click on the appropriate entry.
6. Click Search.
7. Click the check-box next to the name of the person you are relating to this contact.
8. You can scroll down and enter further information, which includes Start Date and End Date (in case the relationship is time limited), Description and Notes. There are also two permission-related options, which allow users of the database to edit this record. Finally there is an Enabled? box, which is checked by default.
9. When you have made the changes you want, click Save Relationship.

CONNECTING EMPLOYEES AND EMPLOYERS

A quick way to connect employees (which are stored in CiviCRM as individuals) to employers (stored as organisations) is to use the Current Employer field within an individual's record. This will set the current employer field in the contact record and create a relationship between the contacts.

1. Navigate to the record of the individual who you want to connect to an organisation.
2. Click the Edit button to edit the individual's record.
3. Begin typing the organisation name into the Current Employer field. As you type, matching names of organisations that already exist as contacts in CiviCRM will appear in a dropdown autocomplete list below the Current Employer field. If the organisation is already a contact in CiviCRM you can select it from the dropdown list by pressing the down arrow key or by clicking on it. If the organisation does not already exist as a CiviCRM contact, simply enter the full organisation name.

4. After the organisation's full name is entered in the Current Employer field either press the Enter key or click the Save button. If the organisation is a pre-existing contact, an Employee/Employer relationship will be created between the individual and the organisation. If the organisation does not already exist, a new organisation contact will be created and the relationship will be created between the individual and the organisation. You can click on the Relationships tab to view your newly created relationship Employee of and see any existing relationships.

ⓘ Your Individual contact record has been saved.

[Actions] [✎ Edit] [▣ Contact Dashboard] [↗ vCard] [🖶 Print Summary]

Summary | Contributions 0 | Memberships 0 | Events 3 | Activities 113 | Cases 0 | Relationships 6

Notes 1 | Tags 0 | Change Log 1

[⊕ Add Relationship]

Current Relationships

⇕ Relationship		⇕ Start	⇕ End	⇕ City	⇕ State/Prov	⇕ Email	⇕ P
Child of	Adams, Pat			El Paso	TX		879
Child of	Patel, Amar			Springfield	IL		580
Sibling of	Grant, Justin			North Dartmouth	MA	grantjustin@aol.co.uk	
Employee of	Cisco Systems			Plattsburg	MO		129
Household Member of	Alice Patel's			Mundelein	IL		317

ADDING CONTACTS TO ORGANISATIONS

1. Select the desired contacts from your search results as described above.
2. Select Add Contacts to Organization from the dropdown " - more actions - " menu, then click Go.
3. On the Add Contacts to Organization screen, select the Relationship Type from the dropdown menu.
4. Enter part of the desired organisation name in the Find Target Organization field, then click Search.
5. Organisations that match your search will appear in the "Mark Target Contact(s) for this Relationship" section below the Search and Cancel buttons. If the organisation you're looking for appears in this list, click the radio button next to that organisation and then click the Add to Organization button below. If the organisation you're looking for does not appear in this list, try entering something different into the Find Target Organization field and clicking Search again. If you are still unable to find your desired organisation it may not exist; click Cancel, add a new organisation, and try again.
6. After you've successfully chosen an organisation and clicked the Add to Organization button, you should see a message stating that the number of participants that you selected have been added to the organisation.
7. Click Done to return to your search results.

ADDING CONTACTS TO HOUSEHOLDS

1. Select the desired contacts from your search results as described above.
2. Select Add Contacts to Household from the dropdown " - more actions - " menu, then click Go.
3. Select the Relationship Type from the dropdown menu. Note that while CiviCRM will not stop you from adding multiple contacts as Head of Household for a single household, this may cause problems later on in any situation where you are expecting Head of Household to refer to only one individual per household. Therefore, the "Household Member of" option may be the better choice in most situations.
4. Enter part of the name of the household to which you are adding contacts (such as a last name shared by household members) in the Find Target Household field, then click Search.
5. Households that match your search will appear in the "Mark Target Contact(s) for this Relationship" section below the Search and Cancel buttons. If the household you're looking for appears in this list, click the radio button next to that household and then click the Add to Household button below. If the household you're looking for does not appear in this list, try entering something different into the Find Target Household field and clicking Search again. If you are still unable to find your desired household it may not exist; click the Cancel button, add a new household, and try again.

6. After you've successfully chosen a household and clicked the Add to Household button, you should see a message stating that the number of participants that you selected have been added to the household.
7. Click Done to return to your search results.

CREATING NEW RELATIONSHIP TYPES

CiviCRM comes with a set of common relationship types that can be used to indicate relationships between contacts. If you need to track different types of relationships between your contacts, you can create your own custom relationship types.

1. In the navigation menu, go to: Administer > Option Lists > Relationship Types.
2. Review the list of existing relationship types to ensure that you are not creating a duplicate.
3. If the relationship type you need does not already exist, click the New Relationship Type button.
4. Enter descriptive labels for the relationship type you are creating in the "Relationship Label-A to B" and "Relationship Label-B to A" fields. The "Relationship Label-A to B" field describes the relationship between Contact A and Contact B; the "Relationship Label-B to A" field describes the relationship between Contact B and Contact A. You will designate which contact types are used for Contact A and Contact B respectively in step 5.

   Some relationships can be described by the same label in both directions; in these cases you can enter the Relationship Label once in the "Relationship Label-A to B" field. For example, when describing the relationship between two domestic partners named Sylvia and Audre, you can say that Sylvia is the "Partner of" Audre and Audre is the "Partner of" Sylvia. Therefore you would enter the "Partner of" label only in "Relationship Label-A to B" field, leaving the "Relationship Label-B to A" field blank.

   In other situations one Relationship Label cannot be applied in both directions; in these cases you need to enter different Relationship Labels in each of the Relationship Label fields. For example, you can say that Kiyoshi is the "Grandparent of" Yuki but you cannot say that Yuki is the "Grandparent of" Kiyoshi. Therefore you would enter the "Grandparent of" label in the "Relationship Label-A to B" field and either "Grandchild of" or "Grandparent is" in the "Relationship Label-B to A" field.
5. Use the Contact Type A and Contact Type B fields to designate which kind of contacts are being linked by your relationship. Remember to check that the contact types you select for Contact A and Contact B make sense when corresponded to your Relationship Labels.
6. Optionally enter a description for this relationship type. This is especially useful if the intended purpose of this relationship type may not be obvious to other users.
7. Leave the Enabled box checked unless you intend to create this relationship type but not allow users to utilise it until a future date.
8. Click Save. You will see a message telling you that the relationship type has been saved and you will see your new Relationship Type in the list below.

DISABLING OR DELETING UNNEEDED RELATIONSHIP TYPES

If an existing relationship type is no longer useful or relevant for your organisation you can either disable or delete it so it is no longer presented as an option for new relationships. Disabling rather than deleting the relationship type has two significant advantages: you will still be able to see existing data on relationships of this type, and you can easily enable the relationship type again should you find you need it later.

1. In the navigation menu, go to: Administer > Option Lists > Relationship Types.
2. Click the "more" link in the row of the relationship type that you'd like to disable or delete.
3. Select either Disable or Delete from the pop-up menu.
4. If you select Disable, a pop-up confirmation bubble will appear. If you select Delete, you will be directed to an additional screen that provides a more serious warning and requests confirmation. Review the information provided in either confirmation message and if you are sure you'd like to complete this action, click the OK or Delete button.
5. If you have chosen to disable the relationship type it will appear in red in the Relationship Types list and relationships of this type will still be visible when viewing contacts. If you have chosen to delete the relationship type it will no longer appear in the Relationship Types list or in contact relationships data. In either case users will no longer be able to create new relationships of this type.

To enable a previously disabled relationship type, follow steps 1 and 2 above and select Enable from the "more" pop-up menu.

MERGING CONTACTS FROM SEARCH RESULTS

If you notice duplicate contacts within a set of search results you can quickly merge them directly from the search results instead of using the separate "Find and Merge Duplicate Contacts" process. This is a great way to clean up your database during your everyday workflow with minimal disruption.

1. Select the duplicate contacts from your search results by clicking the check box at the left side of each record.
2. Select "Merge Contacts" from the " - more actions - " menu, then click Go.
3. Follow the normal steps for merging duplicate contacts; see the Deduping and Merging chapter for more information.

CONTRIBUTIONS
21. What is CiviContribute?
22. Planning
23. Configuring
24. Everyday Tasks

21. WHAT IS CIVICONTRIBUTE?

CiviContribute is a CiviCRM module that supports fund-raising and related money management. It has two main uses:

- To facilitate fundraising campaigns and collection of donations
- To support activities by other CiviCRM components that have financial elements, such as managing fees in the Events and Member modules

CiviContribute has a number of tools for raising money through your website. You can create contribution pages with fundraising targets. Campaigns support a thermometer style widget that you can embed on other websites and blogs. Personal campaign pages (PCPs) and tell-a-friend functionality engage your supporters in raising money for your organisation and give them credit for any money that raise from other people on your behalf.

22. PLANNING

This chapter is aimed at fundraisers, administrators and others who want to use CiviContribute. You should find the information here useful before configuring and using CiviContribute. Start by listing the types of contributions you receive as an organization and which of those you want to track using CiviCRM. Then evaluate the following issues.

DATA NEEDS AND FIELDS

CiviContribute has a set of predefined fields to track contribution information. If you need to track more information about contributions, you can define and use custom data fields. Custom data might be useful to further categorize your contributions or track additional information.

Consider all the information you want to track about your contributions, including the reports described later in this chapter. Then carefully compare your data needs to CiviCRM's predefined fields. A lot of useful functionality is built in to the core contribution fields and there's no point in duplicating them with custom fields.

TYPES AND ACCOUNTING CODES

CiviContribute categorises contribution by type. Examples of contribution types include event fees, member dues, donations, and grants.

To aid integration with your accounting software, you can assign an *accounting code* to each contribution type. This accounting code is included when you export contributions for import into your accounting package.

REPORTING AND EVALUATION

Reports can support targeted fundraising, reveal how you can improve fundraising processes, and help you gauge the financial health of your organization. Examples of what you can learn include:

- Checking contribution totals for tactic A versus tactic B
- Comparing amounts earned by a specific campaign over time
- Comparing first-time givers with repeat givers
- Generating a list of people that gave last year but are yet to give this year.

As part of the planning process, consider the reports that you would like to run with CiviCRM. The data they require helps determine the data you need to collect in CiviContribute, and whether you need to create new custom fields to hold the data. This planning also helps you configure CiviContribute to allow you to run these reports.

CiviReport comes out of the box with a number of reports designed to give you information about your donors and fundraising campaigns. Spend some time familiarising yourself with these reports.

23. CONFIGURING

This chapter shows how to set up CiviCRM, and particularly its contribution management component, CiviContribute, to support fundraising. Throughout CiviCRM, the term "contribution" refers to any financial transaction or payment taking place in the system: a donation, event fee payment, membership dues payment, or other similar transaction.

This chapter assumes you have a working understanding of *custom fields*, *contact matching rules*, CiviCRM *Profiles*, and the CiviMember and CiviMail components. The chapter also assumes you have already set up your *payment processor*, configured contribution types, and created any custom fields you want to use when tracking contributions.

GENERAL CONFIGURATIONS

You may need to configure the following fields before you begin setting up various methods for managing contributions.

- **Contribution Types and Accounting Codes**: Navigate to Administer > CiviContribute > Contribution Types, where you can edit one of the existing contribution types or create a new one by clicking Add Contribution Type. Once you edit or add a contribution type, you can define an accounting code that corresponds to your accounting system (the accounting code will be exported along with the contribution data if you do an export), and indicate whether this type of contribution is tax-deductible. Be careful when editing core contribution types or adding new types, because CiviCRM has useful built-in functionality that depends on the core contribution types.
- **Premiums**: Navigate to Administer > CiviContribute > "Premiums (Thank-You Gifts)" to configure premiums, such as T-shirts or subscriptions, that you want to offer on your Online Contribution Pages. You can edit an existing premium or click Add Premium to add a new one. Once you edit or add a premium, you can then enter additional information: Name, Description, SKU (an optional product code), Premium Image (an optional image of the item), Minimum Contribution Amount to receive the premium, Market Value of the premium, Actual Cost, and Options (e.g., colors and sizes). If you're offering a subscription or service, you can also click on the Subscription or Service Settings and define additional information here, such as Period type (e.g., Fixed or Rolling), the Fixed Period Start Day, the Duration, and the Frequency.
- **Accepted Credit Cards**: Navigate to Administer > CiviContribute > Accepted Credit Cards to edit existing acceptable credit cards or define a new option through Add Accept Creditcard.
- **Payment Instruments**: Navigate to Administer > CiviContribute > Payment Instruments to edit existing options that can be used for contributions or to add a new option through Add Payment Instruments . The common options--credit card, cash, check, debit card, and EFT--are installed by default.

ONLINE FUNDRAISING

One of the most useful aspects of CiviCRM is its integration with your site's content management system. Once integrated with either Drupal or Joomla!, CiviCRM allows you to build an unlimited number of contribution pages that can be seamlessly accessed from your website. Contribution pages can be used to:

- Accept donations and other contributions
- Process membership signups and renewals
- Run a specific fundraising campaign

This section will walk through each of those three scenarios and point out some options and features that may be useful. Once you answer all the necessary questions and consider all the points mentioned in the chapter, you can build your contribution pages. Step-by-step documentation for doing that is available at http://wiki.civicrm.org/confluence/display/CRMDOC/Manage+Contribution+Pages.

General Online Contribution Page

Before you configure a general contribution page, ask:

- What contribution type will be used to categorize contributions received via this page?
- Do you want to allow people to give in honor or in memory of someone?
- What other data do you want to capture from your donors and contributors? These can be collected in predefined CiviCRM fields or custom fields that you have created previously. The only field required by CiviCRM to process a contribution is an email address. Typically you will want to collect additional contact information for the contributor. These should be added using a Profile.

  If possible, build the profile of fields that you will expose on the contribution form *before* you build your contribution page. A contribution page can include up to two profiles. If you do not create your profile before creating your contribution page, you can complete the process and return at a later time to add a profile.

- Can individuals contribute on behalf of an organization? This is most commonly used for membership sign-up pages (discussed later).
- Do you want to allow people to pledge a certain amount as they contribute? A pledge is a commitment to give a certain amount over a certain period of time--for instance, a fixed amount deducted from a credit card every month. Pledges are a great way to allow your supporters to provide long-term support to your organization.
- What are the amounts you want people to choose from? Some organizations call these "donation levels" and they're important because they give a potential donor a range and suggestions of what to give. You may also allow donors to complete an "other amount" field and ignore your predefined giving levels.
- What text do you want to appear in the following?
  - The introduction of the contribution page
  - The footer of the contribution page
  - The text for the thank-you page
  - The automatic email receipt sent to the contributor (optional)
- Do you want to enable the "tell-a-friend" feature? This allows donors to forward the page to friends, which can be very powerful in spreading your message throughout their social networks.
- Do you provide premiums such as T-shirts or tote-bags to donors who give a certain minimum? If you do, be sure to set up your premiums within the CiviCRM administration pages first, as described earlier.

Once you have answered and resolved all of these questions, you can build your contribution page. Go to CiviContribute and click on Manage Contribution Pages > New Contribution Page. The options and settings should map pretty clearly to the choices you made for the questions listed in this section.

Membership Sign-up Donation Page

CiviContribute is closely integrated with CiviMember, the membership management component of CiviCRM. This means that your online contribution pages can allow people to join your organization at predefined membership levels. When people do, they create not only a membership record for themselves but a corresponding contribution record.

You must create all of your membership types and status settings within CiviMember before you build your online membership sign-up page.

Before building your membership sign-up page, you need to ask most of the questions listed in the previous section for the contribution page. A couple of additional questions include:

- Should this page be used *only* for membership sign-up purposes, or can people give general contributions as well? Membership-based organizations usually use their contribution page only for membership sign-up, which means they do not allow a variety of contribution amounts and membership sign-up is required.
- Which membership types allow sign-ups? Some membership types in your organization may be for administrative use only.

If your organization allows organizations as well as individuals to become members, you will need to allow individuals to join on behalf of an organization. Depending on your membership structure, you may want to require this behavior.

Campaign Fundraising Page

In addition to the questions in the previous sections about how the contribution page will be used and what information it will capture, CiviCRM includes some exciting features for campaign fundraising purposes:

- The campaign contribution page can have a start and end date along with a goal. You can then create a **widget** to embed on your website to show the progress of the campaign toward the goal (see the following screenshot).

- Wouldn't it be great if your constituents could do some of the fundraising for you? CiviCRM has a feature called *Personal Campaign Pages* (PCPs) that allows you to let people create their own fundraising page for your organization. This means that a donor, after donating to your organization, can elect to create a page with her own photo, text, and personal information. She can then send a link to the page to her friends, soliciting support for your organization. This is a powerful way to widely and quickly spread the message about your campaign.

  When someone donates through a personal campaign page, a *soft credit* is given to the owner of the page to recognize the role she played in the contribution. CiviContribute has a section that allows you to administer all of the PCPs for your organization as well as moderate PCPs you don't approve of. Lastly, you can provide an "Honor Roll" for your contacts who build PCPs, highlighting the donations made through their pages. (Donors need to opt in to have their names displayed in the honor roll).

Publicizing your campaign

Now that you've created your contribution page, it's time to bring people to the page so they can contribute. Naturally, you will display a link to the page prominently on your website through a donate button or menu item. Here are some additional tips for promoting a contribution page in different CiviCRM configurations:

- **Joomla!:** The most direct way to expose your contribution page or membership signup/renewal page to the front of your website is by creating a menu item. Navigate to a menu and create a new CiviCRM item. From the list of menu options, choose Contributions. In the basic parameters section, select the contribution page you would like exposed from the dropdown menu. Save the menu item and view the website to confirm the page's functionality.
- **Drupal:** From the contribution page listing, select Live Page to view the finished page. You can then copy the URL and include it in a content page or assign it to a menu item.
- **Standalone:** From the contribution page listing, select Live Page to view the finished page and link to it.

CiviContribute contribution pages have "ugly" URLs. In other words, they are difficult to remember. An example is :

www.myorganization.org/civicrm/contribute/transact?reset=1&id=1

You may find it useful to create a URL redirect (take people from one URL of your website to another automatically) on your server to take people to a "pretty" URL like:

www.myorganization.org/donate

Pretty URLs are much easier to remember and use in your organization's outreach. Creating a redirect requires some technical skill and access to your web server.

Drupal provides a helpful module called Path Redirect (http://drupal.org/project/path_redirect) that lets you can create URL redirects from the user interface without complicated web server configuration. Joomla! users also have a work-around if Search Engine Friendly URLs are enabled in Global Settings. You can then create a menu link to the contribution page and define the "pretty" URL using the alias field.

Emailing your current membership is the other critical way to publicize the campaign. The CiviMail component of CiviCRM allows you to send targeted emails to any group of contacts in your database. Within a CiviMail message you can include links to the contribution form and use CiviMail's tracking capability to see how many people click on that link.

One time-tested way to increase contributions is to send each targeted constituent a personalized email with a link to the contribution form that has all of their contact information already filled in. This saves them the hassle of filling it out and raises the chances that they donate. Using CiviMail, you can use this feature by creating a special link in the body of your CiviMail message that includes a **checksum token**. A checksum is a unique and pseudo-random number assigned to each recipient of the mailing that points back to their contact information, securely stored in your database.

When people click on the special link, CiviCRM looks them up in the database and pre-fills fields on the contribution form (core fields or fields exposed via a profile) with any information in their contact record. To read more on how to do this and what the link path must be, visit: http://wiki.civicrm.org/confluence/display/CRMDOC/Mail-merge+Tokens+for+Contact+Data

Automatic Contribution Recording

Regardless of how donors get to your contribution page, CiviCRM automatically records their donations, freeing your staff from doing manual data entry. If the donors already exist in the database, CiviCRM adds the contribution to their existing record. If they don't exist, CiviCRM creates a new record for them.

To record contributions in the appropriate records, CiviCRM must identify the donor correctly by comparing the information they enter into the contribution page to their contact in the database. By default, CiviCRM checks just the contributor's email address. In other words, if Judith Monroe has a contact record in CiviCRM with an email address of judith@example.com and she puts in that email address when she contributes, but with the first name of Judy, the contribution will correctly go into her record. If she puts in another address, such as a Hotmail or Gmail account, a new record will be created and you may have to manually clean it up later. Note that this problem appears only for anonymous visitors (those not currently logged into your website). Once users log into the website, CiviCRM recognizes them in the system and will attribute any activity to their records.

We recommend that you configure CiviCRM to match contact information very strictly by changing the default duplicate matching rules. In our opinion, it is better to risk creating a new (duplicate) record for someone who is already in the database than to incorrectly credit their donation to someone else. It is not uncommon for multiple people to share an address such as info@example.org or judyandjim@example.com, the default rules may find the wrong contact if such a shared email address is entered. We recommend you change the duplicate matching strict rule so that the first name, last name, and email must all match. This raises the bar on whether data is merged with an existing record, increasing the change that a new record will be created. Using CiviMail's automatic fill-in feature (the checksum token) will help avoid some of these issues. To configure your duplicate matching rules, navigate to Administer CiviCRM > Find and Merge Duplicate Contacts.

OFFLINE FUNDRAISING

Organizations have plenty of offline opportunities to raise money. You may pick up donations at events or solicit donations via postal mailings. For money raised through any of these offline activities, your staff needs to enter the results manually.

There are three steps in offline fundraising: creating your lists, creating your mailings, and manually entering contributions.

Creating your lists

This process is fairly straightforward if you are familiar with CiviCRM's search capabilities.

1. Create a list of records to receive your offline postal mail appeal (this can be your entire database if you like). If you want to later track the success of a mailing or if you are tracking who receives certain appeals, it is recommended you save the search results as a group. Later on, you can mark everyone in that group as recipients of that appeal using the Record Activity for Contacts option under the "- actions-" menu.
2. From a search (whether a search of the groups' members or of other criteria) you will see an **"- actions -"** dropdown menu that allows you to, among other things, export the list as a CSV file. Select all records or a subset using the checkboxes, choose "export", and click Go.
3. As you export to a CSV spreadsheet, you can determine which fields you want to export to your spreadsheet and save the list of exported fields as an export mapping for future use. By default, CiviCRM will export a great deal of data, including contacts' names, contact information, email addresses, phone numbers, and a list of their groups and tags.

Creating your mailings

Once your spreadsheet is created, you can do a mail merge using any popular word processing software (such as OpenOffice.org Writer, the Free Software Word Processor) that will insert any fields you want in the letter.

CiviCRM can also create mailing labels for you. Perform the same search you used in the previous section to create your list of recipients, but under the More Actions menu, choose Mailing Labels. Then select the mailing label number, determine whether you want to exclude people with "do not mail" checked in their privacy options (checked by default and recommended), and whether you want to merge two records that have the same mailing address into one label. This last option is very useful when you are mailing a household or organization and you don't want them to receive duplicate mailings. When the records are merged, each name at that address appears on its own line on the label. Once you click 'Make Mailing Labels," a PDF document will be created that you can print.

Its important to note that many nonprofit organizations in the United States have to sort recipients of a mailing based on zip code for bulk mailing purposes. If this is true for your organization, it is recommended you do *not* create your mailing labels within CiviCRM, but instead create them using word processor merge functions where you have control over the sort order. You can reuse the same spreadsheet for the mail merge you exported in the previous section.

PAYMENT PROCESSORS

A *payment processor* is a tool that integrates with CiviCRM to process live credit card transactions. In other words, it accepts the credit card information submitted by your site visitor, processes it, and transfers money to your organization's bank account. As of this writing, the payment processors compatible with CiviCRM include:

- PayPal (website standard and pro)
- Authorize.net
- PayJunction
- Google Checkout
- Moneris eSelect Plus
- Elavon / Nova
- eWAY
- PayJunction
- PaymentExpress
- ClickAndPledge

Each has their own pricing structure and features, benefits and drawbacks. You should carefully investigate each available option to determine what's best for you. Important things to consider include:

- Availability in your country and currency
- Cost (setup costs, monthly cost, transaction fees and commission percentage)
- Security: whether you want to, and are able to set up your own Secure Sockets Layer (SSL) certificate or whether you would prefer a payment processor that captures credit card information on its own website. Does the payment provider provide protection against fraud and liability?
- Ability to control branding: does the payment processor take users off your CiviCRM site and does this matter to you?
- Ability to accept recurring payments: Only one or two payment processors are able to do this at the time of writing.
- Ease of use for your customers: does the site visitor need an account with the transaction provider in order to process payment?
- Reputation and reliability: Ask other CiviCRM users about their experiences with payment providers.

Secure Sockets Layer (SSL/HTTPS)

If you wish to collect credit card information through a CiviCRM form (as opposed a payment processors own website) you must configure your site for Secure Sockets Layer encryption. Alternatively, choose a processor such as Paypal Standard, Elavon or PaymentExpress where the customer is redirected to the payment processor's website to enter their credit card details and back to your site afterwards.

Visitors to your website can determine that their data is encrypted when they see a symbol (often a padlock) somewhere in the browser or by noting that the "http:" part of your url has been replaced by "https:".

To enable SSL, you will need an SSL certificate. An SSL certificate should be purchased through a reputable third party provider, and may range in price from USD$30 to USD$100 a year depending on the company and the level of service and protection they provide.

If you are using shared hosting or a virtual private server (VPS), it is likely that your hosting provider has a list of preferred vendors they work with to provide SSL security. Contact your hosting provider for more information and to get help installing the SSL certificate.

SSL certificates are domain-form specific. If purchased and installed to your root domain (something that looks like *example.org*), it does not automatically work for subdomains, such as http://www.example.org or http://contribute.example.org. Discuss the options available with your hosting provider and ensure that the certificate and its installation will meet your needs. Wherever possible, purchase a certificate that will cover both the root domain and www form of your domain.

Once the certificate is installed and you have tested its functionality by browsing to a page on your site using https (rather than http), you should enable SSL redirection in CiviCRM. To do this, navigate to Administer CiviCRM > Global Settings > Resource URLs > Force Secure URLs (SSL) > Yes. This will force any pages that include contribution-related information (i.e., credit card fields) to redirect to the secure form of the URL (https).

After you enable the Force Secure URLs setting and save the page, CiviCRM will automatically check to ensure the SSL certificate is activated and working properly. You should also navigate to a contribution page on your website to confirm that https redirection works correctly.

PCI DSS Compliance

The prevalence and impact of online fraud has led to increased security measures to counteract the schemes of fraudsters. The Payment Card Industry Data Security Standard sets out security standards that all major credit cards require sites to comply with. If your CiviCRM page accepts card numbers directly rather than sending visitors to your payment processor web page, your site and its hosting environment may need to comply with those standards. Some payment processors, notably Moneris, put some of the compliance burden on you by making you complete a long and technical Self-Assessment Questionnaire.

For more information, visit:
https://www.pcisecuritystandards.org/

24. EVERYDAY TASKS

This chapter describes some common CiviContribute tasks.

ADDING CONTRIBUTIONS

When your organisation receives a contribution from a contact, you can add it to their record.

If the donor does not already exist in the database, you need to first create a new contact record for them. Use the links on the CiviCRM home page to create a New Individual, New Organization, or New Household, and fill out any information you have for this contact. Once the record is created, you can then enter the contribution.

To manually enter a contribution for a contact in your database:

1. Find the contact's record using one of the contact search tools.
2. Select the contact's Contributions tab.
3. Click Record Contribution (Check, Cash, EFT...). Alternatively, if you have set up a payment processor that allows credit card transactions directly on your site, you may select the Submit Credit Card Contribution option and process the payment immediately.
4. Complete the new contribution form. The following screenshot shows the offline contribution (i.e. contributions via check, cash, EFT, etc.) form. If you selected to record a credit card contribution, the credit card form is almost identical except for the payment-related fields.

Record the contribution type, amount, received date (the default is the current day), receipt date (shown on the receipt generated by the system), and status (the default is Completed). Any custom fields for contributions will also appear on this form.

The Soft Credit To field works with personal campaign pages (PCPs) that harness your contacts' help for campaigns. As described in the previous chapter, when a donor sets up a PCP for their friends and family to make donations to your organisation, some of the credit goes to the donor who set up the PCP. The person giving the money receives a "hard" credit while the owner of the PCP receives a "soft" credit. When you enter a donation manually on the contribution form for the contributor, you can assign a soft credit to the owner of the PCP. Soft credits can also be applied to spouses, partners, or employers, to give an indication of how much money is coming from a relationship or providing a credit to employees if they urged their employers to donate. (There is more information about PCPs and campaign fundraising pages in the Configuring chapter of this section on CiviContribute.)

The Additional Details section near the bottom of the screen offers other options including adding a note about the contribution and entering the date when a thank-you letter was sent.

The last two sections allow you to enter whether the contribution was in honor of someone else (Honoree Information) and whether there is a premium associated with the contribution (Premium Information).

VIEWING THE CIVICONTRIBUTE DASHBOARD

The CiviContribute main page or dashmboard summarises the contributions made, including lists of contributions received in the current month to date, year to date, and cumulatively since the campaign's inception. For example, the following screenshot lists the most recent contribution to a campaign using the Table Layout tab:
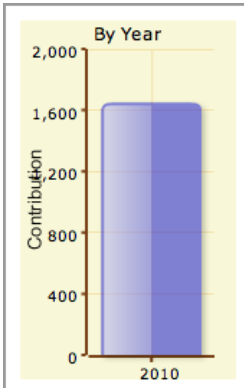

You can also view bar or pie charts to compare contribution totals across months of a given year and across years by clicking on the Chart Layout tab.

FINDING CONTRIBUTIONS

Use this screen to find contributions made to your organisation.

To View the Find Contributions screen:

1. Click the Contributions Tab.
2. Select Find Contributions.

You can search based on a number of criteria, specifying date range, amount, contribution status etc.

Contributions must match all specified criteria in order to be returned, so the more criteria you enter, the narrower the search will be. For example, searching for the contribution type "donation" and the date range "January 1st to May 31st" will return contributions that meet both criteria.

The results screen from a search displays the the total amount for the results returned for that search, the number of contributions, and the average amount per contribution in addition to the subset of records resulting from the search:

You also have options under the "actions" menu once you select all or a subset of records. The "actions" menu allows you to:

- Batch Update Contributions Via Profile: this is useful if you want to update a large number of contributions' thank-you date at once, for example. You need to create the profile you want to use *before* you perform the search and batch update (see the the chapter Profiles in the Configuration section for more information about creating profiles).
- Delete Contributions: this removes contributions entirely from the system, as if they had never been entered in the first place. Editing contribtions and updating their status to canceled provides a better audit trail, but there may be situations where you do want to delete, such as a contribution entered on the wrong contact's record.
- Export Contributions: because this search is contribution-centric, it does not recognise if contributions come from the same contact. Therefore, if one contact has multiple contributions that fit the search criteria, that contact will appear as multiple rows when you export your spreadsheet. If you want to do searches that return one result per contact, use the contact advanced search.
- Print or Email Contribution Receipts: this allows you to create a PDF file of all the receipts in the search, or email the receipts to the associated donors.
- Send Email to Contacts: send an email to all or selected contacts found in the search.
- Update Pending Contribution Status: update the contribution status of all or selected contacts who have contributed online. This action only works with online contributions, and the same contribution status will be applied to all the contributions selected for updating.

EVENTS
25. What is CiviEvent?
26. Planning the Event
27. Configuration
28. CiviEvent Everyday Tasks

25. WHAT IS CIVIEVENT?

CiviCRM's CiviEvent module centralizes your registration data process, lets your constituents register themselves (including such conveniences as paying online with credit cards), and even gives people live access to your data while onsite at the event.

CiviEvent is integrated with CiviCRM's other modules, so you can send a targeted email to the list of participants, or to specific subsets such as the ones who have a volunteer role but cancelled attendance. Moreover, each registration is added to the list of activities for the contact, letting you see for instance that Mr Doe registered 15 hours after having received your monthly newsletter.

SCENARIO: RECRUITING FOR AN ANNUAL YOUTH LEADERSHIP WORKSHOP

Organizations have many ways to take advantage of CiviEvent to lighten the task load when planning and managing events. Here is a scenario of how an organization is using CiviEvent.

A community organizing group holds leadership workshops for youths 25 and younger as their major yearly event. They invite youth speakers and volunteers, as well as several other speakers for the training workshops. The organization also charges nominal fees for meals and lodging, a flat fee for the registration fee, and additional costs for optional workshops. Information is collected beforehand about the participants' food and lodging preferences. The event invitation is usually sent to a targeted audience contact list to ensure that the organisation's core constituency attends, and the event is also announced more broadly by posting it on the website to allow for online registrations. At the end of the event, staff want to evaluate the success of the event and report results such as number of attendees, total event fees paid, and total amount still due.

To prepare for the event, the organization plans their data needs and the tasks needed to configure the event as well as to keep tabs on the registration and event management process. Here are some items that the organization plans to do in preparation for the day of the event:

- Organizers will build their targeted list of people they want to invite to the event.
- A staff person will set up the website to show the event.
- A staff person will decide and configure the pricing for the different event fees: registration fee; cost for the meals; cost for lodging; costs for optional workshops.
- A staff person will configure CiviEvent to collect information about participants' food and lodging preferences.
- A staff person will set up an event template and email message template that can be used every year in order to ease the process of setting up similar events over time.
- During the event registration process, a staff person will manage the process by which participants register themselves, periodically checking to make sure that payments are being made, and managing the wait list when they exceed their maximum number of participants.
- During the day of the event, organizers will check in each attendee on-site to keep track of who's actually attending and who is a no-show. This will also help determine at the end of the event who has paid and who still owes fees.
- After the event, the Director will create reports about the number of attendees, and event details such as total fees received as part of a report to give the organization's funders.

26. PLANNING THE EVENT

Before you dive in to create an event, we recommend you review the work flow in this chapter to help you plan for setting up and managing the event. The work flow also includes concepts you should know about the structure and functions of the event management process.

GLOBAL EVENT CONFIGURATION

There are several global event configurations as well as general CiviCRM configurations you will need to consider before you create your event. These configurations define the details and structure of the event, such as the type of event, the cost if it's a paid event, and the payment processor to handle credit cards. You can also configure information about the type of participant, e.g. attendee or speaker, and define different status options to help track participants' progress through the event process, from being Registered to indicating whether they Attended or were a No-Show. You may also want to capture additional information about the participant, such as food preference if the event is a Dinner. Additional data often requires you to create custom data and profiles in the general CiviCRM configuration.

Some of these configurations are a required prior to creating the event, so familiarizing yourself with these concepts and planning your data needs before you create the event will help streamline the event configuration process. Although, if you've already begun creating an event when you decide to expand your configuration needs, you can always complete the event configuration process, address your additional data needs, and return to reopen and complete the event configuration.

You may want to review the following concepts before you begin to configure your event. These concepts will be discussed in more detail later in the following chapters of this Events section.

- Event Type
- Participant Role
- Participant Status
- Price Set
- Payment Processor
- Send Email Settings
- Event Templates
- Additional Custom Data and Profiles
- Email Message Templates
- Participant Listing Templates

CREATING THE EVENT

In addition to planning the configuration you will need, you may want to ask some questions to help you make some decisions about the details of your event:

- Will this be a paid event?
- Will you charge multiple fees, such as fees for additional sessions or meals?
- Are you restricted to a maximum number of participants?
- Will there be a wait list if the maximum number of registrations is exceeded?
- Will you allow a contact to register multiple people?
- Will you allow online registrations to the event through a website?
- Will you be emailing participants to confirm their registrations?
- Will you be publishing a listing of the participants?
- Is there specific information you want to collect about participants, e.g., food and lodging preferences?

Thinking about the structure of your event and how you want a person to experience the event registration will help inform whether you need to do additional configuration and how to set up the event.

TEST DRIVING THE EVENT

Once you finish configuring and setting up the details of your event, you are well advised to test drive the event to make sure all the pieces of the event process are working according to your expectations. You may want to test the following:

- Do the description of the event, dates, cost of the event, etc., make sense and match your organisation's plans?
- Are the messages that confirm the registration clear?
- Did you receive the email message that confirms and thanks you for registering?
- If it's a paid event, did payment processing work?

Test the event through the eyes of a person who is registering for the event, to make sure the flow of the registration process guides the person effortlessly each step of the way. After initial testing, if you send your invitation email to a person in the organisation that hasn't been directly involved in the the configuration of the event, you can get a fresh point of view that represents what your contacts will feel during the process.

When using the "Test-drive Registration" option, you see the same registration pages as a regular user, but the online payment isn't really debited from your card (and you can enter a fake one).

PROMOTING THE EVENT

Think about all the ways you would like people to learn about your event:

- Will you be posting your event on your website and allow people to register that?
- Will you be writing an email blast to your constituents about the event?
- Is your event "by invitation only"? Who are the people you would need to email the invitation?
- Have you planned a schedule to announce your event from the initial invitation to sending out event reminders?
- Can you create message templates ahead of time to ease the process of getting multiple messages out about your event?

In addition to configuring and creating your event, you may need to plan how you could use other CiviCRM functions to promote the event, as well as determine what other tools, such as as your website, may need to be utilized to promote your event.

MANAGING THE EVENT PROCESS

From the time you announce your event to the time the event is over, there will be ongoing event management tasks that you may need to carry out to ensure good participation:

- Check to see the status of the participants, such as finding out the number registered, the number confirmed, or who canceled
- Find out the total event fees received to-date to check that you're on budget for the event
- Check to see that your volunteers and speakers have confirmed to attend
- Decide when and how to announce or market your event further if you see that number of registrations are low
- Manage the waiting list of people once the maximum number of event registrations is exceeded
- Review participant information, such as food or lodging preferences, to organize additional event logistics
- Determine how you will indicate whether a participant attended and enter the information into CiviCRM

The event management tasks vary depending on the type of event and venue you're planning, and CiviCRM supports these tasks through many event and communication tools, along with its searching and reporting features.

Consider asking the staff people directly involved in these tasks to add a report for that event in their dashboards, in order to have a direct overview directly on their homepages.

FOLLOWING UP AFTER THE EVENT

Once your event is over, you may want to evaluate the event by looking at the total number of attendees, the total event fees received, who hasn't completed payment for their registration, and who canceled. Several event reporting tools can help, including the Event Participant Report, the Event Income Summary Report (summary and detail), the Event Dashboard, and search tools such as Find Participant.

It is worthwhile updating the status of each participant during the event or just afterward, while it's fresh in your memory, so you properly flag the no-shows.

It is good practice to send an email after the event to all the participants to thank them and provide links to pictures or slides of speakers if you have published them online. You might want to use this opportunity to promote a new event, suggest that attendees join your organisation as a member, or solicit donations for a specific campaign.

27. CONFIGURATION

This chapter assumes that you've gone through the event planning chapter and sketched out the type of events you need to configure, along with the event-related data you want to collect and track. Now it's time to actually start configuring CiviEvent and creating events.

If you do not see the Events menu item in your navigation menu bar and you don't see CiviEvent under the Administer menu, you may not have the component enabled. Navigate to Administer > Configure > Global Settings > Enable Components to manage which components are enabled.

GENERAL CIVIEVENT CONFIGURATION

There are a number of "general" configuration tasks for the CiviEvent component that are best to work on first. These settings lay the foundation for creating your events. Review each of the following event-related settings and modify them as needed before you begin creating events.

Event Types

CiviCRM allows you to define different types of events as a categorization mechanism. This is particularly useful when searching through event participants or generating an event listing feed. You can also configure custom fields to store and display additional data about an event by its event type. Take the time to consider what types of events your organization holds and define them in this interface. You can return at any time to add to the list of types or modify an event type label. However, you can not delete event types which have been assigned to one or more events.

Navigate to Administer > CiviEvent > Event Types to review the default list of event types, shown in the following screenshot. You can modify event type labels by clicking Edit on any row. Click "Add Event Type" to create a new category for your events.

Event Type Options

Use Event Types to categorize your events. Event feeds can be filtered by Event Type and participant searches can use Event Type as a criteria.

Label	Value	Description	Order	Reserved	Enabled?	
Conference	1		↓ ↧	No	Yes	Edit | Disable | Delete
Exhibition	2		⊤ ↑ ↓ ↧	No	Yes	Edit | Disable | Delete
Fundraiser	3		⊤ ↑ ↓ ↧	No	Yes	Edit | Disable | Delete
Meeting	4		⊤ ↑ ↓ ↧	No	Yes	Edit | Disable | Delete
Performance	5		⊤ ↑ ↓ ↧	No	Yes	Edit | Disable | Delete
Workshop	6		⊤ ↑	No	Yes	Edit | Disable | Delete

⊕ Add Event Type

Participant Roles

When an individual registers for an event, he or she will be assigned a participant role. This field helps you segment your participants into meaningful categories based on their involvement in the event, such as attendee, volunteer, speaker, or staff (attendee is the default role). You can also define custom fields and assign them to a specific role, which can be helpful when you need to collect certain information relevant only to speakers or another role. When creating a registration page for inclusion on your website, you will select a default participant role which will be assigned to all online registrants.

You can search for participants matching particular roles using the Find Participants and Advanced Search screens.

Navigate to Administer > CiviEvent > Participant Roles to review the default list, shown in the following screenshot. You can modify participant role labels by clicking Edit on any row. Click "Add Participant Role" if you need participant roles that are not in the default list (e.g., audio-visual coordinator, food and beverage manager, etc.).

Participant Statuses

The participant status field allows you to track the individual's registration through your system. This can help you identify pending or canceled registrations, people on a waiting list, no-shows, confirmed attendance, or any other status you define. Participant status is also searchable in the Find Participants and Advanced Search screens.

For organizations that need more of an RSVP workflow, you can rename your statuses to friendly names such as "Yes, I'm Coming", "No, I can't make it", and "Maybe". Then configure, for each of those statuses, which ones are for administrative use only or for public use. This allows you to expose the participant status field via a profile on your registration form, displaying only those with public visibility. For more information on this scenario, visit: http://wiki.civicrm.org/confluence/display/CRM/RSVP-style+Event+Registration

Navigate to Administer > CiviEvent > Participant Statuses to review the default list, shown in the following screenshot. Some statuses in the list are marked *Reserved* (with a green checkmark). This means that they are required for event workflows and can not be deleted or disabled. However you can change the Label, which is what users see when they select from a list of statuses.

Participant Status

Manage event participant statuses below. Enable selected statuses to allow event waitlisting and/or participant approval.

Label	Name	Class	Reserved?	Active?	Counted?	Weight	Visibility	
Registered	Registered	Positive	✔	Yes	✔	1	Public	Edit
Attended	Attended	Positive		Yes	✔	2	Admin	Edit | Delete | Disable
No-show	No-show	Negative		Yes		3	Admin	Edit | Delete | Disable
Cancelled	Cancelled	Negative	✔	Yes		4	Admin	Edit
Pending from pay later	Pending from pay later	Pending	✔	Yes	✔	5	Admin	Edit
Pending from incomplete transaction	Pending from incomplete transaction	Pending	✔	Yes		6	Admin	Edit
On waitlist	On waitlist	Waiting	✔	No		7	Admin	Edit | Enable
Awaiting approval	Awaiting approval	Waiting	✔	No	✔	8	Admin	Edit | Enable
Pending from waitlist	Pending from waitlist	Pending	✔	No	✔	9	Admin	Edit | Enable
Pending from approval	Pending from approval	Pending	✔	No	✔	10	Admin	Edit | Enable
Rejected	Rejected	Negative	✔	No		11	Admin	Edit | Enable
Expired	Expired	Negative	✔	Yes		12	Admin	Edit

⊕ Add Participant Status

There are also five statuses that are disabled by default (displayed in red). These statuses are used for optional event registration features and must be enabled if you want to use those features.

Waitlists

You can offer a waitlist to users during online registration when an event is full. If a space becomes available, the first participant from the waitlist will be invited to complete their registration. The workflow for this feature is described later in this chapter. Enable the "On waitlist" and "Pending from waitlist" statuses here if you want to use this feature for any of your events.

Approval required to attend event

For certain types of events, you may need to require administrative approval for all the participants who self-register, prior to being able to complete the registration process. The workflow for this feature is described later in this chapter. Enable the "Awaiting approval", "Pending from approval" and "Rejected" statuses here if you want to use this feature for any of your events.

Custom data

CiviCRM provides ample flexibility for you to define and integrate custom fields into your event management process. Custom data are fields that you define and associate with a specific data type. You can then use them to collect information from your contacts as they register for an event, as well as in other ways.

Custom data is managed through Administer > Customize > Custom Data. Begin by creating a new set of custom fields, then designate the objects in which those fields appear. You might assign some fields to events, some fields to participants, and some fields to participants at certain events or participants who take on certain roles (such as speakers). The scope of the custom field set is called its *use*. Several types of uses are available to CiviEvent tools:

- **Events (Event Type):** This use type applies to fields that are connected to the event itself, or to a specific event type. For example, your organisation may host a series of training workshops and want to create a custom field to track six common topics covered by events. You could create a checkbox style field with the list of topic options. When creating an event using the "Workshops" type, this field will be available. Note that you are not required to select a specific event type. Leaving the dropdown set to "Any" indicates the field is available to all events, regardless of the type.
- **Participants:** The Participant use type attaches to the actual registrant record. For example, you may want to know whether a registrant has any dietary restrictions and collect that information when they register.
- **Participants (Event Name):** This use type is identical to the Participants type, with the exception that it allows you to assign a group of custom fields to a specific event. Returning to the previous example, you may find that the dietary restrictions field is relevant only to an upcoming full-day workshop where lunch will be served, but not to an afternoon workshop series you are planning for the coming month. You could create the field set and assign it to a single event.
- **Participants (Role):** Additionally, you may create a participants type field and assign it to a single participant role. This is valuable, for example, if you need to collect biographical profile details from your speakers and wish to record it with their event registration. Because that field is applicable to only the Speakers role, you would limit it using this interface.

After creating your set of custom fields, define the actual fields within each set. If you are not familiar with creating custom data, refer to chapter in this book on extending core data before creating your actual fields.

Using Profiles for online event registration

Participant custom data groups and fields will be automatically included in their assigned location when you access the information through the CiviCRM administrative tools. However, they will not be displayed in your online event registration page unless they are first included in a Profile, which is then included when you configure online registration for an event.

Participants always provide an email address when they register for an event in CiviEvent, but most organizations find it useful to collect more personal information during online event registration. This might include basic information such as first and last name, as well as event-specific information such as meal preference. You will need to create a profile containing these additional fields prior to creating your event.

Navigate to Administer > Customize > Profile to set up and edit profiles. The following screenshot offers a typical example of a Profile used for a conference where there is an option to provide childcare. Notice that this profile contains fields belonging to Individuals and Participants.

If you are not already familiar with setting up Profiles, refer to the section on using them.

Registration confirmation and receipting

CiviCRM can send automated confirmation and receipt emails to participants who register online, as well as participants who are registered by your staff or volunteers using back-office screens. The content and layout of these emails are controlled by *message templates.* Both HTML and Text formats are provided. Your organization may want to modify or add text to these emails, or add branding such as a logo to the HTML versions.

Once you create an event, you can *test-drive* the online registration process and review the confirmation email. Navigate to Administer > Configure > Message Templates (shown in the following screenshot) and click the System Workflow Message tab to see the list of messages you can modify. Click Edit next to "Events - Registration Confirmation and Receipt" rows to edit the content and layout.

The templates for these messages include both the text shown and necessary program logic. Use caution when editing so as not to modify the program logic. Be sure to test the workflow and review the emails sent after making any changes. If you find that your changes have caused problems, errors or missing information, you can always "Revert" to the system default for that workflow.

CORE SETTINGS USED BY EVENTS

Several core CiviCRM settings may play an important role in how you use the event tools:

- **Administer > Configure > Global Settings > Outbound Email (SMTP/Sendmail):** In order to use the previously mentioned capabilities to send an email receipt, you must complete and test the Outbound Email settings.
- **Administer CiviCRM > Configure > Global Settings > Payment Processors**: While not required, the event registration process is significantly enhanced by allowing individuals to register and pay for the event with a credit card. CiviCRM can be configured to use several payment processors, all configurable through this interface. Please visit the online documentation for more details on using payment processing (http://tiny.booki.cc/? civicrmpaymentprocessorconfig). Once you have created a payment processor you can select it in the event creation fees page.

CREATING AN EVENT

You're ready now to create an event. The following sections guide you through a sequence of screens which allow you to control each aspect of the event. As we walk through each step, we will demonstrate the options and their effects on the resulting registration form through screenshots and examples.

It's a good idea to go through each screen in detail as you learn about available options. Later in this chapter we'll discuss how you can streamline the event creation process by creating event templates. These allow you to prefill most options with a single keystroke.

Begin by navigating to Events > New Event.

1. Event Information and Settings

The first page in the event wizard requests basic information about the event:

- What is the type of event (e.g., Conference, Workshop, etc.)?
- What role will participants be assigned to when they register online for this event? Roles distinguish different types of event participants, such as attendees, speakers, and staff. The value placed in this field will be assigned by default when users register online. The most common value is "Attendee."
- Do you want users to see a listing of participants, and how much information about the participants do you want to reveal in the listing? Participant listings are a great way to demonstrate support for an event and generate interest within your constituent community. Note that the options you define in this section only enable participant listings —to display one, you will still need to create a menu item or link to the listing somewhere on your website. Once you've created the event, the participant listings link is displayed on the event configuration page. Refer to the chapter on everyday event tasks for information on promoting your events.

- What is your event title? The title will appear on event information pages, registration pages, event listings, and in the Manage Events administrative page. Be sure to choose a descriptive, well-crafted title to represent your event.

- The next two fields (event summary and complete description) let you describe your event. Both the summary and complete description will be included on event information pages. Use the rich-text editor provided for the description field to include photos and images.
- What is the starting date/time and ending date/time for your event? These will be included on the event information page and event listings.
- CiviCRM lets you set a maximum number of participants for each event. This is important, because online registration lets people sign up without giving your staff a chance to intervene and shut off registrations. Here you can set the maximum number of participants and define a message to be displayed when that number is reached.
- If you've enabled the Waitlisting feature (by enabling the related participant statuses), you can check Offer Waitlist and set the message you want displayed on the event information page when the event is full.
- In today's world, people are increasingly using GPS and web-based mapping tools to get where they are going. CiviCRM integrates this functionality by letting you include Google Maps or Yahoo! maps throughout your site. You will first need to configure your mapping solution through Administer > Configure > Global Settings > Mapping. You can then enable a map link which will generate the location based on the event location.
- Once you have created your event and placed the information and registration pages on your website, you naturally will be looking for ways to promote the event. CiviCRM provides several ways to do that through RSS feeds, iCal files or feeds, and event listing pages. Select the Public Event box to nclude the event in these promotional listings. Techniques for promoting events are described in the everyday tasks section.
- Lastly, you have the option of toggling this event active or inactive. If you anticipate that it will take some time to complete the configuration of your event, consider making it inactive it until it is complete to ensure it is not inadvertently listed on the event listing feeds. You can easily activate the event when you are ready to begin publicizing it.

After reviewing the details on this page, click Save to advance to the next step. When you press Save, your event is created. You can interrupt configuration on any subsequent page by clicking Cancel and return later to review and modify any of the event settings. Any information you entered on any page will be preserved so long as you pressed Save on that page. To return to a saved event, navigate to Events > Manage Events and click Configure to continue working on the event.

2. Event Location

The next step in event configuration is to complete the location and contact details for the event. Though optional, it is highly recommended that you take the time to provide these details to your potential participants. If you have enabled a map link in the previous step, make sure that you fully complete the address details on this page (see screenshot).

Once you have entered an event location, you can reuse it for subsequent events by clicking "Use existing location" and selecting from the dropdown list.

You can also list phone numbers and email addresses on the event information page if you want to give registrants a way to contact event organizers directly. If the event is being held off-site from your organization's primary location, you may also want to provide contact information for the meeting location.

Click Save to save your entries and advance to the next step.

3. Event Fees

CiviCRM supports both free and paid events. If this event is free, set the Paid Event radio button to No, then click Save and skip to step 4, Online Registration. If this is a paid event, click Yes. The screen will show the options available (see the following set of screenshots).

Note that if you plan to accept credit card payments through the online registration form, you need to configure a payment processor prior to completing the details in this section (you will see a notice on top of this screen if no payment processors have been configured). Questions you are asked on this screen are:

- What contribution type will be assigned to paid registrations for this event? Although the most common value for this field is simply "Event Fee", CiviCRM provides the flexibility to define multiple contribution types and assign them to different events as needed.
- Do you want to allow registrants to "pay later" by mailing in a check, paying on-site with cash or credit card, or arranging some other payment method? If so, you can enable the Pay Later option and define a label and payment instructions. If you keep this unchecked, registrants will be required to pay by credit card.

Configure Event - Fall Fundraiser Dinner

Info and Settings | Event Location | Fees (disabled) | Online Registration (disabled) | Tell a Friend (disabled)

Save   Save and Done   Cancel

Paid Event   ⦿ Yes ◯ No

Payment Processor   My Payment Processor ▼

If this is a paid event and you want users to be able to register and pay online, select a payment processor to use. NOTE: Alternatively, you can enable the **Pay Later** feature below without setting up a payment processor. All users will then be asked to submit payment offline (e.g. mail in a check, call in a credit card, etc.). (learn more...)

Contribution Type * Event Fee ▼

This contribution type will be assigned to payments made by participants when they register online.

Fee Label *   Event Fee

This label is displayed with the list of event fees.

☑ Enable Pay Later option?
Check this box if you want to give users the option to submit payment offline (e.g. mail in a check, call in a credit card, etc.).

Pay Later Label *   I will send payment by check

Text displayed next to the checkbox for the 'pay later' option on the contribution form.

Pay Later Instructions * Send a check made out to "Central City Food Bank" and mail it to 12 Main St., San Jose CA 92011 within 3 business days.

- Can you use Regular Fees for this event, or do you need to use a Price Set? Regular fees provide a single set of options and allow the registrant to select a single option. This approach works well for many events and is easy to set up. Each fee amount has a label assigned and you can set a default fee. Here's a simple example:

Regular Fees

Use the table below to enter descriptive labels and amounts for up to ten event fee levels. These will be presented as a list of radio button options. Both the label and dollar amount will be displayed. You can also configure one or more sets of discounted fees by checking "Discounts by Signup Date" below.

Fee Label	Amount	Default?
Members	295.00	⦿
Non-members (regular)	395.00	◯
Non-members (student)	195.00	◯

- Price sets allow you to break event fees into smaller pieces, and set a fee for each piece. Using a price set you can offer optional programs and event features (e.g., an optional post-conference dinner or a book). Examples and steps for creating price sets are covered later in this section. Please take time to review their functionality and understand how they can benefit your event management process.
- You can also configure early bird discounts (discounts determined by signup date). These override regular event fees. This discounting method is available only for the regular fee structure. Implementing other discounting rules or discounts for price sets requires additional programming. You or your developer should refer to the section on extending CiviCRM for more information.

- Discounts are structured in parallel with the base event fees. After creating your list of fee options and enabling the discounts feature, you must create the discount set and add it to the fee table. To help you create a discount set, a new fee table will appear toward the bottom of your page, duplicating the original fee table shown in the previous screenshot. You can now edit the labels and fees to correspond to the discounts offered for each of the original fee options.
- You can even create multiple date-based discount sets for an event. This may be useful if you have a series of early bird dates that progressively increase the cost of registration as the date of the event gets closer.

Click Save to save your entries and advance to the next step.

4. Online Registration

Your organisation may want its staff to register participants manually. However, allowing people to register online (self-service) through your website offers many benefits. Online registration is convenient for your constituents and can save staff time and resources.

If you want to offer online registration for this event, check Allow Online Registration and use the options on this form to configure this feature.

- Define the text to be used as the link to the registration form, and set the starting and ending dates for registration. The link text is used in the event information page, and is most commonly "Register Now" or something similar. The starting and ending dates define when website visitors may register for the event. The registration ending date is likely different from the starting date of the event, as you may want to close registration in advance of the event in order to prepare name tags or perform other administrative functions.

- Very often an organisation may choose to send multiple people to a conference or an individual will bring her partner and wish to register and pay for the registrations in a single process. Enabling "Register multiple participants" lets individuals register as many people as they choose for the event and pay the fees with a single transaction. By default, this option requires a different name and email address for each person registered. Checking "Allow multiple registrations from the same email address" provides the same capabilities, but without requiring distinct email addresses for each registrant. In either case, CiviCRM uses a separate contact record (either an existing one if it's already in the system, or create a new one) for each individual registered.
- The Registration Screen configuration block defines introductory and footer text for your registration page, and the profiles included in the top and bottom regions of the form. If you come to this stage in the wizard and have not created your profile form, you may continue with the event setup process and return to the event configuration page later to select your desired profiles.
- What other data do you want to capture from your participants as they register? By default, the CiviEvent registration page requires only an email address. Organizations typically want to collect additional contact information from the registrant, as well as define fields unique to this particular event (such as meal choice). The custom data fields and profiles used here (see screenshot) must be created before you reach this form, as described earlier in this chapter. Here, you can include up to two profile form snippets in your registration page. It's a good idea to put contact data (name, address, etc.) in one profile snippet, and event related information (e.g. meal choice, childcare requirements, etc.) in the second profile.

- The remaining fields on this page control the text to be displayed on the Confirmation page, Thank-you page, and emailed confirmations / receipts (if enabled). The standard page flow is shown in the following screenshot.
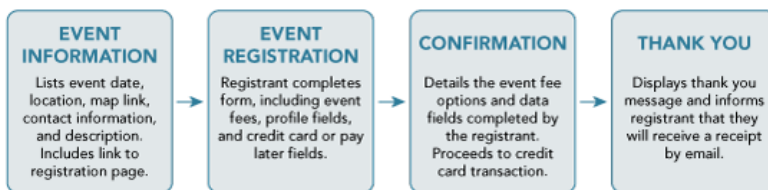
For free events, the Confirmation step is skipped. When completing the Confirmation, Thank-you, and Confirmation Email sections on this page, take care to think about the user experience at each stage in the process. Ensure that the text is appropriate to the point where the registrant will be in the registration process.
- For most events you'll want to enable the Send Confirmation Email feature (see following screenshot). For paid events, the confirmation email also acts as a receipt. Make sure that the Confirm From Email address entered is a valid email account on your mail server. Add one or more staff emails (separating multiple email addresses with commas) to the CC Confirmation To field if you want real-time updates on who is registering for your event.

Click Save to save your entries and continue with the next step.

5. Tell-A-Friend

CiviEvent makes it easy to leverage the social networking power of your committed constituents by empowering them to quickly and easily share details about your organization and event with their friends and colleagues. The final step in the event creation is a page where you can enable "Tell-A-Friend" capabilities. You can define the text and links to be included on that page and in the email sent from the tool (see the following screenshot).

A "Tell a friend" activity record will be added to a participant's Activities tab each time he sends mail to his friends. This allows you to track your most active supporters and engage them further. The people who are emailed using this feature are also automatically added to CiviCRM as contacts.

This is the last step in creating an event. Click Save and Done.

Now that you have completed the creation of your event, you should test it. Returning to the Manage Events page, you will see your recently created event listed with any others you have created. From the action list, select Test-drive to test the registration page. Test-drive mode will use the sandbox options for your payment processor, if available, and will create a registrant record with a "test" indication so that it can be reviewed and easily removed. If you have events where anonymous users register for events, you should also test the registration when not logged in. Refer to the Event Permissions information later in this chapter for details.

If you discover elements that you need to edit and adjust, select Configure to return to the list of event setting pages. Once you are satisfied with the event information and registration form, it's time to display it on your website. The everyday event tasks chapter includes detailed information on adding the event to your website and promoting it.

USING EVENT TEMPLATES TO STREAMLINE EVENT CREATION

If you find that you are setting up a number of events with similar configurations, you can streamline the process using *Event templates*. Enter all the characteristics your events have in common in the event template. Common characteristics might include location, event fees, online registration settings, tell a friend settings, etc.

Once you've created an event template, you can select that template (as shown in the following screenshot) when you start to create a new event. Your event will be automatically prefilled with all the saved configuration properties.
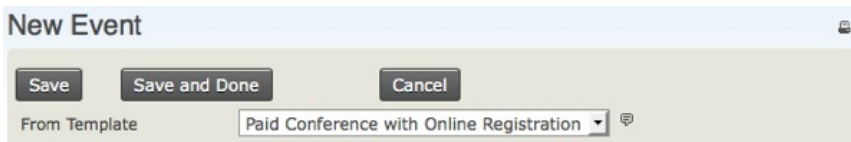
To create a template, start by navigating to Events > Event Templates and clicking Add Event Template.

The steps for creating event templates are similar to those described earlier for creating an event. The main differences are:

- Assign a Template Title that clearly identifies the type of event this template is used for (e.g., Monthly Community Meetup).
- There are no starting and ending dates in the template form. That information will always be specific to an actual event instance.

SETTING PERMISSIONS FOR EVENT REGISTRATION

This section applies to Drupal installations only.

If you've enabled online registration for events on your site you need to review the Drupal user permissions to ensure that visitors are able to view event information and complete the registration forms. Navigate to the Drupal Administer menu and select Users > Permissions.

Most organizations allow anonymous users (users who have not logged in) to view and register for events. If you want to allow this convenience, assign the following CiviCRM module permissions for the anonymous user role:

- access all custom data - required if you are collecting information in custom fields from registrants
- profile create - required if you've included any profiles in your online registration forms
- register for events
- view event info
- view event participants - required if you want to display a listing of registered participants

Alternatively, you can assign these permissions to an authenticated user role if you want to exclude anonymous visitors from viewing or registering online for events. Finally, if you need special access control rules for specific events, you can use the Manage Access Control feature to assign access to specific groups of contacts. If you're not familiar with CiviCRM's built-in ACL (access control list) features, refer to this online documentation:

http://wiki.civicrm.org/confluence/x/Y4C9AQ

INCLUDING PROFILES FOR AN EVENT REGISTRATION

To collect information about registrants, such as additional contact information or food and lodging preferences, when the registrants register online, the best way is to include profiles in your event configuration. Do this as follows:

1. Choose Events > Manage Events.
2. Click Configure for this event.
3. Click the Online Registration tab or link.
4. Choose one profile for "top of page" and another profile for "bottom of page"

COMPLEX EVENT FEES WITH PRICE SETS

Price sets play a role similar to custom data fields and profiles, but support options for event fees instead of basic data collection. Here's an example of how a price set looks to a person who is registering for a Conference that includes optional pre-conference training sessions, meals and lodging:

We saw earlier that step 3 in event creation involves configuring event fees. The standard fees layout form is a very simple structure, allowing you to create a list of fees and their labels. The resulting layout allows the registrant to select one option from the list. Often, this single-option format does not meet the complex demands of your event registration structure. Price sets allow you to create multiple registration fee fields and assign the entire set to an event.

Price sets are created and managed by navigating to Manage Price Sets and choosing the Events link or by navigating to the CiviEvent > Manage Price Sets menu and choosing the Administer link.
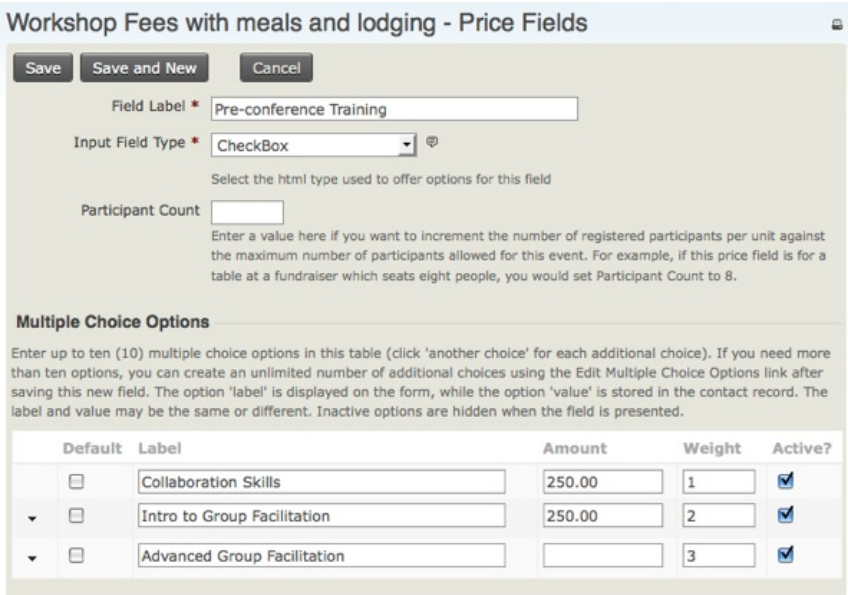
Similar to custom data sets, you begin by creating a new price set and then adding specific fields.

Creating a New Price Set

To create a new price set, click "Add Set of Price Fields". In the Price Set form, enter the name of your price set, whether it's used for events or contributions, and a description. Press Save. A form appears for you to create the first field in your price set.

Creating a New Price Field

Begin by entering a name for the event item in the Field Label.

The Input Field Type has a structure similar to custom data fields, with some unique qualities and usage relevant to fee structures.

- **Text/Numeric Quantity:** Allows you to set a unit price. When the form is presented to the registrant to fill it, it displays a text box where the registrant enters a quantity. The quantity entered is multiplied by the unit value to calculate the fee.
- **Select:** Displays a drop-down box where the registrant selects one option from the list.
- **Radio:** Displays multiple options in a list, allowing the registrant to select one fee choice.
- **Checkbox:** Displays fields in a list where the registrant can select or unselect any number of options.

You can combine these field types to create virtually any fee structure.

Enter a number in the Participant Count field if you want to increment the number of registered participants per unit against the maximum number of participants allowed for this event. For example, if this price field is for a table at a fundraiser which seats eight people, you would set Participant Count to 8.

For Text/Numeric Quantity fields, enter an amount in the Price field. For Select, Radio and Checkbox types you will enter a price for each option in the table of options (shown in the screenshot above).

If you want to display the price next to the event item, check the "Display Amount?" box.

As when creating other custom data, you can enter a description for the Field Help, decide whether the event item is Required, select whether the event item is visible to the public or only to the administrator in the Visibility field, and indicate wheter the event item is Active. These fields are described in the chapter on extending core data.

Next, you can either press Save to finish configuring this event item, or Save and New to create another price field for this price set.

Once you finish configuring your price set, you can add it to your event in step 3 where you configure the event fees. Select the name of your price set in the Price Set field as shown in the following screenshot.
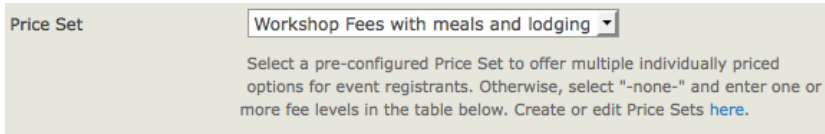
As with custom data fields, it is to your advantage to give thought to the structure of your registration fees and build the price set before creating the event. However, if you begin the event creation process and determine that you needed to construct a price set, you can complete the process, create the price set, and then return to the event configuration page to assign the price set.

Price sets can be reused in multiple events. This is particularly helpful for organizations that run multiple events in a series, such as a regional training seminar program.

28. CIVIEVENT EVERYDAY TASKS

This chapter describes a variety of procedures related to managing an event after you set it up in CiviEvent.

MASS REGISTRATIONS

CiviEvent offers the time-saving feature of registering multiple contacts for an event at one time (or as a "batch").

Scenario for doing mass registration

An organization is planning a large event and has invited many people, based on who they think will be interested. The staff then does a mass registration of those people, setting the participate status to "pending". They then use the event list of pending contacts as a means of calling people to see if they are coming. If the person says they will attend, the event organizer can change the person's status from "pending" to "registered".

Mass registration is accomplished by the steps:

1. Search for the set of contacts you are interested in.
2. On the search results page, either choose "select all" or put a check mark next to each contact you are interested in. A sample search results page appears in the following screen-shot.

3. Choose "Add Contacts to Event" from the "actions" list just above the search results, then click "Go".
4. Complete the registration form, choosing the appropriate action choices for this set of people, such as setting the Participant Status to "pending". Choices made here will be applied to all contacts in this set.

Limitations of mass registrations

You can not make different action choices for a single set of contacts. The action choices are applied uniformly to the entire set of contacts. To work around this limitation, do a mass registration several times, each time choosing the desired action choices for that set of contacts. For example, you might mark one set of contacts you plan to call and invite with a Participant Status of "pending", then add another set of contacts to the event, such as event leaders you know will attend, with a Participant Status of "registered".

You cannot apply contribution information, such as a pay later contribution or a credit card transaction, in a batch action. Therefore, mass registration is best for free events or for contacts who are not required to pay a fee at this point. You could always add payment details for an individual later on.

IMPORTING REGISTRATIONS

Importing registration information is a quick way to add a bunch of registrations to the event. The information to be imported must be available in a comma-separated values (CSV) file. If the majority of the contacts are already in CiviCRM, it may be faster to do a mass registration action as mentioned earlier in this chapter.

Scenarios for importing registrations

Your organization may be collaborating with another organization for a specific event. The other organization may be handling event registration and sending you a spreadsheet after the event.

Another scenario is that a volunteer event coordinator, who did not know that you had CiviCRM, recorded event registrations using Excel or another spreadsheet program.

In these cases, it is still important to record the event registration inside CiviCRM to help you consolidate your information and allow better interactions and reporting for the event participants in the future.

Steps for importing registrations

1. Prepare the data in the CSV file. Make sure date fields (if used) are valid dates. If some of the contacts are already present as contacts in CiviCRM, make sure the first name, last name and email address match what is already in CiviCRM.
2. Differences between an imported contact's and an existing contact's information can cause a duplicate record to be created. While duplicate contacts can be merged later, its preferable to avoid the situation. The rules for determining duplicate contacts can be defined by navigating to Administer > Manage > Find and Merge.
3. On the navigation menu, choose Events > Import Participants.

FINDING AND REPORTING ON PARTICIPANTS

This section helps you do some common information searches.

To see an overview of participants for all upcoming events

1. NAvigate to Events > Dashboard
2. Click the "Counted:" link to see all the contacts for that event.

If any count is zero, the associated text will not be a hyperlink. Some participant roles may not count for the event total, such as someone who is on the cleanup duty.

To see the participants for any event with a variety of criteria

1. Navigate to Events > Find Participants.
2. In the event name field, start typing to see a list of events. Click on the event you want. Set additional search choices for the fields you want to see.
3. Click Search.

When the search returns results, you have the opportunity to select all of the resulting participants or a subset, and perform an "action" on them. Available actions include:

- **Batch update participants via profile:** This feature is useful if you wish to edit multiple fields for multiple participants in a table grid layout. Note that you must create the profile set you wish to use before implementing this action. If you are not familiar with how Profiles work, please read the chapter on that topic before using this feature.

- **Cancel Event Registrations** for the selected participants.

- **Change Participant Status** for the selected participants.

- **Delete Participants:** Deleting participants does *not* delete the contact record but will delete all transactions and activities associated with the participant. Note that this action cannot be undone.

- **Export Participants:** The export function allows you to export a predefined set of fields or create your own custom set of fields (which can be saved for reuse). The software exports to CSV format, which can be easily opened in standard spreadsheet software or directly used for mail merges.

- **New Smart Group:** Smart groups are saved search results based on defined criteria, similar to a query. The advantage of a smart group is that the system will rerun the query using the criteria you have defined each time you open the smart group. This is particularly helpful for complex search criteria that you need to view on a regular basis.

- **Send an Email to Selected Participants:** CiviCRM also lets you generate an email on the fly to your search result list. For example, you may want to let recipients know details about the event in advance, such as parking options or local area restaurants.

To see a participant list listing individual fees

1. Navigate to Search > Custom Searches.
2. Click the Event Aggregate link.
3. Choose your search criteria, and click Search.

To use a report template to create an event report

1. Click Reports > "Create reports from templates".
2. Scroll to see the templates in the Event Report Templates section.
3. Click the name of the report template to create a new report.
4. Choose the desired report criteria, then click Preview Report.
5. Expand the area labeled Create Report.
6. Choose a report title, and other choices as desired.
7. Click Create Report. Typical results appear in the following screenshot.

TESTING YOUR EVENT

Before unleashing your event on the public, you should always test the event registration process. This can be done as follows:

1. Navigate to Events > Manage Events.
2. Locate your event in the list of all upcoming events and click the Test-drive link.
3. Fill out the registration form and complete the registration process. If this is a paid event, the test settings for the payment processor will be used, you can enter dummy information.
4. In order to find the new test participant record, navigate to Events > Find Participants.
5. In the search criteria, check the box Find Test Participants.
6. If you need to adjust the event settings, navigate to Events > Manage Events and click the Configure link for this event.

PROMOTING YOUR EVENTS

Getting the word out and building excitement about your event can take many forms. The most important is making sure the event is prominently listed on your organization's website and your public calendar, and letting many people and organizations know about it.

Some organizations may want to publicise their guest list as part of the event description as a means of encouraging others to register. Participants should also be encouraged to help promote the event.

If you are publicising your events on another website or organization's calendar, make it clear how people are expected to register. For example, some social networks have a built-in event registration system, such as Facebook events. Other organizations that are helping to publicise your event may have their own event registration systems. Make sure that no matter where you publicise the event, it is obvious how the person is expected to register.

There is also additional information about how to list your event on a Drupal-based website and a Google calendar on CiviCRM's Wiki:

http://wiki.civicrm.org/confluence/display/CRMDOC/Event+Listings

To add the participant list to the event information page

1. Navigate to Events > Manage Events, then click the Configure link for this event.
2. Expand the section labeled Public Participant Listing and copy the URL in the description area.
3. Click the link Event Information and Settings.
4. Paste the URL from step 2 into the event summary or event description, then click Save and Done.
5. Optionally, you can share the URL via other communication vehicles such as within an email message and other places you are promoting the event.

You may also choose to share the URL through email and other places where you are promoting the event.

To display an event description or registration on the website (Drupal steps)

1. Navigate to Events > Manage Events and then click "more" > Live Page for this event.
2. Copy the URL for this event page.
3. Create a Drupal menu item for this URL or paste the URL into any Drupal page.

Additionally, you may enable a Drupal block that lists all upcoming public events. To learn more, go to the CiviCRM wiki:
http://wiki.civicrm.org/confluence/display/CRMDOC/Event+Listings

To display an event description or registration on the website (Joomla! steps)

1. Go into the Joomla! control panel.
2. Choose Menu Manager > *Your menu name*.
3. Click New.
4. Expand CiviCRM > CiviCRM Events and click the Event Info item.
5. Choose the event from the "Select an Event" list on the right side of the page.
6. Click Save.

GETTING THE URL OF A LISTING OF UPCOMING EVENTS

This lets you give an external organization or external website a URL that they can place anywhere on their website. The only drawback is that the page will appear like the rest of your own website.

1. Navigate to Events > Manage Events.
2. Click on the "globe" icon on the top right of the page.
3. Copy the URL.

GETTING AN RSS FEED FOR ALL UPCOMING EVENTS

This lets visitors subscribe to all your events in the RSS feed reader of their choice. Also, many website management systems allow a website to subscribe to any RSS feed and present the information within their layout.

1. Navigate to Events > Manage Events.
2. Click on the orange and white square icon on the top right of the page.
3. Copy the URL to share or embed into your website.

ALLOWING PEOPLE TO TELL A FRIEND ABOUT AN EVENT

This offers people the chance, when they register for the event, to email their friends and colleagues about it. CiviCRM will also capture the "friend's" email and create a "Tell A Friend" activity for the email. At the same time, CiviCRM will create a similar activity in the participant's record.

1. Navigate to Events > Manage Events and click the Configure link for this event.
2. Click on the "Tell a Friend" link.
3. Click the checkbox to enable "Tell a Friend" for this event.
4. Provide the appropriate message to include for this event.

GETTING YOUR EVENTS ON A CALENDAR

Most websites include a graphically laid out calendar that can be shown by he month, week, or day. It is very useful to get your events on relevant calendar pages. Many individuals also maintain personal calendars to track events along with their personal meetings and appointments; you can make it easy for them to copy your event to their calendars.

The standard format for sharing information between calendar systems is called *iCal*. CiviCRM can export a static iCal file as well as a dynamic iCal feed.

Getting a static list of events into another calendar system

1. Navigate to Events > Manage Events.
2. Click on the square icon displaying "31" on the top right of the page.
3. Save the iCal file on your local computer.
4. Go into the other calendar system and find the import iCal file tool.
5. Within the import wizard of the other calendar system, browse to and upload the iCal file from your local computer.

New CiviEvents created later on will *not* appear in the other calendar system. These steps will need to be repeated to show new events. Dynamic updates are described in the following procedure.

Getting a dynamic list of events into another calendar system

1. Navigate to Events > Manage Events.
2. Click on the square green icon displaying the letters "ICAL" on the top right of the page.
3. Copy the URL of the page that opens.
4. Go into the other calendar system and find the import iCal feed tool.
5. Within the import wizard of the other calendar system, paste the URL from step 3.

From this point forward any new public events created in CiviEvent will automatically appear within the external calendar system.

Displaying an event report on CiviCRM 's home dashboard

1. From the navigation menu, click on Reports > "Create reports from templates".
2. In the Event Report Templates area, select one of the reports you would like to display on the home dashboard.
3. Enter the criteria you want to build the report, then click Preview Report.
4. Click Create Report and enter the additional information you want in the report.
5. In the Other Settiongs area, check the "Available for Dashboard?" box.
6. Click Create Report.
7. From the navigation menu, click Home to view the dashboard.
8. To add the report to the dashboard, click Configure Your Dashboard.
9. Drag your report from the Available Dashlets area into either the Left Column or Right Column of the dashboard area, and click Done.
10. On the home dashboard, you should now see your report. To view the latest updated information for your report as well as any other items you've included on your dashboard, click Refresh Dashboard Data.

WAITLISTS

Your organization may have limits on attendance, such as a 25-person limit for a training workshop or a 200-person limit for a fund-raising dinner. CiviEvent lets you set the maximum number of people allowed to register for your event. When registrations reach that number, CiviEvent will not allow other people to register, but will instead send an automatic message saying, "The event is currently full." This message can be customized by the organization when creating a new event, and you can let people add themselves on a first-come-first-served basis to a waitlist.

To create an event with a waitlist:

1. Navigate to Events > Manage Events.
2. Click the Configure link next to your event.
3. Click the "Event Information and Settings" link, and on the Info and Settings form, check the **"**Offer a Waitlist?**"** box.

APPROVING REGISTRANTS

Many events are open to everyone, but there may be times when your organization invites only specific people to the event. For example, you could have an event where only volunteers that have donated 100 or more volunteer hours are invited to an appreciation dinner. But it is possible that the people invited will talk about the event to their friends, and possibly forward the information. Hence, other people not invited may try to register for the event. CiviEvent allows you to create an event that allows you to check the people who have registered and approve only the people invited.

When a person registers for the event, they will get a reply that says, "Your registration has been submitted. Once your registration has been reviewed, you will receive an email with a link to a web page where you can complete the registration process." This reply can be customized to your organisation's needs.

To create an event that requires approval:

1. Navigate to Events > Manage Events.
2. Click the Configure link for your event.
3. Click the Online Registration link. On the Online Registration form, check the Requires Participant Approval box.
4. You can then customize the text for the Approval Message. You can also limit the amount of time participants have to complete their registration after approval by entering the time in hours in the "Pending participant expiration" field. For example, if you want to give participants 3 days to complete their registration, enter "72" in that field.
5. Click Save or Save and Done.

MANAGING PARTICIPANTS

After you create your event and provide the registration form to website visitors, you need to begin managing your participants through the CiviEvent administrative tools. CiviEvent lets you register participants manually, search through participants based on a variety of criteria, export participant lists, and perform a number of other functions on your event records. CiviEvent not only gives participants a smooth journey from registration to payment to attendance at the event, but also lightens the burden of administrative duties on your organisation's staff. An Events dashboard brings all your events and participant information together in one place (see screenshot). In this section we will discuss how these administrative tools are used.

Registering a Participant Manually

Although CiviCRM helps alleviate data entry for event registration by allowing your constituents to register directly through your website, a segment of your contacts will probably continue to register by mail, phone, or in person on-site. Your staff will then enter the registration information manually.

For example, when a person calls the office to register for an event, the staff person who takes the call can enter the person's name in the "Quick search" box, select the contact from the results, click the Events tab on the caller's contact record, and add the person to the event.

The Events tab, shown in the following screenshot, displays a summary list of the contact's past event attendance and provides a link for registering the contact for a new event.

There are two options for registering the contact:

- **Add Event Registration**: For people who pay later, such as by sending a check or paying when they arrive at the event.
- **Submit Credit Card Event Registration**: For people paying immediately with a credit card. This option is available only if you've configured a payment processor that allows direct payments through your website. You can ask them for their information and enter it manually.

The interface for both options is very similar, with the exception of those fields that record payment details.

Registration Confirmation and Receipt

Send
Confirmation
and Receipt ☑

Automatically email a confirmation and receipt to s.jones@example.org?

Receipt From

    Tournament Director <tournament@example.org>   ▾   🗩

Confirmation
Message

Enter a message you want included at the beginning of the confirmation email. EXAMPLE: 'Thanks for registering for this event.'

Contact our Tournament Director for eligibility details.

Notes

[Save] [Save and New]   [Cancel]

As you work through this form, certain sections of the page change to reflect selections you have made. For example, when you choose the event you want to register the contact for and select the participant role, the form will automatically load predefined custom data fields that pertain to those selections.

If the event selected is a paid event, you will see an event fees section which has been defined in the event configuration details, and an option to record the financial transaction details (Record Payment) will be visible. This leads us to an important concept central to CiviEvent (as well as other modules). Event registration records in CiviCRM are independent of, but can be related to, a financial transaction. While this may seem confusing to organizations accustomed to viewing event registrations as essentially a financial transaction, it offers an important and valuable distinction.

An event registration communicates the contact's participation in the organization's event. A corresponding financial transaction indicates the monetary value associated with that participation. While related, the two are distinct.

The distinction is best understood by considering the all common scenario of an organization waiving fees for a V.I.P., a speaker, or someone who participating in the event in a limited way. In such cases, you want to register the individuals but may not want to create an associated financial transaction.

CiviCRM respects this distinction by recording the event registration record under the Events tab, recording the financial record under the Contributions tab, and then creating a link between the two records.

If the event is a paid event, click the Record Payment checkbox and enter information in the transaction fields that are displayed. This process essentially "links" together the event registration and the contribution record for this contact. After recording the registration, you will be able to view the event registration record and see the related contribution record at the bottom (see screenshot). If you do not select the Record Payment check box, only a registration record will be created.

MEMBERSHIP

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29. WHAT IS CIVIMEMBER?

CiviMember allows you to track and manage membership for one or more organisations. You can define different membership types for each organisation. CiviCRM provides tools to track contacts through the membership cycle, and handles membership renewals. A central aim of CiviMember (much like other CiviCRM components) is to automate membership administration as much as possible.

REAL WORLD SCENARIOS

The Atlantis State Public Transit Association (ASPTA) is a useful case study to learn from when deciding how to manage membership. They have four membership categories:

- **Regular Members:** Public transit systems. There are three tiered dues levels within this category, based on the size of the system. Membership is organization-based, and all employees receive access to member benefits, such as discounted rates at Association events.
- **Affiliate Members:** Businesses providing goods and services to the transit industry, such as bus and rail car manufacturers, engineers and consultants, parts and component manufacturers, etc. Membership dues are a flat rate for all Affiliate Members. Membership is organization-based, and all employees receive access to member benefits, such as discounted rates at Association events.
- **Associate Members:** Students, government representatives, public interest groups, research institutions, and other interested parties. Membership dues are a flat rate for all Associate Members. Membership is individual-based.
- **Honorary Members:** Retired transit system executives and others who have made a notable contribution to the industry and Association. No membership dues; lifetime period. Membership is individual-based.

As the ASPTA CiviCRM administrator configures the membership types, she creates three separate types for the Regular Member category to account for the three dues levels. The duration is one year, beginning on January 1, with a rollover date of October 1. In this way she accounts for new members who join very late in the year and are not able to fully benefit from their membership during that calendar year: their memberships extend through December 31 the following year.

It is now time to see how CiviMember responds to the particular needs of a membership drive. ASPTA's membership committee begins a focused outreach to non-member public transit systems (Regular Member category) and non-member businesses working in the public transit industry (Affiliate Member category). They want their members to renew online and pay through a credit card.

To accomplish this, they create a membership signup/renewal page. CiviMember can maintain the information about how to join in one place and generate a signup page or renewal page from it as appropriate. The signup page will be available to all website visitors, whereas the renewal page will be visible only to contacts who are already members, after they login to the members-only section.

After completing configuration of the signup/renewal page, ASPTA creates a menu link to expose the form (shown in the following screenshot) and begin their online membership recruitment effort.

30. PLANNING

This chapter covers the major areas you should think about before configuring CiviMember. It should be useful for system administrators setting up CiviMember.

Before you begin using CiviCRM's membership tools with your contacts, spend some time thinking about your organisation's membership structure. Work out the membership types you'll offer and how you'll model them in CiviCRM.

Key questions include:

- Membership lengths.
- Start and end times, and if your membership terms are rolling or fixed-date. In other words, does membership always start at the same date, such as January 1, or can a person start an annual membership that runs exactly one year till the day rolls around when they signed up?
- Whether a membership is based on the individual, family, or organisation. For instance, a social service agency may sign up an entire family as a member, while a policy-making organisation may sign up other organisations as members.

It's tempting to over-engineer your membership structure and create more membership categories than you actually need. Try and keep things as simple as possible.

Map your membership structure to the way CiviMember handles membership. If you are having trouble modelling your membership structure in CiviCRM, ask in the forums about the problems you are having. There might be other ways to model your data, or simple changes you can make to CiviCRM's behavior to better fit your needs.

Also ask why your membership structure is the way it is. Perhaps the workflow was set up based on a previous technological or organisational limitation that doesn't apply now that you are using CiviCRM.

The renewal process is as important as the initial sign-up. You'll need to plan time to get renewal reminder templates working and tested.

Do you want to provide a special members area of your website, or offer them extra online content as a result of their membership? If so, you should explore CMS integration modules such as Drupal's CiviMember roles integration module.

31. CONFIGURATION

This chapter takes you through the necessary configuration steps for CiviMember. As with other modules, CiviMember takes advantage of CiviCRM's integration with the Drupal and Joomla! CRMs, allowing your members to manage their own memberships through your web site. So the second half of this chapter takes you through setup of online renewal pages.

CONFIGURING MEMBERSHIP TYPES

The first configuration step is to configure the membership types and status rules. These are handled in: Administer > CiviMember > Membership Types.

Membership types are the various membership categories that your organization offers. You can configure an unlimited number of membership types and set various options for each of them. Options include how they are used, the membership term period, and the dues amount.

Begin by defining the name of the membership type and a brief description. The name will be used throughout the system, so choose it carefully.

CiviCRM requires the membership type to be associated with an organization record.This gives CiviCRM the flexibility to handle multiple membership types with multiple organizations (or sub-organizations) within a single interface. For example, if your national organization consists of six regional chapters, each of which maintains membership records separate from the national membership, you can create membership types for each chapter membership and associate them directly with the chapter organization.

Continue with the membership type configuration by entering the minimum membership fee (zero if the membership is free), and select the contribution type. In most cases you will select Membership Fee from the dropdown menu. You can create and modify Contribution types through the Administer CiviCRM tools. When a user or administrator enters a membership record that includes payment of dues or a fee, CiviCRM will log a corresponding contribution record and assign the selected contribution type.

Each membership type must have a duration value and period type. The duration value is the *length of time* for which the membership is valid (e.g., an annual membership has a duration of 1 year). The period type determines *when* that duration is measured from. A *rolling* membership is measured from the date it is entered in the system, whereas a *fixed* membership begins on a defined date. For fixed period memberships you must also identify the rollover date: the point after which new memberships are entered as belonging to the next dues period.

Membership can be inherited from one contact to another, which is useful in situations such as one finds in professional trade organisations, where they sign up another organisation as the member, but employees of the organisation receive the benefits of membership. Use the relationships dropdown menu to specify which related records should receive membership through the parent record.

You can use the visibility option to make sure certain membership types are handled by an administrator manually (e.g., honorary and lifetime memberships). When you restrict their visibility, they do not appear on membership signup or renewal pages on your website.

At the bottom of the membership types page lies a block of information for managing renewal reminders. CiviCRM can be configured to send out a reminder email to members as the expiration date for their membership nears. This is particularly helpful for rolling membership types, where contacts may join at any time during the year. To configure the renewal reminder you must first have set up a renewal email template through Administer > CiviMail > Message Templates.

MEMBERSHIP STATUS RULES

Membership status rules control the journey that contacts take through the membership process. Each step is marked with a different membership status.

The path taken by a member, along the lines of the default membership status rules, is as follows:

- **Pending**. Someone who has asked for membership but has not paid, or is awaiting approval.
- **New**. Payment has arrived, or the membership has been approved.
- **Current**. New members move to this status after a certain period of time.
- **Grace**. When the end of the membership period is reached, someone who has not renewed membership enters this status for a period of time.
- **Expired**. When the grace period expires, the member moves to this status and no longer receives membership discounts or mailings.

All membership status rules can be configured in Administer > CiviMember > Membership Status Rules.

Status types are measured from the start or end date of the membership record. The "current membership" checkbox determines whether a certain status is considered "current" when viewing the CiviMember summary statistics for memberships.

When configuring the membership status rules, be sure to take note of the order in which they are listed. CiviCRM will process the rules beginning with the first and assign a status as soon as one matches.

Setting up cron to automatically update membership statuses

CiviCRM checks the status rules for a membership record and updates it accordingly when you create or edit the record. In order to take full advantage of the membership status rules, and to automatically send membership renewal emails, you must configure your server to regularly update the status of your members. This is done using the Unix cron utility. For more details, visit the online wiki documentation:
http://wiki.civicrm.org/confluence/display/CRMDOC/Membership+Types.

SIGNUP/RENEWAL PAGES

Membership signup and renewal pages allow website visitors and existing contacts to manage their own memberships. Membership signup and renewal pages can be connected with a financial contribution, which means you can use CiviCRM to process membership dues, fees, and special contributions.

CiviCRM thinks of membership sign up pages as a type of Contribution page (even if there is no associated contribution). So to create a sign up page, you need to create a Contribution page:

1. Select Manage Contribution Pages from the navigation menu's Contribution link.
2. To create a new page, click the Add Contribution Page button.
3. Follow the screens displayed by the setup wizard that starts up. The following discussion focuses on options in the contribution page setup wizard which are most likely to be used for a typical membership signup/renewal page.

1. Title and Settings

This page appears as shown in the following screenshot. The option must relevant to memberships is the "Allow individuals to contribute and / or signup for membership on behalf of an organization" checkbox.

People (not organizations) visit websites, so CiviCRM assumes by default that any interaction is done through an individual's contact record. This becomes a problem if your membership categories are organization-based. To address this, CiviCRM allows you to select this option and permit an individual to act on behalf of the organization she represents. The membership record will then be attached to the organization's record, not the individual's. After checking this box, you can add descriptive text and select whether signing up on behalf of an organization is optional or required.

2. Contribution Amounts

The second step of the wizard allows you to configure details related to the financial transactions performed through the Contribution page. If you have configured a credit card transaction payment processor in CiviCRM, you will be able to set up real-time transactions here.

If you are building a contribution page for membership signup and renewal only, uncheck the "Contribution Amounts section enabled" checkbox. This hides the section which allows you to solicit extra financial contributions over and above the membership fee.

In addition to executing real-time transactions, you can allow constituents to make make offline payments through the "Pay later" option. The "Pay later" feature leaves the responsibility on the member to pay by check or cash at a later date.

3. Memberships

The next step in the contribution page setup wizard is specifically related to memberships. Check the Membership Section Enabled checkbox to show two sets of title and introductory message fields, one for new memberships (signups) and the other for membership renewals.

CiviCRM will display the title and introductory message for new memberships if the website visitor is not logged in. If the user is logged in and has an existing membership record, CiviCRM will display the title and introductory message for renewals. Joining the organization creates a new membership record, while renewing membership updates the member's existing record and extends the membership end date.

Administrators should be aware of potential confusion and duplicate records if an existing member uses a membership join page without having first logged in. CiviCRM will make an attempt to match the user with an existing contact record, but any variations in the name or email address could cause a new contact record with corresponding membership record to be created.

You may want to provide guidance in the introductory text on your membership join page to encourage members to log in before completing the form. By logging in first, existing members can ensure that the transaction properly interacts with their contact and membership records.

Some addition options appear at the bottom of this page:

- You can select which membership types are available in this signup/renewal page.
- If you are using this online contribution page for both membership signup and general fundraising, you can make membership signup optional for constituents who just want to donate without becoming a member.
- If you enabled the option in step 2 to solicit additional contributions, you can decide whether such payments are recorded separately from membership fee payments.
- You can decide whether to display membership fees on the signup/renewal page.

4. Thank-you and Receipting

After the site visitor completes the membership signup or renewal form, he will be redirected to a thank-you page and can have an email receipt generated and sent to him. This fourth step in the wizard allows you to configure those options.

5. Tell-A-Friend

Organizational growth and development is increasingly built through viral social networking mechanisms. CiviCRM allows you to add a tell-a-friend feature to the thank-you page. The page lets your members share details about your organization with their friends by emailing them a link and information.

6. Include Profiles

Profiles are central to CiviCRM's interfaces with website visitors. A profile is a collection of data fields that CiviCRM displays to obtain information from visitors or display data to them. If you are not familiar with the creation and function of profile sets you should read more about it in the Profiles chapter of the Configuration section in this book.

Profiles are critical to the functioning of membership signup and renewal pages. By default, contribution pages will include only an email field (which the member is required to fill in), in addition to the membership and contribution amount fields. Organizations almost always want to collect additional contact information as part of the membership signup process. Profiles provide these extra fields. On this step of the contribution page wizard, you may select one ore more existing profiles for inclusion on the form.

if you haven't yet defined a profile with the fields whose information you want to collect, simply procede to the next step of the wizard. Save your work on the Contribution page, define the Profile you want, and come back to the Contribution page to assign the profile.

7. Premiums

Premiums are thank you gifts and incentives offered to organization contributors. They are most commonly associated with tiered donation levels, though they could be created for use with memberships. Before including premiums on a contribution page, you must configure them through Administer > Contributions > Premiums (Thank-you Gifts). Step 7 (Premiums) of the contribution page wizard controls the introductory text, contact information, and other premium-related details.

8-9. Campaign Widgets and Personal Campaign Pages

Contribution Widget (Step 8) is used for displaying fundraising goals, while Personal Campaign Pages (Step 9) is geared toward obtaining help from visitors toward fundraising efforts. These steps are usually not used for membership pages.

Publishing your membership signup/renewal page

After completing the contribution page wizard, return to the listing of Contribution pages, where you will find the page you've just created. You can now view the page, test the functionality, or return to the configuration options and make adjustments.

At this point you've completed the Contribution page but have not made it visible or available to website visitors. Depending on the environment in which CiviCRM is operating, this will be accomplished in different ways.

- **Drupal:** From the Configure Contribution Page screen, select Live Page to view the finished page. You can then copy the URL and include it in a content page or assign it to a menu item.

- **Joomla!:** The most direct way to expose your membership signup/renewal page to the front of your website is by creating a menu item. Navigate to a menu and create a new CiviCRM item. From the list of menu options, choose Contributions. In the basic parameters section, select the contribution page you would like exposed from the dropdown menu. Save the menu item and view the website to confirm the page's functionality.

32. EVERYDAY TASKS

This chapter describes some of the CiviMember tools of use to administrators. It will show how to expose membership signup/renewal pages and membership directories to your members and other website visitors.

ADMINISTERING MEMBERSHIPS

Organization administrators will primarily work with membership records by viewing contacts. After finding the contact you wish to manage, click the Membership tab to view a summary of the contact's membership records (illustrated in the following screenshot).

Membership records appear in a list with active memberships (those with a current status) first and expired or cancelled memberships below.

From this interface, you can edit existing membership records, renew a membership, or create a new membership record. If you have configured an online credit card payment processor for use in CiviCRM, you will see two options for creating or renewing a membership: one for handling an offline record (no real-time transaction taking place), and one for handling an online record (using a real-time credit card transaction). The interface for each process is very similar, except that the credit card option includes payment processing and recording options .

After creating a new membership, you are taken to a form where you complete details regarding the record.

Many of the fields on this page will be auto-completed if left blank. Fields include:

- **Source**: The system will complete details regarding the record, including whether it was an offline or online transaction and who completed the record.
- **Join Date**: The date the record was created will be auto-filled.
- **Start Date**: If the membership type is a rolling membership, the current date will be auto-filled. If the membership type is a fixed period, CiviCRM will determine the appropriate start date based on the membership type configuration.
- **End Date**: This is automatically calculated from the start date and filled in based on the membership type configuration settings.

You can use the Status Override field to manually define a status for the record. As indicated by the title, it overrides the status automatically provided. You should use caution with this field as setting it will disable the automated status function for the record.

RECORDING MEMBERSHIP PAYMENTS

The Record Membership Payment checkbox expands the membership payment and receipt block and lets you record payments associated with the membership record. This feature touches an important concept central to CiviCRM's membership function: membership records in CiviCRM are independent of, but can be related to, a financial transaction. While this may seem confusing to organizations accustomed to viewing membership records as essentially a financial transaction, it offers an important and valuable distinction.

A membership record communicates the contact's *relationship* with the organisation. A corresponding financial transaction indicates the monetary value associated with that relationship. While related, the two are distinct. The distinction is best understood by considering two scenarios:

- **Free memberships:** Obviously if a certain membership category charges no fee, there will be no financial transaction associated with the membership. But in a traditional understanding (in which membership equals a financial transaction) this scenario "breaks" the model.
- **Membership renewal:** If a member renews her membership, she is essentially extending her existing membership record by another term, defined as the membership period. Therefore, she is not creating a new membership. By retaining a distinction between the membership record and financial transaction you can maintain a single membership record whose end date is extended, while creating multiple related financial transactions representing each renewal purchase.

CiviCRM respects this distinction by recording the Membership record under the Membership tab, recording the financial record under the Contributions tab, and then creating a link between the two records.
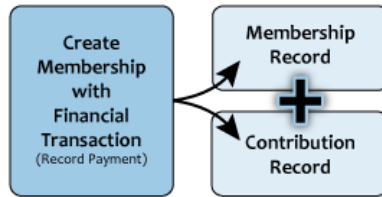
By clicking the Record Membership Payment checkbox and completing the transaction fields displayed, you are building these two associated records. After recording the membership, you will be able to view the membership record and see the related contribution record at the bottom.

RENEWING MEMBERSHIPS

Naturally, you expect your constituents not only to join your organization, but to maintain their membership on an ongoing basis through renewals. CiviCRM facilitates the renewal process.

Returning to the contact's membership tab, you will see the option to renew an existing membership record. The renewal process does two things:

- It extends the membership record by altering the end date to reflect a new membership period. For example, if your organisation's membership is handled on an annual basis from January through December, an existing end date of December 31, 2010 would be extended to December 31, 2011. CiviCRM calculates the end date extension based on the configuration for the specific membership type being renewed.
- If applicable, CiviCRM allows you to record a financial transaction (contribution) as part of the renewal process. As discussed earlier, this will insert a contribution record and attach it to the membership record.

Members' "join date" is not modified when a membership is renewed, so you always know when the contact first became a member. You cannot change a member's membership type when renewing their membership. If your constituent is moving from one membership type to another, you need to create a new membership record, distinct from the existing one. In this way you develop a membership history for the member.

THE MEMBERSHIP DASHBOARD

CiviCRM provides several tools to help you obtain a quick snapshot of your members and search through them based on various criteria. From the main sidebar menu, select CiviMember to view the membership dashboard page. This page contains two blocks of information that display a summary or your members, categorised by type and date range, and a list of recent member activity.

All of the summary numbers are hot-linked. Simply click on one to drill down and view a list of members who have joined or renewed over the last two months or the year-to-date, or who are considered current according to the membership status definitions.

SEARCHING FOR MEMBERS

The Find Members page displays a series of searchable fields to help you segment and locate membership records. It is important to note that searching with this tool will display a list of *membership records*. So if a certain contact has multiple membership records meeting your search criteria, multiple records will be displayed for that contact. This contrasts with the advanced contact search tool, which displays one row per contact (i.e., there would be no duplicate listed, even if a contact had two membership records meeting the search criteria).

Toward the bottom half of the form are a series of date range fields. The left column indicates the From value and the right column the To value so you can narrow down searches to activities that take place between two particular dates. If you are interested in membership records before a certain date, use only the To field. Conversely, if you are interested in membership records after a certain date, select only the From field.

The top of the search result set includes a shaded block with tools letting you take action on all records in the result set, or on those selected using the checkboxes in the leftmost column.

BATCH UPDATES TO MEMBERS

Use this option to edit multiple records in a table grid using a pre-defined profile. If you are not familiar with how Profiles work, you will want to investigate how they are created before using this function. As you use this tool, note the following:

- You must have a Profile created before using this option. To find out more about Profiles, please read the Profiles chapter in the Configuration section of this book.
- Your selection of contacts must be of a single contact type. You cannot edit Individual and Organization type contacts simultaneously.
- You may edit only a maximum of 100 records at a time. If your search result set exceeds 100, use the record selection checkboxes to edit a single page of records at a time.

DELETING MEMBERS

This action deletes all the selected membership records from the database. The contacts are not deleted, only their membership records. This action cannot be undone.

EXPORTING MEMBERS

After selecting this action, you have the option of exporting a default set of primary fields or choosing which fields to export. When selecting which fields to export, you may save the mapping for future use. The data is exported in CSV format, which can be easily modified further in spreadsheet software or used for document mail merges.

SENDING EMAIL TO MEMBERS

After searching your records, you may send an email to selected contacts and include data field tokens. Tokens are placeholders that are filled with the contact's data when the email is sent. This can save a lot of effort and possible errors, because you are able to send a bulk email to contacts while customizing it to each contact (e.g., beginning the email with a personalized salutation containing the contact's name).

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33. WHAT IS CIVIMAIL

This chapter introduces the ways CiviCRM can help you maintain relationships with contacts through email, using either CiviMail or other features. There are two main ways to send email in CiviCRM:

- The "send mail to contacts" action
- CiviMail (CiviCRM's 'mass mailer')

There are advantages and disadvantages to either method. The first is quicker and easier. The second is more sophisticated and offers better options for reporting.

Whichever option you use, integrating email to contacts with CiviCRM offers several benefits:

- CiviCRM lets you share a single address book across all the staff in your organisation, which is less work to maintain than leaving the responsibility up to individual staff, and increases the chance of having the correct email for each of your contacts.
- Every email sent is stored in the activity history of each of the recipients. So you can see, for instance, that John Doe made a donation three days after he received your April newsletter. Both outgoing and incoming email messages are recorded.
- Everyone at your organisation can see what email was sent and received, even if the staff person who sent or received it has left the organisation.
- You can use templates to ensure that your organisation's visual identity and branding are consistently applied to all your email communications.
- You can use "canned emails" for your most common emails (welcome emails, invitations to events, directions to your office, membership information, call for actions, etc).
- You can send personalised mass emails using tokens. Personalised emails have been found to get better response rates.

Advantages specific to CiviMail include:

- Bounced emails are handled automatically.
- Recipients can manage their own subscriptions to email.
- Statistics are available on who is reading your emails and what links they are clicking on.

CiviMail can be configured to automatically track replies by creating an *autofile* mailbox. Email sent to this mailbox is automatically converted into an activity and added to the right contact.

CiviCRM's mail features, including CiviMail, interact with your mail server software. Configuring the mail server and CiviMail are system administrator tasks, which may also require professional assistance. You will also need to verify with your web hosting provider whether they meet the configuration requirements, and verify that they don't put limits you might exceed on the number of emails you can send per day.

34. PLANNING

This chapter explains some key ideas that are useful for planning the use of CiviCRM's email capabilities. The chapter should be read by system administrators before they start configuring CiviCRM for sending email, and by regular users before they start sending emails to contacts.

You have three options for sending email:

- Your regular mail client (simplest option)
- CiviCRM's "send mail to contacts" functionality
- CiviMail (most powerful option)

Simple or insignificant emails that don't need to be viewed by others in your organisation shouldn't be sent through CiviCRM. Emails that you want to share with other members of your team should be sent through CiviCRM. If you are also interested in capturing statistics about the success of your email, including bounce statistics and click-throughs, use CiviMail.

CiviMail requires more work initially to configure and there are more steps involved in sending each email.

Working out which method to use for each email might not be immediately apparent. Over time, the best practices for using the right tool for each situation will become more obvious and can be shared among your users.

PERSONALISATION OF EMAILS

You can email from a personal address, from a more general email address associated with your organisation, or from another person's address. For instance, an assistant can send official email messages under the name of his manager.

You can use tokens to insert personalised text, such as a persons name, into a mailing sent with CiviCRM. Tokens are placeholders that CiviCRM recognizes and replaces with an appropriate value when sending each message.

Display name and email greeting tokens are very useful. With a bit of customisation, you can also add more sophisticated information, such as details about the recipient's most recent donation or when her membership expires.

You can also provide a link to the person's contact dashboard so that they can review their registration details for themselves after logging in. Or you can use the checksum token to direct them to this page without logging in.

TEMPLATES

An email template allows you to create a generic structure that can be reused when sending emails.

You might want to have specific headers and footers for mass mailings (newsletter, internal bulletin, Press Release), and a few templates for regular emails.

Part of the planning involves to talk to those using CiviCRM for email to see what they need to send on a regular basis. Use this information to create a template for them.

LIES, DAMN LIES, AND REPORTING

CiviMail can track links that have been clicked, providing useful information to help you understand the areas your recipients are interested in.

You can also track how many of your recipients opened the email and which links in the email were popular.

A word of warning about email opening statistics. The vast majority of the mail clients protect (by default) the privacy of the recipient. That's why, when you receive an email containing external data (such as images that are online), you get a warning message saying something such as "Images are not displayed". If a recipient doesn't override the privacy features, she won't be counted among the contacts that read the email.

Therefore, it's likely you will have more readers than the number reported by CiviCRM.

In our experience, having around a 30% reported opening rate can be considered good. This is obviously different for each organisation and each group you send emails to.

Don't focus too much on the absolute numbers, but rather use them as a way of comparing different mailings you send. You might want to use them to experiment with different layouts, writing styles, and lengths and see what works best for your constituents.

You might also want to consider the privacy issues (and we encourage you to do so). There are good reasons to turn off CiviCRM's tracking of recipients in order to honor your constituents' privacy. For instance, you may wish to avoid tracking who has clicked on the "how to deal with drug issues" link on a specific mailing.

AUTOFILING OUTBOUND EMAIL

CiviCRM lets you keep a history of email sent via your email client as follows. Use the BCC field (which no one who receives the email will see) to enter an email address that will be read by the database and converted into an activity. This activity gets filed in the record of the contact that matches the email address. If that email address does not exist in your database a new contact record will be created.

35. SYSTEM CONFIGURATION

This chapter covers CiviMail system configuration. This is a complex task which requires system administrator level skills. Correct configuration is crucial to keep your server off spam lists and black lists.

You will need to be able to change the configuration of your DNS, create email accounts, configure a cron job, read the headers of email messages, and possibly change the configuration of your SMTP server.

In this chapter, we assume you are running CiviCRM on a Linux server and that you are comfortable working with the shell and running some simple commands. Most of these steps will be similar on other operating systems, but you will need to adapt them to your system and tools.

The configuration described works fine for mailings to up to about 10,000 people. If you plan on sending email to hundreds of thousands of contacts, you should benchmark several options and consider a dedicated SMTP server. This more complex configuration is outside the scope of this book.

In this chapter we'll use an external Gmail mailbox address to test configuration. So the first step is to create a Gmail account if you don't have one already; alternatively, you can use another address for testing the procedures in this chapter, but you will need to be able to view the source of the mails you receive.

Once your system is properly configured, you are going to run periodically (for instance every 10 minutes) two different programs:

- *EmailProcessor.php* to check if you have received new bounces, and flag the invalid contacts

- *civimail.cronjob.php* to send all the emails that might be queued for sending.

CONFIGURING OUTBOUND EMAIL

Outbound email setting are configured at: Administer > Configure > Global settings > Outbound Email. The choices here are:

- mail(). This is the default option and if it works for you, you should use it.
- SMTP. If you have a dedicated external mail server, specify its details here. Bounce messages generated with SMTP are slightly more complete than the ones from mail(), but there is no practical benefit to using SMTP if you can use mail().
- Sendmail. This option is kept for compatibility with older CiviCRM versions.
- Disable Outbound Email. Works as expected.

After making a choice, send a test email to your account on Gmail and verify that you receive it.

If you receive the following error message, you'll need to configure a default FROM email address (covered in the chapter on CiviMail configuration).

```
Sorry. A non-recoverable error has occurred.
The site administrator needs to enter a valid 'FROM Email Address' in Administer ->
 Configure -> Domain Information. The email address used may need to be a valid
 mail account with your email service provider.
```

Once you have received the email, you will need to view the source. This is done in Gmail by clicking on "Show original" in the email you receive.

The email should contain headers that resemble the following.

```
Received: from yourmailserver.example.org (xxx.example.org [12.45.120.30])
        by mx.google.com with ESMTP id e31si4519230wej.3.2010.04.26.00.38.16;
```

```
        Mon, 26 Apr 2010 00:38:17 -0700 (PDT)
Received-SPF: pass (google.com: best guess record for domain of
    youremail@example.org designates 12.45.120.30
    as permitted sender) client-ip=12.45.120.30
```

In particular:

• The "Received: from" header should correspond to your mail server and be properly configured. It might contain information about your hosting provider instead of your domain name. This is not a problem as long as the mail server is properly configured. If you have a dedicated IP address for your server, you should try to configure a reverse DNS that represents your organisation instead of the default name.
• The "Received-SPF" header should list "pass" or "neutral". Sender Policy Framework is described later in more detail.

Sending mass mailing is resource intensive. We don't recommend sending email messages from budget hosting providers. The time you will spend troubleshooting will often cost more than upgrading to a more professional host. Check with your hosting provider to find out whether they limit the number of email messages you can send and whether they run PHP in safe mode.

Some of your recipients' mail servers use DNS based blacklisting services (DNSBL) which keep a blacklist of IP addresses likley to send spam. Mail from these servers will be flagged as spam and not reach its intended destination. If your server is blacklisted (for instance, because enough of your recipients flagged your email as spam, or because another website on your server has been flagged as spam), you will need to contact the organisations that have blacklisted you and convince them to unlist you.

They are several websites that help you testing whether you are in a DNSBL. A web search for "blacklisting email" will turn some up. Test regularly to find whether you are on a blacklist.

CONFIGURING SENDER POLICY FRAMEWORK (SPF)

By default, the Internet allows any mail server to send any email claiming to be from anyone. This makes it easy for spammers to forge addresses and send spam using your email address (or any other). SPF allows you to create a special DNS record listing the IP addresses of the mail servers that can legitimately send email from @*yourdomain.org*.

If your domain name already has an SPF record, make sure that it includes the IP address of your CiviCRM mail server (which might be a different from the host used for the web server or from your mail servers), and if it doesn't, add this IP address.

If you don't have an SPF record, consider adding one. You will need to add at least your mail server and CiviCRM server (if they are different) to the SPF record.

You can read more about SPF at http://www.openspf.org.

CONFIGURING THE RETURN CHANNEL TO MANAGE BOUNCES

You will have contacts that have invalid emails, and CiviCRM can automatically receive the bounced email notifications and flag your contacts accordingly. Based on the type of errors (mail server is unreachable, mailbox full, mailbox doesn't exist, dns error...), CiviCRM will either directly set the contact as on hold or wait until several mailings are bounced with the same error for the same contact.

You need to set up two things: a mailbox to receive bounced email messages, and a cronjob that will read periodically this mailbox, and update your contacts and your mailing reports in civicrm.

The bounce email address is an "invisible" email address visible only in the email message's envelope (hidden fields that precede the headers and message added by the user). Choose any name you like that is meaningful to you. In this example we have chosen *return*, so the email address we need to set up on a mail server for example.org is *return@example.org*.

Verify that your account is properly set up by sending a test email from Gmail to the return account.

CiviCRM handles bounces as follow: for each email sent, a new unique "invisible" sender address is created using the variable envelope return path (VERP). When CiviCRM receives a bounce, it looks at the invisible sender address to decide which email bounced. Contacts will be marked as on hold when their email bounces. Further messages to those addresses won't be sent.

Setting up an email account to receive bounces

There are several ways of configuring your bounce mailbox:

- **Sub-addressing**: Your mail service might allow you to append a *+tag* or *-tag* qualifier to your e-mail address (e.g., *return+test@example.org*). Several mail servers, including Gmail, Yahoo! and Postfix provide this sub-addressing by default.

  Try to send yourself an email, adding a *+tag* or *-tag*. If you received received the mail you sent with a tag, it means that you can directly use the mailbox you created *(return@example.org* in our example*)* as the VERP.

- **Catch-all address**: If sub-addressing doesn't work on your mail server, you need to define the mail account you created (*return@example.org*) as the "catch-all" account. Every mail sent to an address that isn't a real mail account will end up there, including all the bounced email messages.

- **External address**: If neither of the preceding methods works, consider creating a new account on a service such as Gmail and use it to receive the bounced emails. You will have to set filters in this account so it doesn't discard as spam all the bounced email it will receive.

Adding the account on CiviMail

Once you have created your email account to receive the bounces, you need to set up CiviMail so it knows how to read it: Administer > CiviMail > Mail accounts as the default email address.

- Specify the mail server, username, and password you used when creating the account.
- If your mail server supports it, specify IMAP and SLL, otherwise POP.
- You can leave the return path empty.
- The email domain is the one for your email address (example.org).
- The local part is the account you created with '+' appended , e.g., "return+".
- Check the default checkbox. (If not, in Civicrm 3.2.5, Clvimail will ignore this information, construct a Return-Path lacking a domain, generating a 501 error: "recipient is not recognized" from SMTP.

Once this mailbox is configured, you will need to configure CiviMail to empty it, read all these bounced messages and identify the related bounced contacts. This is performed by the *bin/EmailProcessor.php* program. We recommend testing the bounce process by running this program directly before setting up CiviCRM to process the bounced email messages automatically. For instance, try entering the following URL into a browser to test the program, substituting the details for your invisible email account:

http://example.org/sites/all/modules/civicrm/bin/EmailProcessor.php?name=*username*&pass= *password*&key=*your_site_install_key*

Read the chapter on cron for the details of these parameters.

If CiviCRM can't properly connect to the mailbox, it displays an error message:

```
ezcMailTransportException: An error occured while sending or receiving mail.
```

followed by some extra information about the precise problem, such as:

- Failed to connect to the server

- The POP3 server did not accept the password: -ERR [AUTH] Username and password not accepted
- The IMAP server did not accept the password: -ERR [AUTH] Username and password not accepted

Once you have verified that CiviCRM can properly handle the bounce, you can set it up to automatically process the replies and bounces on a regular basis.

The different options to set up this periodical task are described on the Scheduling the job section below.

SENDING MASS MAILINGS

Mass mailings are generated via the web interface and queued to be sent by a background cron job, a process that periodically checks whether there are any mailings waiting to be processed. The program that cron runs is *bin/civimail.cronjob.php*. This section explains how to schedule it to run on a regular basis

If you need to send some email from CiviCRM right away, without waiting for the cron job, you can trigger the sending process by visiting the http://example.org/civicrm/mailing/queue&reset=1 URL. Use this capability sparingly. It could utilize a lot of server resources and cause CiviCRM to slow down noticeably. The administrative settings for sending email are usually configured to minimize the load on the server, and the cron job is a more efficient way to send mass email.

Scheduling the job

To handle both outgoing email and bounced email, you should run a process several times an hour. On Linux and other Unix or Unix-like systems, this is done by configuring a cron job.

The cron job needs to run using an account recognized by your Drupal or Joomla! server. Create an account dedicated to this task (e.g.,
mailprocess), give it a long, secure password (e.g.,*seol-lzprm42amv-psyc*) and grant it access on CiviCRM and CiviMail. Do not change the account password without changing the password in the configuration files of this cron job.

To set up your cron job, you need to understand how cron works specifically on your CiviCRM server. But as example of setting up cron, you can log in as your dedicated cron user and type the following in the shell:

```
 crontab -e
```

and then enter the following line:

```
*/5 * * * * php absolute_path_to_civimail.cronjob.php
```

Press CTRL-D to save the job and exit crontab. This example runs the PHP file every five minutes.

The *civimail.cronjob.php* program has two modes: one for running the file directly from the shell and one for loading the program from the web server. Use the direct shell method whenever you can. But if for technical reasons (not enough access rights, non-working php-cli, etc.) you can't run the programs from the shell, use the web server method.

From the shell

First, find out whether php-cli is installed. From the shell, type *php -v*. If you see **(cli)** in the result, as in:

```
PHP 5.2.3-1ubuntu6.5 (cli) (built: Feb 11 2009 19:55:53)
Copyright (c) 1997-2007 The PHP Group
Zend Engine v2.2.0, Copyright (c) 1998-2007 Zend Technologies
    with eAccelerator v0.9.5.3, Copyright (c) 2004-2006 eAccelerator, by eAccelerator
```

This means you have php-cli installed and you should use it, because it has several advantages:

- You can run a PHP script at a lower priority than your web server, so that even if it takes a lot of CPU, it won't interfere with the regular users of your site.
- You can set different memory limits for the php-cli process and the PHP process used by your web server.
- You avoid the overhead of the web server and the HTTP layer.
- You won't have any timeout problems.

The following is complete cron configuration to handle CiviCRM's mail requirements:

```
# This must be set to the directory where civicrm is installed.
CIVI_ROOT=/var/www/civicrm
USER=www-data
MAILTO="you@example.org"
# Location of the PHP Command Line Interface binary. nice -19 forces to run at a
lower priority than the web server
PHP=nice -n19 /usr/bin/php

#line to be modified according to the informations below
PARAMS= -sdefault -umailprocess -pseol-lzprm42amv-psyc
#cronjob send
# m h  dom mon dow    command
*/5 * * * * cd $CIVI_ROOT;$PHP  bin/civimail.cronjob.php $PARAMS
*/15 * * * * cd $CIVI_ROOT;$PHP bin/EmailProcessor.php $PARAMS
```

The user that run the scripts (*www-data* in this example) needs to be able to write into the temporary folder. Your configuration might specify a different user.

You don't have to run both scripts at the same frequency. The preceding crontab file verifies every 5 minutes whether mail messages need to be sent, but only every 15 minutes whether bounced email needs to be processed.

PARAMS contains:

1. The site you used, which is -**sdefault** on Drupal. If you run multiple CiviCRM sites on a single server, you need to specify your site's domain, such as -**sexample.org**.
2. The user login account (-**umailprocess**).
3. The password you defined (-**pseol**-**lzprm42amv**-**psyc**).

From the web server

You can access the two processes from pages on your web server using commands such as:

```
wget -O - -q -t 1  --post-data='name=mailprocess&pass=seol-lzprm42amv-
  psyc&key=yoursiteinstallkey' http://www.example.org/sites/all/modules/civicrm
  /bin/civimail.cronjob.php

wget -O - -q -t 1  --post-data='name=mailprocess&pass=seol-lzprm42amv-
  psyc&key=yoursiteinstallkey' http://www.example.org/sites/all/modules/civicrm
  /bin/EmailProcessor.php
```

This works like visiting the web pages in your brower, but can be run automatically as shell commands.

For security reasons, you need to add an extra **key** parameter, defined in your civicrm.settings.php file. Read the chapter on the REST interface for more information about this parameter.

36. CONFIGURING EMAIL IN CIVICRM

The preceding chapter set up your mail server to support CiviCRM's mail functions. This chapter covers configuration of CiviCRM itself. The configuration steps in this chapter are essential if you want to delegate the creation and sending of mailings to someone in your organization using CiviCRM.

CONFIGURING THE DOMAIN INFORMATION

Your domain information is basic information about your organization: its name, a short description, your email address and your physical postal address. CiviMail requires that you include the sender's physical address along with unsubscribe/optout links in any email you send, in order to comply with privacy laws in many countries. This information is made available via tokens and must be included in any mail sent with CiviMail.

To configure the domain information, go to: Administer > Configure > Domain Information.

CONFIGURE GROUPS

CiviMail uses Groups to manage subscriptions to mailing lists. To create a group, go to: Contacts > New Group. When you create and configure a Group for this purpose, make sure to check Mailing List so that it is available as a Mailing List in CiviMail.

You can also create Smart Groups using the search forms. For example, using the Advanced Search you can create a Smart Group of contacts who have active memberships, or a Smart Group of contacts in a given city. You can then use the Smart Group to send mailings without having to first update the contacts in that group.

To create a Smart Group:

1. Go to any of the search forms and run a search query based on the criteria for your group.
2. On the search results page, click the radio button that selects all the records.
3. Click on " - more actions - ", select New Smart Group and then click Go.
4. The next screen provides a review of the criteria chosen for the Smart Group. Give the Smart Group a name and (optionally) a description, and make the Smart Group a Mailing List.
5. Click Save Smart Group.

CONFIGURE MAILING LIST SUBSCRIPTION PAGES

CiviCRM provides a page that allows users to sign up for email directly from your website. This page is available at www.*yourdomain.org*/civicrm/mailing/subscribe.

This page contains all the groups that have publicly viewable mailing lists and allows visitors to subscribe directly to these groups. After people fill in this form, they will be sent an email asking them to confirm their subscription and their details will appear in CiviCRM with their group subscription set to Pending. When they click the confirmation link in the email, their group subscription will be set to Added.

Another way to add contacts to a group is to create a profile, make this profile public and set the profile so that when it is completed, the contact is added to a group. The advantage of using a profile is that you can collect extra fields. The disadvantage is that there is no email verification.

When you use a profile to enable email subscriptions, decide what information you want to ask contacts on the registration form. Avoid asking for information just because you might need it laterr. Focus on what is immediately useful and strive to keep the form as short as possible. It is probably wise to add a Recaptcha to avoid getting a lot of spam contact.

CREATING TEMPLATES

Message templates can be used for an email message's subject and body. Messages templates can be used for routine mailings such as canned responses, daily tasks, and reminder messages, or just to create a standard format for the body of messages.

Manage message templates from Administer > CiviMail > Message Templates.

1. Click on New Message Template.
2. Enter a Message Title and a Message Subject. You can choose to use tokens to personalize your subject line.
3. Scroll down to the HTML Message section and create your template. There are online resources that offer instructions on creating an HTML Email Template. One suggestion is to find and copy an Email Template from a website that offers samples.
4. One of the toolbar buttons at the top of this section lets you view the source code of your template. When you click on it, the template changes the view to show the HTML code that is being used. If you want to use HTML from a template you found externally, you need to switch to this view in order to paste in HTML code from the template. Make structural changes in your template in this mode as well.

Tips for creating templates

HTML email is not regular HTML. It has significant restrictions, including the need to use tables and inline CSS and not to include a background image. Here are some tips for creating a template that will look good in all mail clients:

- **Table border**: The HTML <table> element includes an optional border attribute. Since the default value is 0, it doesn't appear unless you choose to use it. Adding it (or editing it if it is available) and setting it to 1 (e.g., <table border="1">) allows you to see the edges of your table and helps identify potential places to fix problems. Please note that HTML email templates usually have multiple tables and nested tables (tables inside tables). Make changes one at a time and switch to the HTML view to see the results. A table usually has more than one parameter, so make sure to place spaces between parameters.
- **Table cellpadding and cellspacing**: these table parameters are very useful when trying to improve the readability of your email. Play with these settings in different tables and see what works for you.
- **Width**: Do not send an email that is wider than 600 pixels, to ensure maximum compatibility across email clients. Make sure your outermost table does not exceed 600 pixels. Do the same for any other tables inside your main table. Also make sure that the total width of each image does not exceed 600 pixels. Images have a width parameter, but they can also have a horizontal padding parameter that, if set, can increase the width of the image.
- **Images**: these need to be online and accessible in order for you to use them. First edit your image so that its width and height is appropriate for your email template. Next save it so that its file size is as small as possible. If you do not have image editing software, or do not know how to use it, there are free online resources that can help you resize your image.

CREATING HEADERS AND FOOTERS

The mail header is the area at the top of the email, which should include elements that you want to be always displayed before the main content body, such as the logo of your organization and the title of the newsletter.

The default footer, which is always the last thing in the email, often includes the tokens required by law in some countries (unsubscription links and domain information).

You can manage headers and footers in Administer > CiviMail > "Headers, Footers, and Automated Messages". Style them to present a coherent visual identity across all your messages. Both should be configured for maximum flexibility. For example, one or more headers can be created with different images and titles that can be used for different campaigns or programs.

After headers and footers are configured, staff who prepare a new mailing will be able to select them from available headers and footers. This helps staff create more standardized mailings with elements that help your readers identify the contents of the mailing or find information.

TESTING TEMPLATES

Once your templates are ready, we strongly recommend that you test them in various email clients, such as Mozilla Thunderbird, MS Outlook, Mac Mail and web-based e-mail such as Gmail, Yahoo and Hotmail. You can create a group that includes a test contact for each of those destinations and use it each time you create a new mailing.

Because email clients can display the HTML in emall very differently, we recommended that you keep the HTML as simple as possible and use only inline CSS or tables for formatting. Include as much of the layout as possible in the templates so that each new mailing will not require too much reviewing, the template having already been tested.

USING TOKENS

In many mailings is useful to insert dynamically chosen information that is different for every recipient. This is accomplished by using mail merge tokens in your message. A list of available tokens appears in the top right corner of the message editing area.

You might need to insert information that isn't available as a token, for instance to create a joint family greeting. Creating custom tokens is a task for a developer. To find out more about working with custom tokens, refer to the discussion about custom mail merge tokens in the Hooks chapter of the Extending CiviCRM section of this book and look at the wiki: http://wiki.civicrm.org/confluence/display/CRMDOC/Mail-merge+Tokens+for+Contact+Data.

37. EVERYDAY TASKS

This chapter contains some step-by-step instructions for performing important everyday tasks with email.

SEND AN EMAIL TO ONE PERSON

You can use CiviCRM to send an email to individuals. Using CiviCRM for this purpose is useful if you want other people at your organisation to see the email or if you want to send an email based on a pre-defined template.

1. Find the person you wish to email. There are two common ways to do this:
     - Use the Quick Search box on the top left. Click inside the box and begin typing a part of the person's name or email address. Choose the person from the choices that are presented.
     - Navigate to Search > Find Contact. Enter part of the person's name or email address. Click Search and click on the person's name when it shows up on the search results screen.
2. From the contact summary page, click Actions > New Activity > "Send an email".
3. If you have templates defined, you can choose one to use for this email. Selecting a template populates the text content and HTML content fields with the message content from the particular template you have chosen. You can then edit that content. You can also update the template, either changing the original template or saving it as a new template.
4. Enter a subject line for your email, or modify the subject from the selected template as necessary.
5. If you just wish to send a text version of your email, ignore the HTML section and click on the Text section. Enter your message in the box.
6. Click Send to send your message.

To see the activity that was just recorded of the email sent, click the Activities tab of the contact.

SENDING A QUICK EMAIL TO LESS THAN 50 CONTACTS

In the results from a search, CiviCRM makes "Send an email" available from the actions dropdown menu. This allows you to send an email to more than one contact at a time. Sending an email this way is relatively quick but provides no options for tracking email and doesn't give contacts the option to opt out. It is bad practice to use this method for mass mailings, which is why it is limited to 50 contacts. For mass mailings, use CiviMail.

1. Click Search > Find Contacts > Advanced Search > "Choose your search criteria" and click Search (or use any other search to find the contacts that you wish to email).
2. From the search results screen, choose some or all of the contacts and click Actions > "Send an email".
3. Enter a subject line for your email.
4. If you have templates defined, you can choose one to use for this email. Selecting a template populates the text content and HTML content fields with the message content from the particular template you have chosen. You can then edit that content. You can also update the template, either changing the original template or saving it as a new template.
5. As you write your content, remember that every email will be sent individually. CiviCRM offers the ability to personalize each email using tokens. See "Using tokens in emails" later in this chapter.
6. If you just wish to send a text version of your email, ignore the HTML section and click on the Text section. Enter your message in the box. You can also use tokens in the text version of the message. There is also a token link at the top right of the Text box.
7. Click Send to send your message.
8. You can, if you wish, look at the different contacts' activities to see that each one has an activity recorded for the sending of this email.

To see the activity that was just recorded of the email sent, click the Activities tab of the different contacts.

Because the recipients don't see who else received the email, you might want to mention whom you are sending it to in the text of your mail (for instance: "TO: Members of the board, staff")

SENDING A MASS EMAIL THROUGH CIVIMAIL

Using CiviMail offers many benefits over the "Send an email" action, allowing you to track respondents to your mailing, process bounces and allow people to unsubscribe to your mailings.

There are two ways to select the recipients for your mailing.

- If you are sending mail to an existing group, go to Mailings > New Mailing. From this screen you can choose the groups you want to send the mailing to. You can also choose to exclude contacts who are members of another group or who have received previous mailings.
- Carry out a search (for example, using the advanced search) and then choose "schedule/send a mass mailing" from the actions drop down. You will be redirected to the New Mailing screen (step 1), where you can choose a "base group" for your mailing. You need to choose a base group for your mailing because you need to give people the option of unsubscribing from your mailing.

The process for sending the email then proceeds as follows:

1. Enter a title for this mailing. Select a title that will allow you and others in your organization to clearly identify the purpose of this mailing (e.g. "August 2010 monthly newsletter"). This title is for internal use only and will not be shown to recipients. Then click next.
2. This step of the process offers options for Tracking and Responding. Tracking collects information about what your contacts do with this email. CiviCRM can store whether a contact opens this email (open rates) and/or what links in the email are clicked. Responding offers options concerning what to do when a contact replies to the message you are sending. By default, the reply is sent to the sender, but you might want to redirect the replies to a special address (the same one used to collect the bounce). This is a very specific and advanced usage and you probably don't want to use it unless you have specific tracking requirement in your organisations. Make your selections and click next.
3. Enter the content for your mailing. If you have templates defined, you can choose one to use for this email. Selecting a template populates the text content and HTML content fields with the message content from the particular template you have chosen. You can then edit that content. You can also update the template, either changing the original template or saving it as a new template.
4. As you write your content, remember that every email will be sent individually. CiviCRM offers the ability to personalize each email using tokens. See "Using tokens in emails" later in this chapter.
5. If you just wish to send a text version of your email, ignore the HTML section and click on the Text section. Enter your message in the box. You can also use tokens in the text version of the message. There is also a token link at the top right of the Text box.
6. Choose a Mailing Header and Mailing Footer. Click Next to continue.
7. Test your email by sending it your yourself and viewing it in your email client to make sure it looks as you expect. If you are sending a mail with a complex layout, send it to your test group and verify it from various mail clients. It is preferable to have more than one person receive your test email and give you feedback. Once you are satisfied with your email, click the Preview button for one last look. If you are ready to send the message, click Next.
8. Either send the email immediately or schedule a day and time for it to be sent. By default, CiviMail checks every 15 minutes whether an email is ready to be sent, so there can be a delay of up to 15 minutes after you request the email to be sent.

To see the activity that was just recorded of the email sent, click the Activities tab of the different contacts. As people receive your email, information about open rates and clickthroughs becomes available on the report page. To see these statistics, click on Mailings > Scheduled and Sent Mailings, find your mailing, and click on Report.

USING TOKENS IN EMAILS

You can use tokens to insert personalised text, such as a person's name, into a mailing sent with CiviCRM. Tokens are replaced by the appropriate value at the time the email is sent out.

For instance, if you want each email to address the person after "Dear " you would type the space and then click on the Token link at the top left of the HTML box. The popup that appears enables you to find the appropriate token. Start typing "First name" in the box and choose the token that corresponds. Click Close and you will see that your message now reads "Dear {firstname}". When the email is sent the appropriate first name will be inserted into each message.

To view the list of available contact tokens, click on the Token link. Tokens for the display name and email greeting are particularly useful.

Only contact fields and actions can be inserted in your email as tokens. Related records, such as the name of the event for which the contacts have pending enrollments, cannot be included. However, you could provide a link to the person's contact dashboard so that they can review their registration details for themselves (once logged in). You can also use a checksum token that generates a unique URL for each contact so they can modify their information without having to login.

VIEW A MAILING REPORT

As people receive your email, information about the number who opened the email (open rates) can be available, as well as information about the links they are clicking on.

1. Choose Mailings > Scheduled and Sent Mailings and find the row your mailing is in.
2. Click on Report and examine the results (illustrated in the following screenshot):
   - Intended Recipients: counts how many email messages were sent by this mailing.
   - **Successful Deliveries:** shows how many messages reached their intended recipients
   - **Tracked Opens**: shows how many messagess were verified as opened. Since many email clients do not show images by default, this number is not particularly accurate. The number is more useful to compare mailings.
   - **Click throughs**: tracks how many times a link on any message was clicked. This is useful to gauge what items your recipients were most interested in.
3. You can also see statistics for **Forwards**, **Replies**, **Bounces** and **Unsubscribed Requests**.

Delivery Summary	
Intended Recipients	6988
Succesful Deliveries	6962 (99.63%)
Tracked Opens	2391
Click-throughs	1005
Forwards	0
Replies	0
Bounces	26 (0.37%)
Unsubscribe Requests	9 (0.13%)
Scheduled Date	April 23rd, 2010 7:43 PM
Status	Complete
Start Date	April 23rd, 2010 7:45 PM
End Date	April 23rd, 2010 7:54 PM

MANAGING BOUNCES AND CONTACTS WITH INVALID EMAILS

If your server is set up to process bounces, contacts will be marked as on hold when their email bounces. Further messages to those addresses will be suppressed. You can search for emails that are on hold either from the Bounces report or with an advanced search, and then investigate why the emails are bouncing.

CASE MANAGEMENT
38. What is CiviCase?
39. Planning
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38. WHAT IS CIVICASE?

CiviCase is a way to track and manage a sequence of interactions between people in your organisation and contacts in CiviCRM. In addition to tracking and managing your organisation's interactions with clients or constituents, CiviCase can also manage internal organisational interactions.

CiviCase tracks interactions in two ways: as **cases** and as **activities**.

Activities are single interactions. For example, if a constituent calls to request information and the staff person directs them to a website, it would be recorded as an activity, with a brief description of how the staff person followed-up. CiviCRM will auto-generate some activities in conjunction with other actions, such as logging an email receipt for event registrations.

Cases are used to track more complex interactions or communication processes. Multiple activities can be grouped together into one case, and these activities can be optionally structured in a timeline. A case can be used to track a specific workflow that must be followed, for example: a client fills out an intake form, then has an initial meeting with a staff person, and finally receives a certificate from the organisation for meeting certain goals.

As well as linking activities around a common case, CiviCase identifies the people involved and their role(s) in the case. For example, a website project would be a **case**, with tasks such as design, develop and write content being **activities** within that case, and the people involved would have **roles** as designer, developer, tester, writer, etc.

ACTUAL SCENARIOS

Organisations have employed CiviCase in a wide variety of situations. Here are a few examples of different types of organisations and how they might employ CiviCase.

Managing Legislator-Constituent Interactions

A Legislator's staff may manage hundreds of interactions with constituents and communities daily. CiviCase provides a flexible and predictable way of allowing Legislative staff to manage and track these interactions while avoiding duplication (for example, if a constituent calls in about a topic that a staffer is already working on). CiviCase also automates the task of remembering and scheduling follow up activities by presenting staffers with a list of upcoming case activities that require their attention.

Below are some scenarios in which CiviCase can be used to effectively record interactions between Legislative staff and constituents:

- The Legislator's office receives a phone call from a constituent requesting agency support. A staffer logs the call as a CiviCase activity and then sets up a follow up call in the next week to make sure that action has been taken on the agency's behalf.
- A Legislative staffer records where and when a Legislator staff heard from a constituent about a government service problem.
- The Legislator's staff records event invitations that a Legislator's scheduler must respond to.
- A Legislative staffer receives a phone call about illegal dumping near the caller's home. The staffer creates a case recording the location of the reported issue and assigns the task of following up with the Health Department to another member of the Legislator's staff. When the staff member logs in to CiviCRM they see that a new case activity has been assigned to them. The Staffer then contacts the Health Department on behalf of the constituent and mails the constituent to confirm that the Health Department has been informed of the situation.

Helping clients with emotional health or substance abuse problems

Social services agencies have specific workflows for processing clients through the variety of services that they provide. CiviCase can be used to outline and record the path that clients travel on their way to recovery.

When a client phones a social services agency, they will speak to an intake counsellor. The intake counsellor can set up a case to quickly record and determine what the clients' needs are, who are the people that need to be involved, and then set up a follow up meeting with a social worker.

39. PLANNING

The CiviCase component allows for a high degree of customisation to meet the needs of a wide variety of organisations and workflows. It is important to understand CiviCase's underlying principles and assumptions, as well as the elements that can be customised, before you begin to plan and configure the component based on your requirements.

ASSUMPTIONS

Although CiviCase is quite flexible, there are a number of assumptions about managing cases built-in to the component. These assumptions have been arrived at through an extensive trial and error process and although some of them may seem new or foreign at first, we encourage you to approach them with an open mind.

- Activities are single tasks or interactions between your organisation and a client or constituent, or between people within your organisation.
- Cases involve a sequence of interactions (*activities*). The record of these activities forms the *case story* and almost all information about a case should be stored as an activity.
- Classifying cases by *case type* allows you to define work-flows and evaluate results.
- Cases often have a predictable sequence of activities (a *standard timeline*). Creating a schedule with the expected *timeline* helps people working on the case to manage their work, and is a useful way to measure progress.
- Cases often involve a predictable set of people involved (staff, professionals, etc.). These are *case roles*. Knowing who is playing what role in a case is helpful, and provides an easy way to communicate case activities to other people who are also working on that case.
- Organisations may have additional people and/or outside organisations (*case resources*) who are frequently contacted or involved with most or all cases.

CASE TYPES

The first step in planning your CiviCase configuration is to think about the types of cases your organisation needs to manage. Complex processes which include several activities, span several days or weeks, and involve multiple people are potentially good candidates for case management. Start by listing these processes and defining a case type for each one.

For example, the Physician Health Program provides support for physicians who are experiencing problems related to emotional health issues, the inappropriate use of alcohol and/or drugs or coping with physical illness. Some of the case types they use are:

- Inpatient Treatment
- Referral to Counsellor
- Relapse Prevention.

For a community services organisation, examples of case types might include:

- Housing Assistance
- Job Training
- Prenatal Counseling.

Think about the complex tasks that staff in your organisation do on a regular basis and make a list of potential case types.

CASE ACTIVITIES

Activities track specific interactions and tasks within a case. Activities may be scheduled or ad hoc, and may involve the case client or constituent, or a third party such as a family member or a professional who is assisting with the case. Each organisation needs to determine the level of detail to be recorded, but many organisations find it helpful to include every phone call, meeting or internal discussion in the case story by recording it as an activity.

Activity Types

CiviCRM is preconfigured with a number of predefined *activity types* such as Phone Calls, Meetings, Emails Sent, Interviews and Follow ups. These may be sufficient for your needs. However most organisations will want to track other specific tasks, and activity types can be added for these.

During the life of each case, some activities will be automatically created, such as:

- Open Case: created at the same time the case is created.
- Follow up: you can use this type when it isn't necessary to define a more specific one (see "activity data" below).
- Change Case Type: created every time the type is modified.
- Change Case Status: created every time the status is updated.

For a community services organisation, additional activity types might include:

- Client Intake
- Physician Referral
- Skills Evaluation.

For each of the case types you identified, create a list of the specific activities involved. Creating new types instead of relying only on "Follow up" will make the list of activities easier to read.

Activity Data

A standard set of information can be entered whenever a case activity is recorded in CiviCase:

- who recorded the activity and who reported the activity
- when and where the activity will (or did) occur
- free-form subject and detailed description
- time spent on the activity.

This is sufficient for some types of activities, however it is often useful to collect additional structured data. The "Open Case" (intake) activity is a common example where you may want to include a set of specific questions about the client and their situation.

Create a list of additional requirements (*custom data*) for each activity type, including the type of data being recorded (free text, multiple choice, date, etc.). For more information about custom data please refer to sections on custom data in the the CiviCRM flossmanual, or to the CiviCRM wiki.

TIMELINES

CiviCase allows you to define a workplan or an expected sequence of tasks and activities for each type of case. These are called *standard timelines*, and one is created automatically when a new case is opened.

For simple cases, the timeline might include only two items:

- Open Case
- Follow up.

Even in this example, the timeline is useful as it allows you to predefine when the persons assigned to the case should follow up with the client or constituent.

For more complex processes, the timeline provides a case plan that can help the people involved to stay on track. The timeline lists all the activities which are expected to occur and should be accomplished within a certain timeframe. You can define the expected number of days between the beginning of the case and each of the subsequent activities in the timeline.

If necessary, an activity can also define an *offset* from another activity. For example: for a "Referral to Specialist" case, the "facilitate first appointment" activity might be expected to occur within 2 days after the case is opened. "Survey client satisfaction" might be scheduled for 30 days after "facilitate first appointment".

You might also want to define a timeline based on the end date. If a case has to be completed by a specific date, each activity can be defined as needing to happen a number of days before this end date. You then set a negative offset on the timeline.

CASE ROLES AND RELATIONSHIPS

CiviCase provides three mechanisms for relating people to cases and clients:

- Case Roles: people directly involved in **this case**. Examples include Intake Specialist, Case Coordinator, Addiction Counselor, Employment Counselor, etc. You can identify one of these roles as the *case manager* for a particular case type.
- Other Relationships: people related to the client, with relationships that exist beyond the context of a particular case. Examples include Spouse, Sibling, Family Doctor, etc. Generally, use *relationships* when you want someone to appear on ALL cases for the same client, otherwise use a case role.
- Case Resources: people and organisations that have involvement with many or all cases in your case management setting. Examples include: regulatory agency contact(s), service provider, frequent referral contacts, etc.

CiviCRM provides *relationship type* definitions for most of the standard relationships you might track (e.g. Spouse, Child). However you will probably need to define additional relationship types for your *case roles*, such as:

- Case Coordinator
- Addiction Specialist
- Job Counsellor.

Make a list of the expected case roles for each type of case you've listed, then determine which role will normally be considered the "case manager" for that case type.

CONTROLLING ACCESS TO CASE DATA

This section applies to Drupal installations only.

You can assign *permissions* to users in order to control whether or not they have access to the CiviCase component, as well as what case data they can see (Administer -> Users -> Permissions). Here is a list of the CiviCase-related permissions.

Access my cases and activities

Allows a user to create new cases, add activities to the cases they've created and edit those activities. Users with this permission can NOT see cases or activities created by others.

If you need to restrict certain users to ONLY seeing case data (i.e. hide all other contact information from them), assign *access my cases and activities* permission WITHOUT *edit and view contacts* permissions. This permissioning model is useful for users who work in external agencies and who should not be allowed to see contact details.

Access all cases and activities

Allows a user to create new cases, as well as view and add activities to any case (regardless of who initially created the case).

Delete in CiviCase

Allows a user to mark cases or case activities as deleted. Cases and activities are never physically deleted from your database, but only "hidden" when you mark them as deleted.

Users with this permission can also find and undelete these cases and activities by checking the *Deleted Cases* option in Find Cases and the *Deleted Activities* option in the Case Activities Search Filter.

Administer CiviCase

Gives access to Administer -> CiviCase options including:

- create and edit case types and case statuses
- set rules for redacting case data. These rules are used to disguise data which could be used to identify the case client in case reports which are shared with external reviewers.

40. CONFIGURATION

Now that you've gone through the planning process and determined the types of cases, activities and case roles that you need, you're ready to configure your CiviCase installation. The configuration process requires some technical skills. Review these prerequisites before getting started, and recruit assistance if needed.

PREREQUISITES

Many of the configuration steps require that you create and edit files outside of the CiviCRM user interface. You will need to:

- use a text editor
- edit XML files and upload them to the server directory where CiviCRM is installed
- (optional) write or modify a simple program using the API to automate the creation of activity types or relationships.

CONFIGURATION TASKS

Follow these steps to configure CiviCase for your organisation.

1. Case Type Configuration Files

You will create a separate XML-formatted text file for each of the case types you identified during the planning process. These files specify the characteristics of the case type using XML elements. Case configuration files should be saved to the following directory in your CiviCRM installation:

<civicrm_root>/CRM/Case/xml/configuration

You will need to create this directory when you save your first configuration. Ensure that the directory is readable by your web server process.

If you are not familiar with XML markup, refer to the Wikipedia page on XML at:

http://en.wikipedia.org/wiki/Xml

A set of sample configuration files are included when you download CiviCRM. If you can access the CiviCRM codebase at http://svn.civicrm.org/civicrm/, load the sample case type configuration file for *Housing Support* in your text editor before continuing, and refer to it as you review each of the sections below.

<civicrm_root>/CRM/Case/xml/configuration.sample/HousingSupport.xml

Activity Types: this is a list of all activity types that are valid for this type of case. Several activity types will be needed for any type of case. Be sure to include them in this listing: *Open Case, Change Case Status, Change Case Type, Follow up*. You will use *Change Case Status* to close a case. *Follow up* is a useful general activity type for most case settings.

You can optionally specify the maximum occurrences of this activity type in a case using the *max_instances* element. Generally you'll want to set max_instances to 1 for the Open Case activity type, but you can also use this to limit recurrence of other types of interactions or processes.

Activity Sets: groups of activity types which define a sequence of interactions. You must include at least one activity set in the configuration file which defines the *standard timeline* (plan). The activities in the standard timeline set are automatically created when you open a case of this type. You can control the scheduling of each activity relative to the date the case is opened OR relative to another activity using the *reference activity* and *reference offset* elements. Offsets are expressed in days.

Here's a simple timeline example for a Housing Support case:

```xml
<ActivitySet>
  <name>standard_timeline</name>
  <label>Standard Timeline</label>
  <timeline>true</timeline>
  <ActivityTypes>
    <ActivityType>
      <name>Open Case</name>
      <status>Completed</status>
    </ActivityType>
    <ActivityType>
      <name>Medical evaluation</name>
      <reference_activity>Open Case</reference_activity>
      <reference_offset>1</reference_offset>
      <reference_select>newest</reference_select>
    </ActivityType>
    <ActivityType>
      <name>Secure temporary housing</name>
      <reference_activity>Open Case</reference_activity>
      <reference_offset>2</reference_offset>
      <reference_select>newest</reference_select>
    </ActivityType>
    <ActivityType>
      <name>Follow up</name>
      <reference_activity>Open Case</reference_activity>
      <reference_offset>3</reference_offset>
      <reference_select>newest</reference_select>
    </ActivityType>
  </ActivityTypes>
</ActivitySet>
```

In this example, the Open Case activity is marked as Completed when the case is opened. Three additional activities are automatically scheduled when the case is opened. A Medical evaluation is scheduled for the following day (reference offset is 1); then Secure temporary housing (reference offset 2); and finally a Follow up three days later.

Case Roles: this section lists the types of people who are involved in the case in some way. Roles listed here will be automatically created when the case is opened. One role is marked as *creator*. This role is automatically assigned to the person who created the case. After the case is opened, users with access to the case can assign the remaining roles to contacts as appropriate. You may also mark one of the roles as the *case manager*. The case manager's name will be displayed prominently in case listings and reports.

Here's a simple example of case roles for a Housing Support case:

```xml
<CaseRoles>
  <RelationshipType>
    <name>Homeless Services Coordinator</name>
    <creator>1</creator>
    <manager>1</manager>
  </RelationshipType>
  <RelationshipType>
    <name>Health Services Coordinator</name>
  </RelationshipType>
  <RelationshipType>
    <name>Benefits Specialist</name>
  </RelationshipType>
</CaseRoles>
```

In this example there are three case roles. The Homeless Service Coordinator is both the creator and manager of these cases. In addition, a Health Services Coordinator and a Benefits Specialist role are created when the case is opened.

Refer to the detailed configuration documentation on the wiki for more detailed explanations of each element in the XML file:

http://wiki.civicrm.org/confluence/x/UlC9AQ

Create a separate XML file for each of your **case types**. Your file names should match the case type name with spaces removed and the first letter of each word upper-cased.

For example, if the Case type is "Housing Support", the filename would be "HousingSupport.xml". A good approach is to use a copy of one of the sample configuration files that are included in the distribution as a starting point, and edit it to meet your requirements.

2. Enable the CiviCase component

Once you have created your configuration files and uploaded them to the configuration directory in your CiviCRM installation, you must enable the CiviCase component. The CiviCase component is included in CiviCRM downloads, but it is NOT enabled by default. To enable the component:

- go to Administer -> Configure -> Global Settings -> Enable Components
- select CiviCase in the left-hand box and click Enable (this should move it to the right side)
- click *Save.*

You will now see an *Other* option in the navigation menu. Click that option to see the Cases menu. People in your organisation who work with cases will probably want to modify their navigation menu to move Cases to the top-level. Navigate to Administer -> Customise -> Navigation Menu to make this change.

3. Review CiviCase permissions

This section applies to Drupal installations only.

In order for users to add and manage cases, you will need to configure CiviCase-related permissions (Administer -> Users -> Permissions). You may want to create case management specific Drupal user roles for staff, based on their responsibilities within your organisation. Permission options are described in the Planning chapter of this section.

4. Populate Case Types, Activity Types, and Case Roles

You will need to add database records for each *case type*, *activity type*, and *case role* that you've included in your case type configuration files. You can use the CiviCRM Administrative screens to do this:

Case types

- Administer CiviCRM -> CiviCase -> Case Types

- Click *New Case Type.*
- Complete the form using the exact same text for the **Label** as you entered for the CaseType <name> element in your case configuration files.
- Click *Save.*

Activity types

Generic activity types (Open Case, Change Case Status, etc.) are included in all CiviCRM installations. Meeting, Phone Call, Email (inbound and sent) activity types are also included "out of the box". However you will need to manually add any other activity types that you've defined in your case configuration files.

- Administer CiviCRM -> Option Lists -> Activity Types
- Click *New Activity Type.*
- Complete the form using the exact same text for the **Label** as you entered for the ActivityType <name> element in your case configuration files.
- Select *CiviCase* in the Component drop-down.
- Click *Save.*
- Repeat for each unique activity type defined in your case configuration files.

Alternatively, if you have a lot of entries, you may prefer to use the API to write a simple programme to automatically create all the activity types:

```
 <?
require_once 'civicrm.config.php';
require_once 'CRM/Core/Config.php';
require_once('api/v2/ActivityType.php');

//read the API chapter to get more explanation
$componentCase = 7;
$types = array ("Medical evaluation","Secure temporary housing");
foreach ($types as $type) {
  $param = array("label"=>$type,"description"=> "Example of Type","component_id" =>
    $componentCase, is_reserved=>false,is_active=>1,weight=>1);
  $result = civicrm_activity_type_create ($param);
  if (civicrm_error( $result )) {
    echo "\n ERROR creating $type: ". $result['error_message'];
  } else {
    echo "\n Type $type created";
  }
}
?>
```

Case roles

You will need to define relationship types for any *case roles* you've defined in your case configuration files. Examples might include Intake Coordinator, Employment Counsellor, Housing Advocate, etc.

- Administer CiviCRM -> Option Lists -> Relationship Types

- Click *New Relationship Type.*
- When completing the form fields, define the relationship using the *client* as *Contact A* and the service provider as *Contact B*. The **Relationship Label-B to A** value should match the text entered for the RelationshipType <name> element in your case configuration files.
- Click *Save.*
- Repeat for each unique case role.

For example, to define a Case Coordinator relationship type:

Relationship Label-A to B : "Case Coordinator is"
Relationship Label-B to A : "Case Coordinator"
Contact Type A: "Individual"
Contact Type B: "Individual"

Again, if you have a lot of entries, the process of defining relationship types can be automated using the API:

```
<?
require_once 'civicrm.config.php';
require_once 'CRM/Core/Config.php';
require_once('api/v2/RelationshipType.php');

//read the API chapter to get more explanation
$types = json_decode ('[
 {"label_a_b": "Case Coordinator is","label_b_a":"Case
    Coordinator","contact_types_a":"Individual","contact_types_b":"Individual"}
,{"label_a_b": "Benefit Specialist of","label_b_a":"Benefits
    specialist","contact_types_a":"Individual","contact_types_b":"Individual"}
```

```
]');

foreach ($types as $type) {
  $result = civicrm_relationship_type_add (get_object_vars($type));
  if (civicrm_error( $result )) {
    echo "\n ERROR creating $type: ". $result['error_message'];
  } else {
    echo "\n Type $type created";
  }
}
?>
```

Custom fields

It is likely that you will want to collect structured data for some of the activity types you've defined. Custom fields are most often connected to a specific activity type. For example, in Employment Counselling cases, you may want to define an activity type used to record client job skills. This activity type will require one or more custom fields - perhaps a set of checkboxes. If you are transitioning from a paper-based system, it is helpful to refer to existing forms and then determine what information from the forms is relevant to include. Remember that CiviCase is designed to store case information within activity records, and does not support custom fields at the case level.

Please review the section on configuring custom data fields prior to beginning these steps.

- Administer -> Customize -> Custom Data
- Click *New Group of Custom Fields.*
- Under *Used For*, select Activities.
- Select one or more specific activity type(s) for which this set of fields will be used.
- Enter any help information you want to be displayed to your users.
- Click Save.
- Enter one or more custom fields for this set.
- Repeat these steps for each activity type which requires custom data to be recorded.

If you need to define a large number of fields for a given activity type, consider breaking them up into sets of related fields. Group the fields into logically related sets that will make sense to the users, and avoid the form looking like an endless tunnel of fields.

You can assign more than one custom data field group to a single activity type. For example, if you are collecting a lot of data during client intake, you may want to create several sets of custom fields for the *Open Case* activity type.

If you have sets that are only relevant to some contacts, for example a different set of fields for male or female contacts, you can modify the form's template and add client-side logic using jQuery to hide/show the relevant sets based on the values selected on previous fields.

Filing Inbound Emails to Cases

Some organizations find it useful to record incoming case-related emails in CiviCase. For example, the case coordinator for a work disability case might send an inquiry to a state agency representative - and would like the reply to become part of the case story.

You can enable this functionality by configuring the provided Email Processor script as described here:

http://tiny.booki.cc/?vfW0

5. Add staff members

You will need to create a contact record for each staff member or service provider who will be using CiviCase to enter or view case information. These individuals will also need to have a Drupal or Joomla! user account.

For Joomla! installations, staff members must have back-end (administrator) access. All CiviCase functions are done within the Joomla! Administrator interface.

You should also add contact records for service providers who will be assigned case roles but will not be accessing the CiviCase system. This will allow your staff to easily send emails with pertinent case and client information to these providers via CiviCase, as well as record case-related interactions reported by providers.

41. EVERYDAY TASKS

This chapter describes a list of everyday tasks that you might perform using CiviCase, and how to go about them.

VIEWING THE CASE DASHBOARD

The Case Dashboard gives you an easy way to keep track of case-related tasks. It provides:

- A summary of cases in the system ("Summary of Case Involvement")
- A list of your cases with upcoming activities (scheduled in the next 14 days)
- A list of your cases with recently performed activities (completed in the last 14 days)

If you have permission to view cases other than ones that you are working on, you also have the option to see:

- A list of all cases with upcoming activities
- A list of all cases with recently performed activities

You can switch between viewing Your Cases and All Cases by clicking on the link at the top right of the content area.

Click the "edit" icon next to the Next Sched. activity name to work on that task. In the case shown in the following screenshot, the Next Sched. activity is "Medical evalution". You can view this activity in a pop-up window by clicking directly on the title. If you're ready to work on that activity, click the edit "pencil" to the right of the activity title.

Client	Status	Type	My Role	Case Manager	Next Sched.	
▸ Grant, Anne Case ID: 3	Ongoing	Adult Day Care Referral	Senior Services Coordinator	---	Medical evaluation ✎ April 28th, 2010 5:04 PM	Manage Case

input field

Click on the triangular expand icon (►) to the left of the client name to see the complete list of activities for that case. From this list you can view or edit any activity in that case. Click Manage Case when you want to work on a number of tasks within a case or to change the status of the case, print a case report, or view case roles.

To add a new case from the Case Dashboard, click the Add Case button at the top left of the content area.

FINDING CASES

You can search for cases by clicking on Find Cases under Search or under Cases in the menu bar at the top of the CiviCRM screen. The Cases search form gives you a number of options. You can search by each option individually, or combine them for further filtering.

You can search by:

- **Client's name or email address**: Type characters from the name or email address into the "Client name or email" input field.
- **Type or types of cases**: Checking the case types that you would like to filter by.
- **Case status**: Selecting a status from the dropdown menu.
- **All cases or your cases** (if unselected, the default is to filter by your cases).
- **Deleted cases**: Click the "Deleted cases" checkbox.

If you make selections in multiple criteria (e.g. adding a client name, checking off a case type, and selecting "all cases") the search criteria will be combined so that the results must fulfill at least one requirement in each set of criteria (in other words, the criteria sets are ANDed). In contrast, making multiple selections within one set of criteria (e.g., checking two case types) will ensure that the returned results fulfill *at least one* of the selections in the criteria set (in this example, cases must match at least one of the case types).

OPENING A NEW CASE

You can open a new case with either an existing contact or a new contact not yet in your system.

Creating a case from an existing contact's summary screen or actions menu automatically links the case to that contact. To open a case on an existing contact, follow these steps:

1. Go to the contact's summary screen.
2. Select Add Case from the Actions dropdown menu, or alternatively click on the Cases tab.
3. Fill in the required fields in the Add Case form.
4. Click Save.

If you open a new case for a new contact, the contact's record in CiviCRM is created at the same time as you create the case. Follow these steps:

1. Navigate to Cases > New Case or select the Create New > Case dropdown button. This button is provided as a block in Drupal or on the left hand side in Joomla!.
2. If you've opted to create a new case without navigating to an existing contact first, you may want to check whether the contact already exists in the database. Type the name or email of the contact you are looking for in the Select Contact field, and you will see a list of potential matches (as illustrated by the following screenshot).

3. If you don't find the contact, you can create it immediately by selecting the type of contact from the "create new contact" list. This opens a popup window (shown in the following screenshot) that allows you to fill out the new contact's name and other information while opening the case. The fields in this popup window are controlled by the fields in the "Add Individual" profile. This means you can easily add or modify the fields provided. You can read more about profiles in the Profiles chapter.

Use the Medium and Location fields to record information about where and how this case came to your attention. For example, you might select "In Person" for Medium and "At the Annual Gala" for Location.

Use the Details text area to add information pertaining to the overall case, but not to a specific *activity* of the case. An example might be "Jane is concerned about some illegal land use that she has witnessed in her neighbourhood, and would like us to see what can be done about it. I told her that the best person to look into this was Tom, and she asked whether her husband could be included on any correspondence."

The Subject field is displayed in search results and in other listings of cases, next to the name of the case client. Keep this in mind when entering the subject text: a brief and unique description of the case will be more helpful than using the client's name as the subject.

The Case Type selector allows you to choose the type of case that you are creating. Many case types have specific activities and timelines, so it is important to choose the appropriate case type at this point. You can change to a different case type at a later point by clicking Manage Case next to the case when it's displayed in the CiviCase Dashboard, or from the contact's record Case tab. Then select Change Case Type from the New Activity drop down list, Changing an ongoing case may require you to then update or re-enter some data.

The Case Status selector allows you to indicate the current status of the case. Generally you will use a status such as Ongoing or Urgent, but if you are adding a case that has already been completed (for tracking purposes) select "Resolved".

The Case Start Date field defaults to the current day. If you are creating a case that has already been completed or entering data for upcoming cases (not yet started), adjust the case start date accordingly.

The Duration field records the time spent collecting the data needed to fill out the create case form, not the amount of time it took to fill the form out. Fill out the number in minutes. For example, you might use this field to record the number of minutes spent on the phone with a constituent as they described the case.

4. After you finish the popup window, clicking the Save button saves the case and loads the Manage Case page, where you can then modify activities, add attachments and assign case roles. Alternatively, clicking "Save and New" save the case and resets the form so that you can add further new cases uninterrupted (this is particularly useful if you are doing data entry). Clicking Cancel discards the case data you have entered and sends you back to the CiviCRM dashboard.

ASSIGNING CASE ROLES

You can assign case roles to contacts who are working on the case or need to stay informed about case activities. Users who have access to CiviCase and are assigned a role in the case will then see that case in their My Cases view. The phone number and email address of each person with a case role will be displayed on the case, making it easy to communicate with them (see screenshot).

To assign a case role to a contact:

1. Click the Case Roles area to open it.
2. Case roles that have not been assigned display "(not assigned)" in the Name column. Click the edit icon to assign someone to that role.
3. The Assign Case Role popup window will appear. Begin typing the *last name* of the contact until you see the name in the dropdown list.
4. Select the contact you want to assign to the role and click OK.

Generally, anyone who might be assigned to a case should already be in the database, but if you can't find the person you're looking, for you must add her as a contact first (navigate to Contacts > New Individual).

Each assigned case role has mail, edit and delete icons under the Email and Actions columns. You can email contacts with roles in the case, or modify their relationships to the case. Change the case role by clicking the edit icon, or delete a case role by clicking the delete icon. Emails that you send from here are automatically added to the list of case activities in the proper sequence. This provides an audit trail of case-related communications, and ensures that the "case story" is complete.

FINDING ACTIVITIES WITHIN A CASE

You may need to find a specific activity within a case, for reference or modification. To view the activities in the case, scroll down to the Case Activities section and click it to open it if it's closed. In the default view, scheduled activities are listed first, sorted by date, followed by completed activities. Click on the column headers to sort by a specific column (for example, by activity type).

You can filter the activities if there is a large number of activities, or if you'd like to restrict the view to activities of a certain type (for example, to see all of the "Follow up" activities that have been performed for this case). Click the Search Filters accordion button, which opens a form (see screenshot) that allows you to filter by:

- Reporter/Role
- Activity Status
- Activity Dates (enter a range by filling in both date fields, or search for activities performed on a specific date by filling out the first date only)
- Activity Type (for instance, to find all "Follow up" activities, select "Follow up" from the list)
- Deleted Activities (available to people with permission to view deleted activities)

Once you have selected your search criteria, click the Search button to the right and the table will automatically filter out all of the activities not matching your criteria.

ADDING AND MANAGING ACTIVITIES

Several tasks are commonly performed on activities. After performing the necessary work, click the Save button to save the activity and be sent back to the case page, or Cancel to discard your work.

To add a new activity to a case

1. Navigate to the case (either using Find Cases or via the Cases Dashboard).
2. Choose an activity type from the select list labeled New Activity.
3. Click Go.
4. Fill out the activity form. The Client" field will be pre-populated with the case's client data.

To send a copy of the activity to anyone with a case role for the case

1. Open the "Send a Copy" area.
2. Check the contacts or case roles whom you would like to be alerted about this activity.

To schedule a follow up activity

1. Open the "Schedule Follow-up" accordion.
2. Select the follow-up activity type, the number of days until the follow-up should occur, and subject of the follow-up (e.g. "confirm that Jane's problem is fixed").

To add an attachment to the activity

1. Open the Attachments area.
2. Click a "Choose file" button.
3. Up to five files can be attached to an activity. Select an attachment from your file browser.
4. Click Choose. The name of the attachment will appear to the right of the "Choose file" button.

The attachment will not be saved into CiviCRM until you have saved the activity.

EDITING AN ACTIVITY IN A CASE

To edit an activity in a case:

1. Navigate to the case from the Case Dashboard, the Find Cases search form, or the contact's Cases tab.
2. Click the "edit" link at the far right side of the activities table at the bottom of the case form.
3. This brings you to the activity form, which you can edit in the same way as when creating an activity for a case. The only difference is that many of the fields will already be filled in.

To assign a "scheduled task" to a staff member while adding or editing a case:

1. Start typing the staff member's name into the "Assigned to" field; a list of possible contacts will appear.
2. Select from the list of suggestions and make sure the staff member's full name shows up in the "Assigned to" field.

You can assign multiple contacts to an activity. If you accidentally select the wrong contact, click the X by the contact's name to remove him from the list.

CHANGING THE STATUS OF A CASE

The case status lets you quickly determine how a case is progressing. Sample status values include Ongoing, Resolved, Not Assigned, and Urgent. To change the status of a case:

1. Navigate to the case from the Case Dashboard, the Find Cases search form, or the contact's Cases tab.
2. Click Manage Case.
3. Click the "edit" icon next to the current status column in the Case Summary table.
4. This will open the Change Case Status form (an activity with an additional field called Case Status).
5. Set the case status to the new status.
6. Modify the other the fields as you would when editing an activity in a case. Make sure to set the Status field. It is required, but not set by default.
7. Click Save to return to the case page, with a message stating that the Change Case Status Activity has been created.

PRINTING CASE REPORTS

To print a report that lists all case and case activity data:

1. Navigate to the case from the Case Dashboard, the Find Cases search form, or the contact's Cases tab.
2. Click Print Case Report in the Case Summary section.

Your installation may define additional reports for audit or quality assurance purposes. If so, you will see them listed in the "Run QA Audit/Redact" dropdown menu.

REPORTING
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42. WHAT IS CIVIREPORT?

CiviReport allows you to create, run and schedule reports based on the data CiviCRM has about your contacts and their interactions with your organisation. Many report templates are designed to work with a specific CiviCRM component, such as CiviContribute or CiviCase.

CiviCRM comes with a number of predefined **report templates** that are used to create reports. For example, the Membership Report template can be used to create a report that shows all student members that have joined your organisation within the past year.

CiviCRM's predefined report templates are built to satisfy the basic needs of non-profits and organisations. Each new version of CiviCRM will include further report templates, but if you can't find the right template for your requirement, you can extend CiviCRM by writing a new template yourself - and contribute it back to the CiviCRM community to share the benefit of your work.

Writing a new report template requires some PHP and SQL skills. A well-written template will be flexible enough to meet your specific needs as well as the needs of others. Techniques for developing report templates are explained in the section of this book which covers methods of extending and customising CiviCRM.

REAL WORLD SCENARIOS

Reports help your organisation to evaluating its impact and achieve its mission. Here are some reports examples:

Evaluating turnout for an event

An organisation wants to attract young people to their annual 'Community Organising and Youth Leadership workshop' They decide to announce the event three months in advance to ensure a good turnout. Lead staff or organisers will use the **Event Participant Report** throughout the registration process to determine if they need to do more outreach to attract m.

Here is a work flow describing how the organisation's staff will use this report.

1. A lead staff person uses pecific criteria, such as youths under the age of 25 based in the target area, to identify contacts to invite to the event.
2. Lead staff then email and phone the identified contacts to invite them to register and attend the event.
3. During the three months before the event, a lead organiser views the Event Participant Report at the end of each week to see how many have registered and to determine what other strategies could be used to increase the turnout. The lead organiser may also want to know the roles of the participants, such as who and how many will be speakers or volunteers.
4. At the end of the event, the lead organiser will view the Event Participant Report again to see how many actually attended the event, as well as how many registered but didn't attend. Organisers may then want to follow up those contacts who registered but didn't attend, to determine whether there were any barriers to attending such as the cost of the event, lack of transportation or lack of interest in the topics scheduled for the workshop.

Determining total contributions for all people in a household

A non profit keeps records of individuals organised by households. A common situation will be that the husband in the household has attended a numbe of paid events, and their wife has also registered for other events, and made seperate donations.

Staff at the organisation want to see the total contributions received from everyone in the household so that when someone calls the office to inquire about a donation or event payment made by someone else in the family, all the relevant information is at hand. Staff run the **Donation Summary Report (Household)** and fill in the name of the household to find all contributions and find all relevant information and answer the caller's questions.

Targeting a mailing for fundraising

Your organisation has launched a capital campaign to raise money for a new shelter. The development director wants to reach out to donors who made a large donation last year but haven't given money this year.

1. She creates an instance of the LYBUNT report ("Last year but not this year") which filters data to show people who gave more than 500 EUR last year.
2. She runs the report and uses the "Add to Group" button to put these donors in a new group.
3. Then she sends an email to everyone in the group with information about the capital campaign.
4. She adds the report to her CiviCRM Dashboard so she can review progress getting this group of prior donors to contribute to the campaign.

43. PLANNING WITH CIVIREPORT

This chapter explains some key ideas that are useful when planning your use of CiviReport. It should be read by system administrators before they start to configure CiviReport for daily use. It will also be useful for anyone who wants to better understand the thinking behind CiviReport. Skip this chapter if you just want to look at specific reports that have already been configured by your administrator!

WHEN TO USE CIVIREPORT

CiviReport grew out of the need for users to be able to easily display complex information about their data, and to display answers to questions about this information in accessible ways. It is useful when you need to repeatedly ask the same question, or a set of similar questions, about your data.

CiviReport can be used as a management tool in organisational planning and as an analysis tool for membership or donor development. Tabular or graphical output can be produced and set up to email reports to specific people according to a schedule.

CiviReport might be overkill if you want to quickly find a set of contacts that match a certain criteria. In this case you might consider using one of CiviCRM's search tools.

WHAT REPORTS ARE AVAILABLE?

When you think about it, the number of questions a non-profit might want to ask about their data is pretty much infinite. The CiviCRM approach to solving this problem (which is a familiar CiviCRM approach) is to aim to cater for 90% of the scenarios and allow the system to be easily extendable by administrators and developers to cover the last 10%.

Reports often come in pairs: one showing a summary and the other showing the detail. These reports can be linked, allowing users to see information at a glance with the option to drill down in a certain report for more detail.

We haven't included all the reports available in CiviCRM here because the list is constantly growing. For a complete list of reports available in your version, along with an explanation how the reports can be used, look at the page 'Create reports from templates' (in the Reports dropdown menu).

REPORT TEMPLATES AND REPORT INSTANCES

Two key concepts in CiviReport are **report templates** and **report instances**. A report template is the base for creating a report instance. In other words, you can generate any number of report instances from one report template. For example, the **Top Donors Report template** is used to show those people who have given most to your organisation. An instance of this report might show the top 10 donors that have given to your organisation this year-to-date.

REPORT VS. SEARCH

CiviCRM has inbuilt search functionality that covers most scenarios, so it's important to know when to use a report and when to search. The current report interface does not support most common batch actions such as "Update via Batch Profile," "Smart Group" creation, etc. This means that if you want to perform any action against a result set, it is better to use search rather than report.

Reports are more flexible than searches, and each has its own set of features. Reports allow you to change display columns in selector, support column grouping, email the report and also save it as dashlet. Because you can create multiple report instances from a single report template, you

can use the same report to show different iterations of the report, such as monthly donations or quarterly donations.

44. CONFIGURATION

This section explains how to configure CiviReports. It assumes a basic knowledge of why you would want to use CiviReport, and describes the workflow from creating a report from a template to making these reports available for users.

REPORT TEMPLATES

Report templates are general reports that can be further customised to create specific report instances. These report instances can then be made available to users.

The "Create report from templates" page lists all available report templates and is found in the Reports menu. The templates are grouped by component, and each has a brief description of its intended scenario. If there are already report instances for a given template, you'll see a link to view "Existing Reports".

▾ Contribution Report Templates	
» **Donor Report (Summary)** Existing Report(s)	Shows contribution statistics by month / week / year .. country / state .. type.
» **Donor Report (Detail)** Existing Report(s)	Lists detailed contribution(s) for one / all contacts. Contribution summary report points to this report for specific details.

Clicking on the report template name will bring up a screen where the report can be configured.

There are two steps to configuring a report:

- Select your **report criteria** - decide what information will be displayed in the report.
- Define the **report settings** - choose a title, set permissions and add it to a menu.

SELECT REPORT CRITERIA

There are three types of report criteria:

- Display Columns
- Group by Columns
- Filters

The options available for these criteria change from report to report. General principles for the different types of report criteria are outlined below.

Display Columns

These check boxes allow you to select the data to be displayed for each record in your report. In most reports, at least one display column is **required** and cannot be unselected. For example, in the Top Donors report, showing the total amount donated is required. In the Constituent Detail report, showing the contact name is required.

Group by Columns

This is not available in all reports, but it is useful when creating a report which summarises data, rather than displaying each individual row, and for reports that compare different types of data.

The report below compares donations per quarter in 2009.

Grouping(s)	Receive Date
Receive Date	Between January 1st, 2009 and December 31st, 2009
Donation Status	Is Completed

Quarter Beginning	Aggregate Amount	Donations	Average
January 2009	$ 110.00	3	$ 36.67
April 2009	$ 1,125.00	6	$ 187.50
July 2009	$ 700.00	2	$ 350.00
October 2009	$ 400.00	2	$ 200.00
Subtotal	$ 2,335.00	13	$ 179.62
Grand Total	$ 2,335.00	13	$ 179.62

Row(s) Listed	6
Total Amount	$ 2,335.00
Total Donations	13
Average	$ 179.62

You can specify more than one grouping criteria. When you do this, groupings will be nested based on both groupings. Not all groupings or combinations of groupings will make sense for your data. You may need to spend time experimenting with Group By Columns to become familiar with this functionality.

Note that some Groups By Columns interact with Display Columns and can't be selected at the same time. The system will warn you if you try to make an invalid selection.

Set Filters

Filters are the main way to specify the records that you want to include in the report. For example, running the Membership Detail report without choosing any filters will show you all membership records. You could then filter the report to show all members of a specific membership type who joined last year.

The Date Range Filter

Most reports will have a date range filter. This can be configured in two ways:

- by using an absolute date range, e.g. "1st Jan 2010" to "31 July 2010"
- by using a relative date range, e.g. "Previous Year".

Relative date ranges are very useful for reports that you want to run on an ongoing basis.

- **This year** gives all records from the start of the current year.
- **Previous year** gives all records from the previous year.
- **Earlier year** gives all records excluding this year.
- **Ending year** gives all records between one year from today's date, and today (really useful!).

The Ending date ranges are particularly useful when used in combination with Group By Columns. Combining "Ending Year" with "Group By Month" gives a report that summarises data by month for the previous 12 months.

The report below shows the total amount of contributions received in the past 12 months, as well as each month's total.

Once you have selected your report criteria, click Preview Report. If the report displayed isn't exactly what you wanted, open the Report Criteria section at the top of the screen to modify your criteria. You may need to make several modifications before you achieve the report you want.

REPORT SETTINGS

Once you are happy with the report criteria you have entered into the template, save it as a report instance so that it is available to use again. It will appear in the drop down list of reports under the Reports navigation menu.

Title, description and formatting options

Click Create Report to open the report settings section. Give your report a title and description that will help other people understand its usage, for example, "Student members joined so far this year".

You can optionally create a report header and footer in HTML. The header and footer will be displayed at the beginning and end of any PDF or downloaded versions of the report. This can be used to personalise your reports with your organisation's logo and to other useful information.

Email settings

CiviReport allows you to email reports to specific people on a regular basis. To do this, fill in the Subject, To and CC fields in the Email Delivery Settings. You can enter one or more email addresses in the To and CC fields; multiple email addresses should be separated by commas.

You will need to configure a cron job for each report that you want to send. The cron job runs a script in the civicrm/bin directory (CiviReportMail.php) which takes several parameters, including the ID of the report instance that you wish to send. For example, if you want to send a Donor Report to your board members, you can configure a cron job with the ID of the particular report instance to email the report in HTML or PDF format. Refer to the "Command-line Script Configuration" documentation for more information:

http://wiki.civicrm.org/confluence/x/LIK9AQ

Adding reports to navigation menu

The most straight-forward way to share reports with other users is to add them to the navigation menu. Do this by specifying the parent menu item under which the report should be listed, in Other Settings. For example, if you would like it to appear in the Reports menu, select Reports as the "Parent Menu". Alternatively, you might want to add an event report to the event menu.

Permissions to view reports

You can set up permissions to view reports on a report-by-report basis. This allows you to simplify the user interface for junior users and set sensitive reports to be accessible only to certain users.

Permission to edit report criteria

Drupal installations only

The ability to edit report criteria is a separate permission that can be configured globally in Drupal. Users with this permission will be able to edit report criteria, while users without this permission will be able to view reports but not edit the criteria.

Adding reports to the Dashboard

Finally, you can set a report to be available on users' dashboards by checking the box, Available for Dashboard? in Other Settings. Users with appropriate permissions will be able to add this report to their dashboard by clicking the Configure Your Dashboard button.

45. EVERY DAY TASKS WITH REPORTS

This chapter assumes that CiviReport is already configured and you are a user wanting to access reports that have been configured for you. If you want to learn more about how to set up and configure reports, read the section on configuring CiviReport.

VIEWING REPORTS

To view a report:

1. Click on the navigation menu "Reports -> Report listing".
2. All reports are listed on this page, grouped by the component they report on.
3. To view a report, click on the report name.

Reports can also be configured to be directly accessible from navigation menus. They would normally appear in the Reports menu, but can be configured to appear in any menu. For example, an event report might appear in the Events menu.

When you open a report it will appear on screen as a table. Some reports can also be viewed as a bar or pie chart. When this is the case, a dropdown menu will allow you to select the format you want.

The appropriate report should then be displayed.

As well as viewing reports on screen you can create a PDF version of either tables or graphs, suitable for printing or emailing.

If you want to perform further calculations on your report data, you can output the data as comma separated variable (CSV) for import into a spreadsheet by clicking Export to CSV.

If you have the appropriate permissions, you will be able to adjust the report criteria and settings when you view the report. Read the section configuring reports for detailed information about how to do this.

REPORTS ON YOUR DASHBOARD

Reports can be configured to appear on your dashboard (the first page you see when you log in to CiviCRM). You can configure this yourself, although not all reports may be available to put on your dashboard.

To display specific reports on your dashboard:

1. Click on Configure Your Dashboard (from your dashboard, i.e. CiviCRM home).
2. Select a report from the list of available reports.
3. Drag the report onto your dashboard.

EMAILING REPORTS

Reports can be automatically emailed to certain people on a regular basis. This requires modifying the report settings, which is explained in the section on configuring CiviReport. If you do not have the permissions to do this, you will need to ask your administrator to configure it for you.

ADDING REPORT RESULTS TO A GROUP

Sometimes it is useful to add contacts returned in a report to a group. This functionality isn't available in all reports but where it is, you can choose the group you want to add the contacts to from the dropdown menu as shown below.

CIVIC ENGAGEMENT
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50. Essential Tasks

46. WHAT IS CIVIENGAGE?

CiviEngage is a drupal module that enhances CiviCRM's core functions for non-profits focused on community organizing and civic engagement work.

PURPOSE

CiviEngage was built to aid community organizing, base-building and civic engagement, specifically with regards to managing walk lists for door-to-door campaigns and caller lists for phone banks.

CiviEngage provides:

- A package of custom fields, reports and features to track the history of engagement, involvement, and activities of constituents over time
- A model of how to conceptualize and best organize information about individual constituents, organizations and methods of tracking their history of interaction.

SCENARIOS

Community organizing groups that do base-building and civic engagement work have taken advantage of the features in CiviEngage in various ways. The following are scenarios in which CiviEngage can help organizations further their ongoing community organizing.

Mobilizing Constituents for a Direct Action

An organization needs to mobilize several hundred people for a direct action at the state capitol in less than two weeks. The organizers know that the best way to contact their particular constituency is by phone. Organizers want to know who is coming to the direct action, so they can track that individual's involvement with the organization over time.

1. Organizers will identify who they want to mobilize for direct action based on specific criteria and information they know about their constituency, such as geographic location, issue interests, volunteer interests, leadership level, etc.
2. A staff member will create a Direct Action event in CiviCRM and add groups of individuals to the event.
3. Organizers will call the list of possible participants from a Phonebank List report or through a participant listing and enter each call's results; such as whether they will attend, or if it's a wrong number, or if the organizer left a message.
4. An organizer may contact the participants several times to ensure that they will attend the direct action, so the organizer will record the responses each time they attempt to contact the participant. Most organizers attempt to contact up to 3 times to ensure that the participant commits to attending.
5. After the Direct Action event, staff can analyze how many people attended or didn't who said they would attend, as well as if their method of outreach was effective.

Door Knock Canvassing

An organization wants to engage constituents based on what they learn from individual responses during a door knock canvass around a particular issue, such as workers' rights. To find out more about how their constituencies feel about the issue and to see if they would like to help, the organization decides to do a door knock canvass in several neighborhoods.

1. Staff will define the target audience based on specific districts in a city and use CiviCRM's Smart Groups to build the list of people to canvass.
2. Staff will set up a Campaign Event to record the questions that will be asked during the door knock canvass.
3. Staff will identify the volunteers who will do the door knocking and then add them as participants to the event. This way they can track who is door knocking and what group or list of individuals they will be visiting.
4. Staff will print the Walk List Report based on the Smart Group, and will also export the walk list information to a spreadsheet to collect the responses and identify the volunteer canvasser.
5. Each volunteer canvasser will door knock the locations on the Walk List and gather responses on their report. At the end of the night, other volunteers will gather the Walk List reports, and enter the responses on the spreadsheet. Staff can then import the spreadsheet information back into CiviCRM.
6. After the canvass campaign, staff can use the Activity Report to analyze campaign responses to determine their next step to engage their constituency in the issue.

47. PLANNING WITH CIVIENGAGE

CiviEngage packages a set of custom data groups and fields, reports, and other features for use in civic engagement and community organizing work. This chapter will describe the general concepts and planning needed to use CiviEngage effectively.

WHAT YOU NEED TO KNOW

The following are concepts, custom fields and values to keep in mind when preparing to use CiviEngage.

Campaign Source Code

Campaign Source Codes are descriptive values used to identify related activities, events, contributions, and memberships and map how these activities and transactions are linked together. Campaign Source Codes are also useful for identifying these sets of activities or transactions as part of a larger campaign, project, or program.

For example, an organization is conducting a door knock canvass around a particular issue during a specific range of dates. The organization may want to use campaign source codes to link together the activities (where responses to door knock canvass questions are captured), the event (the door knock canvass campaign itself), and any contributions made during the canvass to be able to analyze the effectiveness of the campaign.

Activity, Event, Contribution, Participant, and Membership records each contain a custom field to store a Campaign Source Code, that all share a common option list where Campaign Source Code values can be added and edited.

Your organization can establish a standard method for creating new Campaign Source Codes so that the codes are consistent and easy to sort and understand at a glance. For example, you can specify that annual campaigns always include the year at the either the beginning or the end of the Campaign Source Code, not both, so that you don't wind up with "2009 Annual Campaign" and "Annual Campaign 2010."

Issue Interests

Issue Interests are issues that your organization works on or tracks. They are included in CiviEngage as a single option list shared across multiple contexts:

- Grassroots Info: Issue Interests for individuals
- Media Issue Interests for media contacts
- Funder Issue Interests for funders
- Grant Info: Funding Areas for organizations

It is important to remember that despite appearing with different labels in these different contexts, you are still dealing with just one shared list of options.

In planning to use CiviEngage you should come up with a list of distinct issues that are important to your organization and that you will want to utilize when tracking individuals' interest in your organization's work, the issues that your media contacts may be interested in covering, funders' general interests and the specific areas of work included in particular grants.

Volunteer Interest

Volunteer interests are activities that your organization's volunteers can take on and participate in; you can indicate each individual's interest in participating in these ways. They are included in CiviEngage as an option list. In planning to use CiviEngage you should establish a list of your organization's current volunteer activities as well as any activities that you are planning to launch in the future. Some examples of volunteer interests are canvassing, phone banking, and tabling.

Cleaning your Address Data

Cleaning your address data means standardizing addresses to conform to the conventions defined by the United States Postal Service's Standards for Addresses. Standardizing how addresses are entered into CiviCRM will allow for more accurate search results when searching by address and is essential to generate accurate Walk List reports. CiviCRM will parse addresses based on the USPS standards. To find out more about how Address Parsing is handled and used in CiviCRM, refer to the Address Parsing chapter of this book. When adding or editing contacts you will be entering or editing address elements including street number, street name, and Apt/Unit/Suite number according to these standards.

When planning to import pre-existing data into CiviCRM for use in CiviEngage it is essential that you plan to clean up address data *before* importing.

To find out more details about the USPS' Standards for addresses, refer to their Publication 28 at http://pe.usps.com/text/pub28/welcome.htm.

TRACKING CIVIC ENGAGEMENT AND CAMPAIGNS

CiviEngage is designed to manage interactions with constituents around an organization's civic engagement and base-building work, such as door knock canvassing and phone banking. There are several concepts and details to consider when preparing for these types of campaigns.

Working with Your Universe of Contacts

In preparing for your campaign, you will need to identify the audiences you will be targeting for your door knock canvass or phone bank in CiviCRM. CiviCRM uses Smart Groups and regular Groups as the mechanisms to target specific groups of contacts. Here are a couple of examples of how you can use Smart Groups and regular Groups for targeting during your campaign:

- You can use Smart Groups to identify contacts you want to target based on specific criteria, such as voter demographics, issue interests, primary language spoken, etc.
- You can track voter demographics about your contacts using the custom data group called **Voter Info**
- You can use Groups to identify contacts who subscribe to a particular newsletter or issue to do an email blast about your campaign.
- You can then use these Smart Groups and regular Groups to generate your walk list or phone bank list.

Learn more about working with Smart Groups and regular Groups in the "Tags and Groups" chapter of this book.

Preparing a Campaign Event

To prepare a campaign event in CiviCRM, there are several setup items you may want to consider:

- Define a specific Campaign Source Code for your event. This Campaign Source Code will be used for the event and the activity which holds the individual responses gathered during the door knock canvass or phone bank campaign.
- When you set up your event with the **Event Type** set to "**Campaign**" you can record the questions being asked during the campaign in the **Event Campaign Details** area.
- Decide how you want to identify participants in the campaign event. Maybe you only want to identify the staff and volunteers who will be involved in conducting the door knock canvass or phone bank. Maybe you'll want to add the targeted contacts as participants. Activities will be used to record the responses of each individual contacted during the campaign as well as the campaign source code related to the campaign, so it may not be necessary to add these contacts to the event. In either case, it is recommended to also record the Campaign Source Code in the participant's record in the **Participant Info** area.
- When capturing responses from each individual during the campaign, consider how you plan on getting the data back into CiviCRM. If the plan is to enter data one contact at a time, which may make sense for phone banking, you will need to record the response in the individual's activity record, with the **Activity Type** of "**Door Knock**" or "**Phone**" in the **Walk List Responses** or **Call List Responses** area. But if you plan on entering batches of data at a time, then you will need to plan to import the responses using the Import Activities function.

Working with Voter History

When using CiviEngage, plan how you will manage voter history and other voter information collected during a voter engagement or electoral cycle. Many organizations have access to a voter file from which they manage all their voter engagement work outside of CiviCRM. Once the voter engagement or electoral campaign is over and voter information is updated with who voted and other demographics, organizations most often will only want to keep information on the actual contacts they made during the campaign. In this case, only those selected records from the voter file and additional voter information, such as responses to specific electoral campaign questions, will be imported and maintained in CiviCRM. These voter records then become contacts that organizers will continue to engage and target with base-building efforts.

If you wish to collect voter contacts with their demographics, history, and additional information, first import voter contacts (with their contact information and demographics) into the **Voter Info** custom group. Then import additional information as Activities, such as responses to electoral campaign canvass questions.

MOBILIZING INDIVIDUALS TO ATTEND AN EVENT

The Participant Info custom data group that comes with CiviEngage contains fields that hold information about prospective event participants, including a history of interactions between your organization and prospective participants. Use this information (such as needs for childcare or rides) to bring these individuals to your events. Tracking the history of your organization's contact with individuals around events such as an annual membership meeting, a direct action, or leadership training can help you to understand the effectiveness of your outreach methods and determine how committed or engaged an individual is based on if the individual actually attends events after multiple contacts.

This feature is mostly useful for organizers or staff who have a list of individuals they are recruiting to attend an event through multiple phone calls or face-to-face meetings. The following CiviCRM tasks could be used to mobilize individuals:

1. Conduct a basic or advanced search or use Groups and Smart Groups to create a list of the contacts you want to mobilize or invite to the event.
2. From the search results or Group Contacts screen, you can add the list of contacts to the event by selecting **Add Contacts to Events** from the Actions list. To find out more about how to add contacts to events, refer to the Managing Participants chapter in the Events section in this book.
3. Once you add the contacts to the event, you can enter participant information or responses from multiple interactions in the **Participant Info** area in a contact's participant record. You can either enter information for one participant by editing the participant record itself, or you can add information for a list of participants at one time. For example, if you plan to call through your list by viewing the participant list from the event listing, you could use **Batch Update Participants Via Profile** and select one of the following custom profiles provided by CiviEngage:

- **Update Event Invite Responses** - to record responses from multiple contacts with the participant.
- **Update Participant Info** - to record general information about participants, such as if they need childcare or rides to the event.

TRACKING FUNDERS AND FOUNDATIONS

You can track information about and due dates for grant proposals, letters of inquiries, and reports for funders by adding an activity related to the funder's contact record and choosing from the **Proposal**, **Letter of Inquiry**, or **Report** activity types.

You can also tailor information about an individual funder, such as their funding areas and issue interests, using the **Funder Info** custom group. In order to view the Funder Info tab, you will need to use the Individual sub-contact type, **Funder**, when you create a new contact that is identified as a funder.

You can tailor information about a foundation (organization record), such as their program areas for funding, using the **Grant Info** custom group.

TRACKING MEDIA CONTACTS

As part of civic engagement and community organizing work, it can be useful to track information about your media contacts in CiviCRM, especially if you want to know which media contacts or outlets are interested in your organization's issues, or have written articles about your work, or for identifying who to contact when you want to publicize the work the organization is undertaking.

You can tailor information about an individual media contact, such as their media type (e.g., TV, Newspaper, Photographer, etc.), issue interests and beat using the **Media Info** - **Ind** custom group. Use the Individual sub-contact type, **Media Contact**, when you create a new contact for a media contact. You can then view and edit the **Media Info** - **Ind** tab.

You can also tailor information about a media outlet (organization) such as their media type (e.g., TV, Newspaper, Magazine, etc.) using the **Media Info** - **Org** custom group. As with the individual media person, use the Organization sub-contact type, **Media Outlet**, when you create a new contact for a media outlet. You can then view and edit the **Media Info** - **Org** tab.

TRACKING ELECTED OFFICIALS

Identifying and collecting information about your elected officials could be useful for your community organizing and civic engagement work. You may want to know who is an elected official in a specific district, or who to contact on their staff, such as the scheduler, or spokesperson.

You can tailor information about an individual elected official, such as their elected position (e.g., city council, Senate, etc.) and their role using the **Elected Info** custom group. Use the Individual sub-contact type, **Elected Official**, when you create a new contact for an elected official. You can then view and edit the **Elected Info** tab. Remember that staffers, schedulers, or spokespeople for an elected official can be entered as the Elected Official subtype.

REPORTING AND ANALYSIS

There are two reports packaged with CiviEngage: **Walk List** and **Phonebank List**. In addition, the **Activity Report** is enhanced to filter custom activity fields such as those associated with the custom group **Call List Responses** and **Walk List Responses**.

The **Walk List** report allows you to view, print, or export an individual's contact information and demographics such as Member Type, Sex, Age, Party Registration, Voter history, along with response codes and notes where a volunteer can collect responses during a door knock canvass.

The **Phonebank List** report is similar to the Walk List report except that this report is used exclusively during a phonebank and contain response codes pertaining to phone responses.

The Walk List and Phonebank List reports are used to collect information during a campaign to later be imported or batch entered back into CiviCRM.

The **Activity Report** is enhanced to allow you to search, view, print, or export for specific responses from a door knock canvass or phonebank campaign. Use this report not only to analyze the effectiveness of your campaign (e.g., how many people you contacted and collected responses from) but also to analyze responses from your constituency around an issue, or to determine whether individuals may become more involved with your organization.

Disabling vs. Deleting Custom Data

If you decide you don't need to use or view particular custom groups, fields, or values, we strongly recommend that you disable the group, field, or value rather than delete them. The **Walk List** and
Phonebank List reports rely on these fields, so deleting certain custom data could potentially "break" the reports.

48. INSTALLATION

Several tasks are required to install CiviEngage. Given the level of detail involved, we refer you to the wiki for the procedure:
http://wiki.civicrm.org/confluence/display/CRMDOC/CiviEngage+Installation

A few aspects of CiviEngage lead to special requirements:

- Because CiviEngage is implemented as a Drupal module, the site's Drupal administrator will have to install and enable it.
- A site key is also needed because CiviEngage runs a script that adds information to the database.
- And finally, new Individual and Organization contact subtypes need to be created.

49. CONFIGURATION

You will need to configure both Drupal and CiviEngage to use the module.

CONFIGURING CIVICRM FOR CIVIENGAGE

CiviEngage can be configured using the following CiviCRM core features:

Custom Data Groups

Configure custom data groups and fields to track voter demographics, issue interests, leadership levels, volunteer interests, and information about funders, media contacts, and elected officials.

Contact Subtypes

CiviEngage takes advantage of CiviCRM contact subtypes to expose custom data groups associated only with specific subtypes. The following are new contact subtypes:

Individual subtypes:

- **Media Contact** - will expose a contact tab containing information specific to media contacts, such as their media type (e.g. Newspaper, Radio, TV, etc.), their "Beat," and the media issue interests
- **Elected Official** - will expose a contact tab containing information specific to elected officials, such as their elected level (e.g. City Council, Senate, etc.) and the role (e.g. scheduler, spokesperson, etc.)
- **Funder** - will expose a contact tab containing information specific to funders, such as their program areas and their issue interests.

Organization subtypes:

- **Media Outlet** - will expose a contact tab containing information about their type of media, such as TV, Radio, Wire, Newspaper, Magazine, etc.

Campaign Source Codes

CiviEngage uses Campaign Source Codes that you can tailor to describe and track related activities, events, event participants, contributions, or memberships. Campaign Source Codes can be used to describe a group of related activities, events, contributions, or memberships for a specific campaign, project, or program.

Note: A "Campaign" does not necessarily mean a formal campaign, but can also generally be defined as a specific project, program, or organizing activity.

Door Knock Canvass and Phone Bank Tracking

- Events used for Door Knock Canvass or Phone Bank - Use the **Campaign** Event Type to expose Event custom fields that allows you to store up to four specific questions being asked during a door knock canvass or phone bank.

- Activities used to Collect Responses from Door Knock Canvass or Phone Bank Campaigns - Use the **Door Knock** and **Phone Call** Activity Types to expose custom fields where you can collect an individual's responses during a door knock canvass or phone bank.

Reports

- **Walk List Report** - view, print or export certain demographic and other constituent information in a specific geographic area to collect responses to be used during a door knock canvass. The Walk List Report takes advantage of the optional address parsing feature to build the report.
- **Call List Report** - view, print or export certain demographic and other constituent information along with an area to collect responses to be used during a phone bank.
- **Activity Report** - includes filters for activity custom fields so that you can build a report of specific activities based on criteria about your constituency, such as creating a report to analyze particular responses from a door knock canvass or phone bank.

Grant Proposal and Report Tracking

CiviEngage uses the **Proposal**, **Letter of Inquiry** and **Report** Activity Types to expose custom fields to track information and schedules for proposals, letters of inquiries and reports related to an individual funder or foundation.

Custom Profiles

CiviEngage configures several custom profiles for easier batch updating of individual or organization information, such as voter demographics, issue interests, volunteer interests, or event participant information. To learn more about profiles, please refer to the "Profiles" section of the book.

CONFIGURING CIVIENGAGE

When you install CiviEngage a number of custom fields are automatically created. These fields are designed to support your community organizing work. Most of these fields are multiple choice fields which have been pre-populated with sample options. Before you start using CiviEngage, you need to review and modify the supplied options to meet your needs.

Begin by going to **Administer** -> **Customize** -> **Custom Data** in the navigation menu. In the following list **bolded** items are Group Header entries in the Custom Data screen. The bulleted items are custom fields under those Group Headers that have been added by CiviEngage; the other fields under these group headers are standard to CiviCRM. The choices for these custom fields should be edited before you use CiviEngage. You should add, delete, or edit the available options for each custom field to make them better fit your organization's needs.

Communications Details

- Best Time to Contact

Voter Info

All of the fields in this custom data group are added by CiviEngage, so you should review and edit them all to suit your needs. You may also want to add specific local voter fields that apply to you.

Constituent Info - Individuals

- Constituent Type
- Staff Responsible - note that the values for this field are also used for Event Contact Person. Replace the sample names in the list with your staff, member or volunteer coordinators, and other folks that have individuals assigned to them.
- How Started - edit this list to fit the ways in which members are brought into your organization.

Grassroots Info

- Member Status - three status choices included by default. Think about other member statuses that might work for your organization and add or remove as needed.
- Leadership Level - The default options for tracking an individual's leadership level within your organization are 1-5. Change this to match however your organization tracks this information.
- Issue Interest - this custom field uses the same set of options as the Funding Areas and Funder Issue Interest fields. It is a list of issues that your organization works on or tracks.
- Volunteer Interests - a list of volunteer activities that your members can take on.

Constituent Info - **Organizations**

- Constituent Type - Org

Grant Info

- Funding Areas - this custom field uses the same set of options for Issue Interest and Funder Issue Interest.

Participant Info

- Participant Campaign Code - this custom field uses the same set of options as the Contribution Campaign Code, Event Campaign Code, Activity Campaign Code and Membership Source Code fields. Delete the example campaigns and add your own. This is the mechanism CiviEngage uses to connect a contact's participation across all these different actions. For example, a Campaign called "House Party 10-1-2010" could have an Event tied to it, a participant of that Event tied to it, an activity when an organizer calls a contact inviting them to attend an Event, a membership entry when they become members at the Event and a contribution when they pay their dues.

Contribution Source

- Contribution Campaign Code - see Participant Campaign Code.
- Contribution Campaign Method - this custom field uses the same set of options as Membership Source Campaign. Add different types of interactions or locations where you would be engaging potential members and donors.

Event Details

- Event Contact Person - also used for Staff Responsible. Add all appropriate people to this list.
- Event Campaign Code - see Participant Campaign Code.

Activity Source Details

- Activity Campaign Code - see Participant Campaign Code.

Organizational Details

This custom group is used to store information that is specific to organizations. There is only one example currently.

- Rating - if you need to evaluate organizations in some way, change the options to reflect that.

Demographics

- Ethnicity
- Primary Language - this custom field uses the same set of options as Secondary Language. Only one entry can be selected for each contact for this field.
- Secondary Language - also used for Primary Language, but as many choices as needed can be checked.

Media Info - **Org**

This custom group is only applicable to the New Media Outlet contact subtype.

- Media Type - Org - this custom field uses the same set of options as Media Type - Ind: TV, Radio, Wire, Newspaper, Magazine

Media Info - Ind

This custom group is only applicable to the New Media Contact contact subtype.

- Media Type - Ind - this custom field uses the same set of options as Media Type - Org
- Beat - this refers to the general category of topics that a media contact covers, such as local government, education, neighborhoods, religion, labor, etc.
- Media Issue Interest - uses the same option list as Issue Interest. As you come to know a reporter, you will learn the issues they are particularly interested in, even if it differs from their assigned beat.

Elected Info

This custom group is only applicable to the New Elected Official contact subtype.

- Elected Level - the governmental body the individual is part of (City Council, state legislature, mayor, etc.)
- Role - Whether the contact is the elected official, or the official's staff, spokesperson, etc.

Funder Info

This custom group is only applicable to the New Funder contact subtype.

- Funder Issue Interest - this custom field uses the same set of options as Issue Interest and Funding Areas.

Membership Source Details

- Membership Source Code - Uses the same codes as the Participant Campaign Code and Contribution Campaign Code.
- Membership Source Campaign - also used for contributions. Add different types of interactions or locations where you would be engaging potential members and donors.

50. ESSENTIAL TASKS

This chapter provides instructions on how to do some of the common tasks associated with the CiviEngage module.

PRINTING A WALK LIST

CiviEngage offers a report that allows you to easily print walk lists for folks who are doing canvassing, Get Out the Vote (GOTV) or other door knocking activities.

1. If you want to use Groups or Smart Groups to develop your walk list, be sure to create the groups you want.
2. Click on *Reports -> Create Reports from Templates* in the navigation menu.
3. Click on the walk list report. Choose whether you want the Country or Email field to display.
4. Scroll down to the "Set Filters" section. You must select a filter to obtain results. All your Groups and Smart Groups appear in the Group filter.
5. Once you have set your filter(s), scroll down and click on "Preview Report." You are now seeing the report results, but if you click on "Print Preview" you will see your walk list. You can use your browser's Print Preview feature to see the walk list on a per-page basis.

PRINTING A PHONE LIST

CiviEngage offers a report that allows you to easily print phone lists for folks who are doing phone banks or other mass phoning activities.

1. If you want to use Groups or Smart Groups to develop your phone list, be sure to create the groups you want.
2. Click on *Reports -> Create Reports from Templates* in the navigation menu.
3. Click on the phone list report. Choose the columns you want to display from the template screen.
4. Scroll down to the "Set Filters" section. You must select a filter in order to obtain results. All your Groups and Smart Groups appear in the Group filter.
5. Once you have set your filter(s), scroll down and click on "Preview Report." You are now seeing the results but if you click on "Print Preview" you will see your phone list. You can now use your browser's Print Preview feature to see the phone list on a per-page basis.

CREATE A CAMPAIGN SOURCE CODE

In order to use CiviEngage effectively, you need to create "campaigns" that you connect all your activities to.

1. Click on *Administer -> Customize -> Custom Data*.
2. Find Participant Info in the list and click the corresponding "View and Edit Custom Fields" link. This gives you a list of Custom Fields.
3. Find Participant Campaign Code and click the "Edit Multiple Choice Options" link. Now you are seeing a list of the interests.
4. Scroll down and click on "New Option" and add your new campaign.

Please note that this new campaign code will now be available for Event, Membership and Contribution Campaign Codes as well as in the Participant Campaign Code that it was just created in.

ADD AN ISSUE INTEREST

To better understand and track the areas that your members and constituencies are interested in working on, CiviEngage provides a field that collects this information. Customize this list to meet the needs of your particular organization.

1. Click on *Administer -> Customize -> Custom Data*.
2. Find Grassroots Info in the list and click on the corresponding "View and Edit Custom Fields" link. This gives you a list of Custom Fields.
3. Find Issue Interest and click the "Edit Multiple Choice Options" link. Now you are seeing a list of the interests.
4. Scroll down and click "New Option" and add your new interest.

Please note that this new issue will also appear in Funding Areas and Funder Issue Interest as well as in the Issue Interest that it was just created in.

TRACK WALK LIST/CALL LIST RESPONSES

Responses to the questions your canvassers or phone bankers ask are tracked in an individual's activity record. The text of the questions are tracked in the event record. In order to properly configure this, start with creating the event.

1. Click on *Events -> New Event*.
2. Choose Campaign for your Event Type, which will let you see the Event Campaign Details section.
3. Scroll down to the Event Campaign Details section and add the text to the questions for this particular campaign.
4. You will also want to add an Event Campaign Code, which is in the Event Details section.

Next you would go to a contact record to create a "Door Knock" or "Phone Call" activity and finish configuring this functionality.

1. Go to a contact's record and click on "new activity."
2. Choose "Phone Call" or "Door Knock" and you will get the Activities screen.
3. Scroll down and click on the Call List Responses section.
4. Now you can record the responses.
5. You then add the Activity Campaign Code in the Activity Source Details section. Make sure you choose the same campaign as you did for the Event.

▼ Walk List Responses	
Is this a Field Canvass Campaign	○ Yes ○ No (clear)
Walk List Q1	○ Y ○ N ○ U ○ D (clear)
Walk List Q2	○ Y ○ N ○ U ○ D (clear)
Walk List Q3	○ Y ○ N ○ U ○ D (clear)
Walk List Q4	○ Y ○ N ○ U ○ D (clear)
Walk List Status	○ NH ○ MV ○ D ○ WA (clear)
	NH - Not Home MV - Moved D - Deceased WA - Wrong Address

PRINT AN ACTIVITY REPORT

One of the features of CiviEngage is the ability to track the different activities that your members are engaged in. Use the activity report to better understand what your members are doing.

1. Click on *Reports -> Create Reports from Template*.
2. Choose the Activity Report. This brings up the Activity Report Template. You are now looking at all the options available for printing a report based on the activities CiviEngage offers that your contacts are engaged in.
3. The first section lists the columns that are available for your report. Use the check boxes to decide what information you want your report to show. The default values are *Assignee Contact Name, Target Contact Name, Activity Type, Subject, Activity Date* and *Activity Status*. You can choose columns from Walk List Responses, Leadership Level (from Activities), Call List Responses, Proposal Info or Activity Source Details.
   If, for example, you want a report of Walk List Responses from a specific campaign, you would check boxes from the Walk List Responses section and choose the *Activity Campaign Code* from the Activity Source Details section. Please note that the default value for *Activity Date* is "this month." If you want a different range of dates you have many options. Click on "this month" and you will see all the options available. Included is Date Range, where you can choose a specific range of dates.
4. The next section allows you to group your data by the *Source Contact* (the default value), *Activity Date* or *Activity Type*. Check the appropriate box for your report.
5. The final section is for filtering your data. Here you can choose data from any of the activity fields that CiviEngage offers.
   To continue our example, you might choose to include data where the first two Walk List questions were answered yes. Choose Y in the appropriate boxes and scroll down to the **Activity Source Detail** section and choose the appropriate *Activity Campaign Code*. Click Preview Report and view your results.
6. Once you have your results, you have a number of options. You can "Preview" the report, "Preview" the PDF of the report, "Preview" the CSV (export your report into a spreadsheet), or "Add the contacts to a group."

SEARCH FOR ACTIVITIES

The are a number of ways to search for the activities that you create using CiviEngage:

- Run a report, as explained above
- Use the Find Activities search option
- Use the CiviCRM Advanced Search
- Run an Activity Search, which is in Custom Searches.

Using the Find Activities search option

1. Click on *Search -> Find Activities*.
2. You are presented with a number of search criteria options. You can enter the name or email address of a contact in the database. You can choose one or more activity types. You can add a range of dates during which activities happened. You can search for contacts in specific Activity Roles: With, Created By and Assigned to. You can look for specific subjects, test activities or by the status of the activity. Each criterion you select will narrow your search results.
3. Click Search and you will get to the Search Results screen.
4. Select some or all of the search results and click on "- actions."
5. You can then choose to export your results, send an email to all the contacts you found or add these contacts to a group or smart group, among other options.

Using Advanced Search to find Activities

1. Click on *Search -> Find Contacts - Advanced Search*.
2. Scroll down to the Activities section and click on it. Here you find all the options available in CiviEngage for activities.
3. Once you choose your search options and click Search you will get to the Search Results screen.
4. Select some or all of the search results and click on "- actions."
5. You can then choose to export your results, send an email to all the contacts you found or add these contacts to a group or smart group, among other options.

Using the Custom Search: Activity Search

1. Click on *Search -> Custom Searches... -> Activity Search.*
2. You are presented with different criteria by which you can search for information. Enter your search terms and click Search.
3. The Search Results provides the Name of the person, the Status, Type and Subject of the Activity and who assigned the activity. You also have a button for viewing and editing each activity record.
4. Select some or all of the search results and click on "- actions."
5. You can then choose to export your results, send an email to all the contacts you found or add these contacts to a group or smart group, among other options.

EXTENDING CIVICRM
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51. EXTENDING CIVICRM

This section contains developer documentation for CiviCRM. It should be useful for developers wishing to extend CiviCRM and also for organizations who want to ensure that their developers are using best practices to extend CiviCRM.

There are many different ways you can extend and customize CiviCRM, and this section takes you through them in order of simplest to most difficult. If you find that you cannot do something you're trying to do using the tools and techniques outlined in this section, please get in touch with the CiviCRM developers in the forums (http://forum.civicrm.org/) or on the IRC channel (#civicrm on irc.freenode.net) and let them know. Hacking on the core code should *always* be a last resort and done in consultation with the core team who will always be happy to help you find the best way to cover your use case.

WHEN DO YOU NEED TO CODE?

There are a lot of different options to customize CiviCRM to fit your specific needs. They are listed roughly in order of complexity:

1. **Change the configuration**: (ok, this isn't coding but it is worth repeating) you can use custom fields, profiles, components and many existing Drupal modules and Joomla! extensions to customize CiviCRM without writing a line of code. This book covers many of these options in other sections, *so make sure you've exhausted all of those possibilities before you dive into extending the code*.
2. **Edit CSS**: You can create a new Cascading Style Sheet (CSS) file and use it, for example, to adapt the style to your site or hide elements that don't make sense in your environment. Administer -> Configuration -> Global settings -> Resource URLs field "Custom CiviCRM CSS URL".
3. **Edit the templates**: Useful to change the layout of forms, and to add more data or features via AJAX. Read about templating and APIs to know more.
4. **Implement hooks**: Hooks are called at specific points in the code as users interact with CiviCRM and are useful, for example, when you want to change the default behavior when you create, update or delete an entity, create a new custom mail merge token, or to populate a custom field automatically based on your own business logic.
5. **Add custom searches or reports**: Use these to fetch information and display it in a unique way.
6. **Extend your CMS**: Create a Drupal module or Joomla! extension that integrates with CiviCRM.
7. **Override PHP files**: In the same way that you can override templates, you can override any file in CiviCRM. If you have to modify core, it's much better to override files than to edit them.
8. **Write a new CiviCRM component or patch CiviCRM**: Regardless of which path you take to extending and customizing CiviCRM, chances are that someone else would be interested in what you did. Share it with the community! If others start using your contribution, you're likely to get bug fixes, improvements, and documentation as a bonus. Let us know what you did in the forums or IRC channel (see above).

Where possible use the documented APIs in your extensions, this will make them less likely to break when you upgrade CiviCRM.

Before venturing into any development, we strongly suggest that you discuss what you want to do, and how you want to do it, with the community. We will help you find the simplest way to reach your goal and may be able to point you to others doing similar work.

Please consider using the Academic Free License to open more opportunities to share your work. This also makes contributing your work back to the CiviCRM project very simple.

52. DEVELOPING PAGE TEMPLATES

CiviCRM uses page template files to display all the pages. This makes it possible for a person to customize any CiviCRM screen to suit a special requirement or preference. The HTML for CiviCRM pages is not embedded in PHP code, instead a template engine (Smarty) sends the correct page to the web browser.

A person should be familiar with HTML and CSS syntax to be comfortable editing page templates. Some page templates additionally make use of JavaScript and an Ajax utility, JQuery.

CHANGING PAGE TEMPLATES IS THE WRONG CHOICE WHEN …

If it is possible to make the needed changes by updating the CSS styles. For example, if a requirement is to hide oǃr move some information or form fields on a screen, a CSS style for that HTML element can be changed to *display: none*, or *position: absolute* within the CSS file.

If there is a CiviCRM hook available that can control the page. For example, there is a hook that can modify the information on the Contact Summary screen.

If there is no process in place to update the page templates after an upgrade to a new version of CiviCRM. Page templates are stored in a separate folder and are not touched during an upgrade, However new versions of CiviCRM often change which placeholder elements are available in various templates. Proper source control procedures are needed to simplify upgrades to new versions.

SMARTY TEMPLATES INTRODUCTION

CiviCRM uses a page template engine called Smarty. This documentation is focused on how Smarty is used within the CiviCRM environment. Every Smarty element is enclosed between braces like these: "{}". All the other text is going to be displayed directly as HTML in the rendered page.

Each page template is stored in a file with the extension *.tpl*. The PHP code assigns variables for content that needs to be displayed, and then lets the template engine take care of presenting it.

The Smarty template engine always does this process :

1. Load the contents of a *.tpl* file.
2. Scan the *.tpl* file for placeholder elements.
3. Replace each placeholder element with the corresponding variable value.
4. Send the resulting HTML to the web browser.

These are the most commonly used Smarty template elements:

- {$Name}: To display the value of a variable named "Name"
- {$row.Name}: To display the value of the attribute Name in the object Row
- {foreach from=$rows item=row}...{/foreach}: To loop though all the items of the Rows array
- {literal} JavaScript code{/literal}: To indicate to Smarty the "{}" aren't smarty elements but JavaScript code, enclose JavaScript between {literal}
- {ldelim}... {rdelim}: is generating "{}". Useful if you have a simple JavaScript code that needs a lot of values from Smarty variables
- {include file="CRM/path/to/template.tpl" param1=xxx}: includes the result of the *template.tpl*. Some included files expect to have extra param (e.g., *param1*).

Please read the Smarty documentation for more information.

Tip: To see what variables have been assigned to the template, enable debug (Administer -> Configure -> Global Settings -> Debugging) and on any URL, add **&smartyDebug=1**. It opens a new browser window listing all the variables and values.

CiviCRM introduces some extra features to Smarty:

- {ts}Any text{/ts}: It will display the translated text (if you don't use US English)
- {crmURL p='civicrm/contact/view' q="reset=1&cid=`$row.source_contact_id`"}. Generates the proper CiviCRM URL that works both on Joomla! and Drupal.
- {crmAPI} Allows retrieval and display of extra data that is not assigned to the template already. Read about the CiviCRM API for more information.

HOW TO FIND AND MODIFY THE TEMPLATES ?

All the templates are under the folder *templates/CRM* in your CiviCRM installation. Finding which template is used on a given page can be difficult, but the easiest way to find out the answer is to view the source of the page from a web browser and search for ".tpl". For example, for the Contact Summary page, use the web browser to open the Contact Summary page, then click "View Source" in the browser. You should find an HTML comment such as:

```
<!-- .tpl file invoked: CRM/Contact/Page/View/Summary.tpl.
     Call via form.tpl if we have a form in the page. -->
```

You can then view the file at *templates/CRM/Contact/Page/View/Summary.tpl* to see how the HTML is generated. If you want to modify the layout; for instance to reorder the content, do **not** modify directly these files, as all the modifications will be lost on the next upgrade of CiviCRM. The proper way is to create a new folder outside of your CiviCRM folder, then navigate to "Administer -> Configure -> Global settings -> Directories" in the navigation menu, and set the complete path of the folder that is going to contain your custom templates in the field *Custom Templates*.

SCENARIO: THE CONTACT SUMMARY SCREEN NEEDS TO BE CHANGED

If you want to alter the Contact Summary page template for Acme organization, perform these steps:

1. Create the folder */var/www/civi.custom/acme/templates/CRM/Contact/Page/View*
2. Update the Custom Template field in the Global Settings directories to */var/www/civi.custom/acme/templates.* You can use any directory. We found it easier to put the custom templates under */var/www/civi.custom/yourorganisation*.
3. copy *templates/Contact/Page/View/Summary.tpl* from your CiviCRM install to */var/www/civi.custom/acme*

Tip: Say you want to modify the template for a specific profile form, or a specific event. Instead of copying the Form template to its default place (*templates/CRM/Profile/Form/Edit.tpl*), you can create a subfolder with the ID of the profile and put the template file you want to change in the subfolder (*templates/CRM/Profile/Form/42/Edit.tpl* to modify only the form for ProfileID 42).

You might be willing to modify a template that isn't directly the page you load, but added later via Ajax. For instance, perhaps you want to change all the tabs beside the Content Summary (Activities, Groups, etc.). The easiest way to do this is to install a development oriented plug-in to your web browser. If using Mozilla Firefox, the Firebug plug-in is indispensable. Open the Firebug console (or equivalent in your browser) and click the tab. You will see what URL has been loaded for the tab (e.g., for the notes tab: *http://example.org/civicrm/contact/view/note?reset=1&snippet=1&cid=1*). Open it in a new window or new tab of the web browser, and view the source. It also contains a comment identifying the template used (*CRM/Contact/Page/View/Note.tpl*).

Keep in mind that when you modify a template, you might have a template that doesn't work properly anymore after an upgrade of CiviCRM, because the layout has changed or the name of variables assigned to the template was modified. In our experience, the easiest is to use a source code management system (SCM) to keep track of the changes you have made. Before doing any modification of the template you copied, add it to your SCM, and obviously also commit the template after having modified it. That way, you can easily generate a patch of your changes, and see how to apply them to the latest version of the template.

SEMANTICALLY MEANINGFUL HTML ATTRIBUTES

To make it as easy as possible for you to style any element in the page (e.g. put a yellow background on all the contacts of the subtype "members"), or add Ajax (clicking on the status of the activity changes it to complete), we strive to have a consistent and coherent schema for class names and ids for the generated HTML. This makes it easier to isolate the elements you want to alter from a custom style or from JavaScript:

- There is a class **crm-entityName** defining the type of the entity bubbled up as high as possible in the DOM. For instance, each line on a list of activity has *<tr class="crm-activity ...">*
- There is an id **crm-entityName_entityID** allowing to find the id of the entity bubbled up. e.g., on a list of contacts, the contact number 42 has a *<tr id="crm-contact_42" ...>*
- Each field or column contains a class identifying it, e.g., **"crm-activity-subject"**
- Each field or column that contains a value with a fixed set of possible values (e.g., a Status, a Role, a Contact Type) contains a class identifying it. It doesn't contain the human readable version (that can be changed), but the id or a name that can't be modified by the end-user; such as **class="crm-activity-status-id_42"**. This is on the top of the class identifying the field name, so the complete HTML is *<td class="crm-activity-status crm-activity-status-id_42">Hitchhiked</td>*.

At the time of the writing, some of the templates don't follow these conventions. Please update them and submit a bug tracking issue with a patch if you need to use a template that isn't yet complying. For more information about submitting a bug or issue, read About the CiviCRM community.

DISPLAYING MORE CONTENT AND ADDING AJAX FEATURES

If your modifications go further than "simple" modifications of the layout, but need to display more content than the one assigned to the template by default, or to add Ajax functionality, use the CiviCRM API. Please read more information about using the CiviCRM API from Ajax to pursue this approach.

In most cases, using the CiviCRM APIs should be simple and only takes a few extra lines of modifications.

SOME USEFUL VARIABLES AND EXAMPLES

On each page template, you have extra Smarty variables populated by CiviCRM.

{$config} Contains a lot of useful information about your environment (including the URL, if it's Drupal or Joomla!, etc.)

{$session} Contains information about the user.

If you want to modify the template only for a logged-in user but leave it identical for anonymous users, do the following:

```
{if $session->get('userID') > 0}
Insert your modifications here
{/if}
```

53. WRITING CUSTOM REPORTS

This chapter is a brief introduction to creating a new report in the CiviReport system. You can use the same programming techniques to extend an existing report template. These tasks call for a strong grasp of PHP. More details are available in the wiki page on customizing reports: http://wiki.civicrm.org/confluence/display/CRMDOC/CiviReport+structure+and+customization.

CREATING OR CHANGING A REPORT TEMPLATE IS THE WRONG CHOICE WHEN ...

If you want a batch action on an existing result set. CiviReport does not support most of the batch actions. If your main purpose is to print or send an email to a list of contacts that meet specific criteria, write a custom search.

REPORT SPECIFICATION

Before starting on a custom report, fill out the form on the CiviCRM wiki for report specifications. Add your specification there and ask for comments in the forum or on IRC.

CREATING A CUSTOM TEMPLATE

This section creates a custom report listing all contacts' Display Name, First Name and Last Name. Note that we'll be talking about both Smarty templates (*.tpl* files) and PHP report templates--be careful not to confuse the two.

Replacing an existing report with your own version is not recommended because you may need the original too, and because an upgrade of CiviCRM will overwrite your changes with the CiviCRM version. In this section, therefore, we'll create a new Smarty template and a new PHP template for the report. You can also copy a template and report to a new location and edit them to create your custom report.

All reports are located under *CRM/Report/Form/* and grouped by component.

Create a new Smarty template and a new PHP template for the report. Because this example creates a report about contacts, we'll create a new report template named *Contact.php* and a Smarty template named *Contact.tpl*, both in a custom directory (the *Contact.php* in the custom directory for php scripts, the *Contact.tpl* in the custom directory for templates). The paths will look like:

```
PHP_CUSTOM_PATH/CRM/Report/Form/Contact/Contact.php
```

```
TPL_CUSTOM_PATH/CRM/Report/Form/Contact/Contact.tpl
```

Add a base class named **CRM_Report_Form_Contact_Contact** in *Contact.php*, Your class must inherit the form class used for the report framework. So *Contact.php* looks like:

```
<?php
require_once 'CRM/Report/Form.php';
class CRM_Report_Form_Contact_Contact extends CRM_Report_Form {
}
```

Your Smarty template file must include the report framework template. Thus, *Contact.tpl* is:

```
{include file="CRM/Report/Form.tpl"}
```

Register your report template in CiviCRM. Go to: Administer ->⁞ CiviReport -> Register Report. Enter the details shown in the following screenshot.

Report Template

New Report Template

Title *	Contact Report
	Report title appear in the display screen.
Description *	Provides a list of contact first and last name
	Report description appear in the display screen.
URL *	contact/contact
	Report Url must be like "contribute/summary"
Class *	CRM_Report_Form_Contact_Contact
	Report Class must be present before adding the report here, e.g. 'CRM_Report_Form_Contribute_Summary'
Weight *	29
Component	Contact ⬍
	Specify the Report if it is belongs to any component like "CiviContribute"
Enabled?	☑

    [Save]   [Cancel]

In a constructor, create an array to hold a contact, which in turn hold an array specifying two fields you want to display.

```
function __construct( ) {
    $this->_columns = array( 'civicrm_contact' =>
    array(
        'dao' => 'CRM_Contact_DAO_Contact',
        'fields' => array( 'first_name' => array( 'title' => ts( 'First Name' ) ),
'last_name' => array( 'title' => ts( 'Last Name' ) ),
    ) ) );
parent::__construct( );
}
```

Build the display by issuing a SELECT against the database. You can create column headers and fill in each field in the display with the results returned by the SELECT.

```
    function preProcess( ) {
        parent::preProcess( );
    }
// build select query based on display columns selected
    function select( ) {
        $select = $this->_columnHeaders = array( );
        foreach ( $this->_columns as $tableName => $table ) {
            if ( array_key_exists('fields', $table) ) {
                foreach ( $table['fields'] as $fieldName => $field ) {
                    if ( CRM_Utils_Array::value( 'required', $field ) ||
                    CRM_Utils_Array::value( $fieldName, $this->_params['fields'] )) {
$select[] = "{$field['dbAlias']} as {$tableName}_{$fieldName}";         // initializing
columns as well
            $this->_columnHeaders["{$tableName}_{$fieldName}"]['type']  =
                CRM_Utils_Array::value( 'type', $field );
            $this->_columnHeaders["{$tableName}_{$fieldName}"]['title'] = $field['title'];
                }
            }
        }
    }
        $this->_select = "SELECT " . implode( ', ', $select ) . " ";
    }
    function from( ) {
        $this->_from = "FROM civicrm_contact {$this->_aliases['civicrm_contact']}";
    }
```

Your custom report template is ready. Press the Preview button to see the results.

After you've installed and tested your report, add it to the CiviCRM wiki as a patch to the project so that it can be used by others in the community.

54. DEVELOPING CUSTOM SEARCHES

A custom search is a method of providing new functionality within the standard CiviCRM navigation structure. This chapter looks at how to develop a Custom Search and is written for programmers.

Custom searches produce a screen showing a set of contacts, from where you can execute actions such as sending email, printing mailing labels, and all the other actions that are available for contact search results within CiviCRM. The results page displays the same as any other search results page, such as results delivered from an Advanced Search, however, a predefined set of functions is controlling which information is delivered to the result page.

Custom Searches follow the Hollywood principle, "Don't call me, I'll call you." In this case CiviCRM calls your functions at the appropriate time.

WHEN TO USE CUSTOM SEARCHES

A custom search is the right choice when ...

- you need to access the Actions list after running your search, to send email, add the contacts to a group or other actions (since the list of actions and list of tokens can be extended with developer-created hooks, the combination of a custom search + custom action + custom token is a powerful tool for implementing a special requirement. If you are interested in creating new actions or tokens, read the section on CiviCRM hooks in the chapter Extending CiviCRM.)
- you want to create a Smart Group based on the parameters of the custom search
- you want to use the search results to drive a mass mailing in CiviMail
- you want results that can be sorted by clicking any column heading in the results page.

A custom search is the wrong choice when ...

- you can use the Advanced Search or the Search Builder to create the same results
- the information you need is not primarily accessible from the CiviCRM database tables (for example, the information needs to be retrieved from a third-party system or a different database)
- the information you need does not include the CiviCRM contact ID (for example, information related to summarised event income).

CiviReport is a better choice if ...

- you need to schedule and send the entire result as an email to one or more people
- you need a summary/detail drill-down style of results page where the detail is not just the contact summary screen
- you want to use the results as a dashlet on your CiviCRM dashboard
- you need multiple report break areas within the results page, such as subtotals after every 5 records as well as grand totals
- you need to include information not related to contacts.

GETTING STARTED CREATING A NEW CUSTOM SEARCH

In this section we will create a new custom search called "BirthdaySearch" that will find all contacts whose birthdays fall in June.

Custom searches are written using PHP and SQL. Very little knowledge of PHP is needed, as you start with a template file and only make minor changes. In many cases the only changes are the SQL Select statement and which columns to display in the results.

Plan and test

Before writing the code, it is important to plan and test the SQL query and verify the results. It is valuable at this stage to review the database tables and test the SQL select statements within the database using an SQL tool such as PHPMyAdmin.

It may be helpful for you to review the information at:

- Useful CiviCRM SQL Queries:
  http://wiki.civicrm.org/confluence/display/CRMDOC/Useful+SQL+queries
- CiviCRM Data Architecture: http://wiki.civicrm.org/confluence/x/GQDEAQ
- CiviCRM wiki: http://wiki.civicrm.org/confluence/x/MYOUAQ

Setting the filepath

Your custom search files can be stored almost anywhere, but you must tell CiviCRM where these files are.

1. Within CiviCRM, go to: Administer > Configure > Global Settings > Directories
2. Fill in the Custom PHP Path Directory. This needs to be an absolute path to your PHP directory, such as /home2/jsmith/public_html/civicrm_custom_code/
3. Create a copy of an existing custom search file, such as the EventAggregate.php file. You will find this file at:
   <joomla root>/administrator/components/com_civicrm/civicrm/CRM/Contact/Form/Search/Custom
   or
   <drupal root>/sites/all/modules/civicrm/CRM/Contact/Form/Search/Custom
4. Place the EventAggregate.php file in the directory:
   /home2/jsmith/public_html/civicrm_custom_code/CRM/Contact/Form/Search/Custom
5. Rename the copied EventAggregate.php file to BirthdaySearch.php

UNDERSTANDING AND UPDATING THE SEARCH CODE

Start by opening the file BirthdaySearch.php in a text editor. The first change needed is to change the class declaration to:

```
class CRM_Contact_Form_Search_Custom_UpcomingBirthdays
    implements CRM_Contact_Form_Search_Interface {
```

Functions you will probably need to modify:

- **function_construct:** this controls the columns that are part of the results page.

- **function all:** this function is responsible for returning the SQL select statement to execute that gets the entire set of information. The select statement MUST include a field named "contact_id". Normally it also contains fields named "name" and "sort_name". For example:

```
if ( $onlyIDs ) {
    $select  = "DISTINCT civicrm_contact.id as contact_id,
     civicrm_contact.display_name as name";
    } else {
    $select = "DISTINCT civicrm_contact.id as contact_id, CONCAT(
     monthname(civicrm_contact.birth_date) , ' ', day(civicrm_contact.birth_date))
     as sort_name , civicrm_contact.display_name as name, 'birthday' as oc_type" ;

    }

    $from  = $this->from( );
    $where = $this->where( $includeContactIDs ) ;
    $sql = "SELECT $select FROM  $from WHERE $where ";
```

⋮

- **function from:** this function is responsible for returning the from clause of the SQL select statement. It is normally called from the "all" function as well as by CiviCRM.

- **function where:** this function is responsible for returning the where clause of the SQL select statement.

- **function buildForm:** this controls the results title as well as the parameters that are available to the person running the search. For this birthday search, you may want the user to be able to choose the month.

Functions you may need to modify:

- **function summary:** this function is needed if some or all columns have summary information, such as total number of birthdays in June.

- **function alterRow:** this function allows you to alter the contents of a piece of information before the results are displayed.

- **templateFile**: this function returns the name of the Smarty template that CiviCRM will use to present the results. For most purposes, the template CRM/Contact/Form/Search/Custom/Sample.tpl will suffice.

PREPARE TO RUN THE CUSTOM SEARCH

Before you can run the custom search, CiviCRM needs to be informed that it exists. This is accomplished by the following steps:

1. Go to: Administer > Customize > Manage Custom Searches.
2. Scroll to the bottom of the page and click the button New Custom Search.
3. Provide the class path as: CRM_Contact_Form_Search_Custom_BirthdaySearch
4. Provide the title as: Birthday Search

The new Birthday Search should now appear in (and can be run from) the list of custom searches in the navigation menu. It will also appear on the page reached by going to Search > Custom Searches.

The new custom search will not appear in the black navigation menu unless the navigation menu is edited. This can be done by going to Administer > Customize > Navigation Menu.

TESTING THE CUSTOM SEARCH

Always test the following behaviors of the new search:

- Test for a variety of form values, especially for invalid data. Errors in validation can lead to serious security breaches. Just because there is a drop-down list of valid months, do not assume that only valid months are passed to your custom search. Also test for values with apostrophes and other special characters.
- Test the previous and next page links for a variety of different size results.
- Test the first/last page links for a variety of different size results.
- Make a Smart Group from it and send a CiviMailing to that group.
- Test other actions in the Action menu such as Send an Email, or create PDF letters with mail merge tokens.

55. WORKING WITH THE API

CiviCRM provides an **Application Programming Interface** (**API**). This is a stable, coherent and standardised set of functions and it is the recommended way for any external programme to interact with CiviCRM.

CiviCRM is open source software, which means you can modify the source code or call methods and objects directly. But if you did, you would probably encounter difficulties when upgrading to a new version of CiviCRM because those methods and objects may have changed in the new version.

On the other hand, the API is designed to remain the same so it should behave identically across versions, or at the very least warn developers well in advance of a change. An API change between minor versions will be considered a regression bug and you should report it to the CiviCRM development team so they can fix it.

Most of the API functions are low level methods that allow you to interact with one of the entities in CiviCRM (contact, tag, group, activity, etc.). For each entity type, there are at least 3 actions: add (handles add and update), get (one specific entity), and delete. Some entities work slightly differently. **Read the API docs in the wiki for the most up-to-date information:** http://wiki.civicrm.org/confluence/display/CRMDOC/CiviCRM+Public+APIs

Additionally, the API test directory http://svn.civicrm.org/civicrm/trunk/tests/phpunit/api/v2/ contains examples of most of the APIs, along with what parameters to use as input and what return parameters to expect.

There is an ongoing effort to better standardise the APIs, and help is certainly appreciated. If you're interested in lending a hand, post to the API section of the developer forum here: http://forum.civicrm.org/

HOW TO USE THE API

The naming convention for API functions is **civicrm_entityname_action**. For instance, the function to create a contact is civicrm_contact_add, and the method to delete a group is civicrm_group_delete.

Every API function takes one single array of parameters as input. If the function needs a single parameter (e.g. the identifier of the group you want to delete), this will be an array containing a single item like so: array('id' => XX);

Every API function returns a single array. All the delete and add/modify functions contain an item "is_error". If the function couldn't delete or modify the entity as you requested, is_error = 1 and a second item error_message returns details about the error (eg. "*DB Error: already exists*"). If you have turned on debugging (see the Developer Tips & Tricks section), you have an extra item "debug_info" that contains a more detailed explanation (e.g. "*INSERT INTO civicrm_tag (name) VALUES ('existing tag name') [nativecode=1062...*").

They are at least 5 different ways of using an API function:

1. as a php function, to run your own code on the same server as CiviCRM
2. via the AJAX interface, to be called from JavaScript code
3. via the REST* interface, can be called from another server via http calls
4. as a Smarty function to add data to templates
5. from drush on the command line for Drupal installations.

Tip: When using the API, be sure to verify the proper name of each parameter, which parameters are mandatory, and the structure of the resulting array. The easiest way to test the API is to make AJAX calls from a test web page. See the AJAX section below for more information.

*It's not really REST, but it's not SOAP either. It doesn't work for many API functions because it assumes a certain level of standardisation that just isn't in place yet (as of version 3.2). Test, test, test if you use the REST (REST, REST) interface, and don't hesitate to [file bugs](#) when things don't work the way they should.

CALLING THE API AS A PHP FUNCTION

If you write custom code that is going to run within the same environment as CiviCRM, calling the API as a PHP function is the recommended way of modifying or fetching data. You will see examples of API calls throughout the developer documentation.

For example, you could create several tags from a script rather than doing it manually from the CiviCRM admin page. The code below shows you how to do it using the API.

Following the API convention described above, the function to call is **civicrm_tag_create**. The input parameters are: name, description, parent_id.

```php
<?php
require_once 'civicrm.config.php';
require_once 'CRM/Core/Config.php';
require_once 'api/v2/Tag.php';

$param = array("name"=>"Topic of interest");
$result = civicrm_tag_create( $param );

if (civicrm_error( $result ))
  die ("Topic of interest already exists");

$parentid = $result['tag_id'];

$tags = array("Animal Protection", "...200 other tags", "Zen");

foreach ($tags as $tag) {
  $params = array("name"=>$tag, "description"=> "Example of Topic of interest",
      "parent_id" => $parentid);
  $result = civicrm_tag_create ($param);
  if (civicrm_error( $result )) {
 echo "\n ERROR creating $tag: ". $result['error_message'];
  } else {
 echo "\n Tag $name created with id:".$result['tag_id'];
  }
}
```

Some explanations:

- civicrm_error is a helper function to test if the api returned an error (or not)

- all the functions are in api/v2; the name of the file is the name of the entity (in CamelCase).

Tip: It is very easy to create a custom API class to add new methods to the API. Simply create a new file in api/v2/ with any name you want (and a .php extension) and put the functions in it. They should follow the naming convention explained above. Your new API functions will automatically be available.

CALLING THE API AS AJAX BACK-END

With Ajax, you can retrieve data from the CiviCRM server asynchronously in the background without interfering with the display and behavior of the existing page.

This section assumes you are familiar with over-riding templates and using jQuery. There is a chapter in this section on over-riding templates, and you can find more information on jQuery using any web search engine.

All the API functions are directly usable from an Ajax call and available to all logged-in users with CiviCRM access privileges. This is very useful to update a value in the database without having to reload the whole page (which might contain a long list of records, for example). You could use it on the activities list page to set the status as "completed", on a list of participants to set the status as "attended", or to tag a contact in a search result, each time without having to reload the page.

Using the jQuery plug-in

The file *js/rest.js* contains a jQuery plug-in to make it simpler to call any CiviCRM API function.

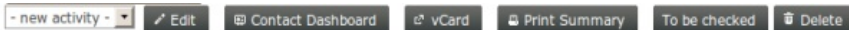The general syntax is **$().crmAPI (entity,action,params)**

For example, to dynamically create a tag, using JavaScript, in any page:

```
 $().crmAPI ("civicrm_tag", "create", {"name": "Wonky", "description": "Broken, please
fix."});
```

Upon completion of the Ajax call, the default behaviour is to display a "Saved" message in a div with id "*restmsg*" (you will need to be sure this div exists in your page if you want to see the message). However, you might want to alter this default behaviour, for instance to change the colour of a row, the name in a field or to hide a button the user has clicked. This is done via a special parameter, "success", that is a function called when the Ajax API has returned the result. The next example shows how this is used.

Large organisations often have many contact records in CiviCRM and staff don't have time to update every detail of every record, even if they notice that the phone number doesn't work or the address isn't correct anymore. One solution is to allow them to flag the record for later follow-up if they suspect it may be inaccurate.

To make this as simple as possible, create a button that tags the contact "To be checked". We can modify the contact summary screen (*CRM/Contact/Page/View/Summary.tpl*) and add a button "To be checked", that adds the tag via an Ajax call to the API.

Here's what we added to the contact summary template to make this work (don't forget to create the "To be checked" tag):

```
{literal}
<script>
jQuery(document).ready(function($){
  $("#actions").append(''<li><a href="#" id="tobechecked" class="button"
    title="If the contact details need to be updated"><span>
        To be checked</span></a></li>');
  $("#tobechecked").click(function(){
    $().crmAPI ('entity_tag','add',{
            tag_id      : 6
            ,entity_table : 'civicrm_contact'
            ,entity_id    : {/literal}{$contactId}{literal}
            },{
            success:function (){
              $("#tobecheked").fadeOut('slow');
            }
            });
    return false;
  });

});
</script> {/literal}
```

A few points of explanation:

- The initial {literal} is to tell Smarty (CiviCRM's templating engine) that it should ignore everything that comes next until it sees {/literal}. This is needed because JavaScript uses the curly brace character and Smarty will become very confused if we don't tell it to relax beforehand.
- In this specific example, the tag "to be checked" had 6 as its id, so adjust appropriately if you're following along at home.
- entity_id: {/literal}{$contactId}{literal} means that {$contactId} is a smarty tag (and is replaced by a number, the id of the contact
- When the contact has been tagged, the function success is called, and it removes the "To be checked" button from the toolbar.
- It might be even better to have the button create a new activity "To be checked" that is assigned to the person responsible for checking contacts. The API to call would be civicrm_activity_create. The details of the parameters for the actual implementation is an exercise left to the reader.

Ajax behind the scenes

It is useful to know what happens when you use the Ajax interface to help you debug problems with it.

The $().crmAPI call accesses a URL like this (for Drupal with clean URLs enabled):

```
http://eg.org/civicrm/ajax/rest?
fnName=civicrm/<entity>/<action>&json=1&param1=xxx&param2=yyy...
```

To create a tag, for example, the following URL gets accessed:

```
http://eg.org/civicrm/ajax/rest?fnName=civicrm/tag/create&json=1&name=
    example&description=direct
```

Tip: In order to test an API function that you want to use in your PHP code, a template, or via the REST interface, you can use the Ajax interface to figure out the right parameters. For instance, if you want to fetch all the tags of a contact (method civicrm_entity_tag_get), log in to CiviCRM and then paste this URL into your browser:

```
http://example.org/civicrm/ajax/rest?fnName=civicrm/entity_tag/get&json=1
```

It should return *{"is_error":1,"error_message":"entity_id is a required field."}*. So you add the entity_id (which should be the contact id in this case). Now try this one:

```
http://example.org/civicrm/ajax/rest?fnName=civicrm/entity_tag/get&json=
    1&entity_id=1
```

... which returns:

```
[{"tag_id":"4"},{"tag_id":"3"},{"tag_id":"1"},{"tag_id":"14"}]
```

You can also now see the format of the returned data. This should give you a good idea of how to use this API function in other contexts.

Autocomplete and search contacts

If you create a profile for individual contacts that contains the current employer, you might want to add an autocomplete on that field, such as you have on the normal contact edit form. When a user starts to type the name of the current employer, the system will attempt to autocomplete the name from your database of organisation contacts.

For security reasons, the Ajax interface is restricted to users who have access to CiviCRM - otherwise, it would be fairly easy for anyone to download all the contacts you have in your database. So that's the first thing we check for here:

```
{if $session->get('userID') > 0}

<script type="text/javascript" src="../{$config->resourceBase}js/rest.js"></script>{literal}
<script>
jQuery(document).ready(function($){
  $('#current_employer').crmAutocomplete({params:{contact_type:'Organization'}});
});
```

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```
</script>
{/literal}

{/if}
```

You might want to add additional filters. For instance in a profile "new volunteer from a member", you want to populate the list only with the organisations that belong to the group "members" (group id 42).

```
$('#current_employer').crmAutocomplete({params:{contact_type:'Organization',group:42}});
```

CALLING THE API FROM A TEMPLATE

This section assumes you know how to find the template used to render a page and you know how to over-ride a template. Read the section on templating in the developer documentation if you're not sure.

On some templates, you might want to display more information than what is available by default, for example, displaying the list of groups a contact belongs to next to his or her tags.

You can use the API to fetch that information **from within the template** and assign it to a Smarty variable that you can then display just like any other variable.

The general syntax is **{crmAPI var="new variable name" entity="entity name" action="action name" param1="xxx" param2="yyy"}**

For example to fetch all groups the user id 42 belongs to and assign them to the variable groups:

```
{crmAPI entity="group_contact" action="get" var="groups" contact_id=42}
```

The following code adds the list of groups below the list of tags on the contact summary page (CRM/Contact/Page/View/Summary.tpl)

```
<tr>
  <td class="label">Groups</td>
  <td id="groups">
{crmAPI entity="group_contact" action="get" var="groups" contact_id=$contactId}
{foreach from=$groups item=group}
{$group.title},
{/foreach}
 </td>
</tr>
```

CALLING THE API FROM AN EXTERNAL SERVER VIA THE REST API

The syntax and principle are identical to the other methods, but with one major difference: the external server needs to authenticate itself before being able to use any API functions.

To call the API with a browser, use:

```
http://www.example.org/path/to/civi/codebase/civicrm/extern/rest.php?q=civicrm/<function>
```

The first call is to authenticate the caller on the CiviCRM server:

```
https://eg.org/path/to/civi/codebase/civicrm/extern/rest.php?q=civicrm
   /login&name=user&pass=password&key=yoursitekey&json=1
```

The key is in the CIVICRM_SITE_KEY variable defined in your civicrm.settings.php file.

Note: On the first call, you might get an error message like "This user does not have a valid API key in the database, and therefore cannot authenticate through this interface". This means that you need to generate a key for the user, and add it to the api_key field in the civicrm_contact table in the database.

```
{"is_error":0,"api_key":"as-in-your-setting.civicrm.php",
   "PHPSESSID":"4984783cb5ca0d51a622ff35fb32b590",
   "key": "2e554f49c9fc5c47548da4b24da64681b77dca08"}
```

It returns a session id. You can then use any API adding the extra param PHPSESSID = the value returned by the log-in call.

For example:

```
http://www.example.org/civicrm/ajax/rest?fnName=civicrm/contact/search&json=1&key=
yoursitekey&PHPSESSID=4984783cb5ca0d51a622ff35fb32b590
```

Note: An action that modifies the database (such as creating a contact or group) should have the parameters passed as POST, not GET. The REST interface accepts both a GET and a POST, but you should follow the web standard and use POST for things that alter the database. You'll win the respect of your peers and the admiration of your friends and family.

Access the REST API from other languages

The REST interface is language neutral (any language can use it as soon as it operates over HTTP requests), and 3 external libraries have been written by others in the CiviCRM community (and are in various states of completion):

1. perl: http://search.cpan.org/~wmorgan/
2. ruby: http://github.com/cap10morgan/civicrm-client-rest-ruby
3. python: http://dev.plone.org/collective/browser/collective.civicrm.pycivicrm/trunk

Please refer to the documentation provided with each library to see how to use them (or complain to their authors if it is lacking).

56. HOOKS

Hooks are a common way to extend systems. The way they work in CiviCRM is that, at key points in processing--such as saving a change or displaying a page--CiviCRM checks to see whether you've "hooked in" some custom code, and runs any valid code it finds.

For example, let's say you want to send an email message to someone in your organization every time a contact in a particular group is edited. Hooks allow you to do this by defining a function with a specific name and adding it to your organisation's CiviCRM installation. The name of the function indicates the point at which CiviCRM should call it. CiviCRM looks for appropriate function names and calls the functions whenever it performs the indicated operations.

Hooks are a powerful way to extend CiviCRM's functionality, incorporate additional business logic, and even integrate CiviCRM with external systems. Many CiviCRM developers find themselves using them in nearly every customization project.

USING A HOOK IS THE WRONG CHOICE WHEN ...

If you just want to invoke an activity from CiviCRM in a program, it's more appropriate to use the API (covered in another chapter). For example, if you want CiviCRM to output everyone in a particular group so that you can feed them into an external database, you probably should use the API instead of a hook.

A good test for whether or not to use a hook is to ask yourself whether what you're trying to do can be expressed with a sentence like this: "I want *X* to happen every time someone does *Y*."

HOW TO USE HOOKS

How you use hooks depends on whether you're using CiviCRM with Drupal or Joomla!.

Using hooks with Drupal

Check the CiviCRM wiki page for the most up-to-date information on setting up hooks with Drupal: **http://tiny.booki.cc/?hooks-in-drupal**

In order to start using hooks with a Drupal-based CiviCRM installation, you or your administrator needs to do the following:

1. Create a file with the extension *.info* (for instance, *myhooks.info*) containing the following lines. Replace the example text in the first 2 lines with something appropriate for your organization:

```
name = My Organization's Hooks
description = Module containing the CiviCRM hooks for my organization
dependencies[] = civicrm
package = CiviCRM
core = 6.x
version = 1.0
```

2. Create a new file with the extension *.module* (for instance, *myhooks.module*) to hold your PHP functions.
3. Upload both the *.info* and *.module* files to the server running CiviCRM, creating a new directory for them under */sites/all/modules* (for instance, */sites/all/modules/myhooks/*) inside your Drupal installation. The directory name you create should be short and contain only lowercase letters, digits, and underlines without spaces.
4. Access the Drupal Administration page to enable your new hooks module.

Using hooks with Joomla!

Check the CiviCRM wiki for the most up-to-date information on setting up hooks with Joomla!:
http://tiny.booki.cc/?hooks-in-joomla

In order to use hooks with Joomla!, you or your administrator needs to do the following:

1. Create a file named *civicrmHooks.php* to contain your functions.
2. Create a new directory anywhere on your server outside of your Joomla! / CiviCRM installation (so that upgrades will leave your hooks alone). */var/www/civicrm_hooks* might be a good choice.
3. Upload the *civicrmHooks.php* file to the directory you just created.
4. Go to: CiviCRM Administer > Global Settings > Directories. Change the value of **Custom PHP Path Directory** to the absolute path to the new directory (e.g., "/var/www/civicrm_hooks" if you used that suggestion in the earlier step).

Refine what you want to act upon

When you create a hook, it will be called for all the types of entities. For instance, a civicrm_post is called after the creation or modification of any object of any type (contact, tag, group, activity, etc.). But usually, you want to launch an action only for a specific type of entity.

So a hook generally starts with a test on the type of entity or type of action. For instance, if you want to act only when a new individual contact is created or modified, start your civicrm_post hook with:

```
if ($objectName != "Individual" || $op != "edit") {
  return;
}
```

On the other hand, if you want to run multiple hooks within the same function, you don't want to return from any single hook. Instead, you can nest the entire code for each hook within your test:

```
if ($objectName == "Individual" && $op == "edit") {
  // Your hook
}
```

Pitfalls of hooks

Because you have little control over what CiviCRM passes to your hook function, it is very helpful to look inside those objects (especially **$objectRef**) to make sure you're getting what you expect. A good debugger is indispensable here. See the Developer Tips & Tricks chapter at the end of this section for more information on setting up a debugger for your development environment.

EXAMPLES OF USING HOOKS

Some example hooks follow. Consult the hooks reference documentation on the CiviCRM wiki to see the full extent of what you can do:
http://wiki.civicrm.org/confluence/display/CRMDOC/CiviCRM+hook+specification

In all of these examples, you'll put the code we provide into your *myhooks.module* file if using Drupal, or the *civicrmHooks.php* file if using Joomla!. Be sure to upload the file after each change to the appropriate location on your server to see the new code take effect.

Additionally, if you are using Drupal and add a new hook to an existing module, you will need to clear the cache for the hook to start operating. One way of doing this is by visiting the page Admin > Build > Modules.

Sending an email message when a contact in a particular group is edited

In order to have CiviCRM tell you when a contact is edited, define the civicrm_pre hook. This lets you see the incoming edits as well as the values of the existing record, because you may want to include that information in the email.

If you are using Drupal, create a function named *myhooks*_**civicrm_pre**. If using Joomla!, create a function named **joomla_civicrm_pre**. We'll assume you're using Drupal for the rest of the example, so please adjust the code accordingly if you're using Joomla! instead.

```php
<?php

function myhooks_civicrm_pre( $op, $objectName, $objectId, &$objectRef ) {
    # configuration stuff
    $theGroupId = 1; # group id we want the contacts to be in
    $emailRecipient = 'johndoe@example.org'; # person to e-mail

    # Make sure we just saved an Individual contact and that it was edited
    if ($objectName == "Individual" && $op == "edit") {

        # Now see if it's in the particular group we're interested in
        require_once 'api/v2/GroupContact.php';
        $params = array('contact_id' => $objectId);
        $groups = civicrm_group_contact_get( $params );
        $found = false;
        foreach ($groups as $group) {
            if ($group['group_id'] == $theGroupId) {
                $found = true;
            }
        }
        # Exit now if contact wasn't in the group we wanted
        if (! $found) {
            return;
        }

        # We found the contact in the group we wanted, send the e-mail
        $emailSubject = "Contact was edited";
        $emailBody = "Someone edited contactId $objectId\n";
        # Here's where you may want to iterate over the fields
        # and compare them so you can report on what has changed.
        mail( $emailRecipient, $emailSubject, $emailBody );
    }
}
```

Validating a new contribution against custom business rules

If you have experience with other hook-based systems, you might think that the civicrm_pre hook is the one to use for validations. But this is not the case in CiviCRM because, even though the civicrm_pre hook is called before the record is saved to the database, you cannot abort the action from this hook.

This is where validation hooks come in. When you return true from a validation hook, CiviCRM saves the new or updated record. When you return an error object instead, CiviCRM aborts the operation and reports your error to the user.

An example follows of using a validation hook to validate new contributions against a business rule that says campaign contributions must have a source associated with them. In this example, we'll assume you are using Joomla!, so if you are using Drupal instead, be sure to change the function name accordingly.

```php
<?php

function joomla_civicrm_validate( $formName, &$fields, &$files, &$form ) {
    # configuration stuff
    $campaignContributionTypeId = 3; # adjust for your site if different

    $errors = array();

    # $formName will be set to the class name of the form that was posted
    if ($formName == 'CRM_Contribute_Form_Contribution') {
        require_once 'CRM/Utils/Array.php';
        $contributionTypeId = CRM_Utils_Array::value( 'contribution_type_id',
            $fields );
        if ($contributionTypeId == $campaignContributionTypeId) {
            # see if the source field is blank or not
            $source = CRM_Utils_Array::value( 'source', $fields );
            if (strlen( $source ) > 0) {
                # tell CiviCRM to proceed with saving the contribution
                return true;
            } else {
                # source is blank, bzzzzzzzzzzzt!
                # assign the error to a key corresponding to the field name
                $errors['source'] =
    "Source must contain the campaign identifier for campaign contributions";
                return $errors;
```

```
            }
        } else {
            # not a campaign contribution, let it through
            return true;
        }
    }
}
```

Automatically filling custom field values based on custom business logic

This example uses a hook to write some data back to CiviCRM. You can make a custom field read-only and then set its value from a hook. This is very handy for storing and displaying data that are derived from other attributes of a record based on custom business logic.

For example, let's say you are storing employee records and you want to auto-generate their network login account when new employees are added. By doing it in your code, you can enforce a policy for login account names. For this example, let's say the policy is first initial + last name. So if your name is Jack Frost, your network login name would be *jfrost*.

Add a new read-only custom field to CiviCRM called "Network Login" and then find its ID. You can find it either by:

- Checking the civicrm_custom_field table in your CiviCRM database.
- Editing a contact and check the name of the Network Login field.

The code must refer to the ID as **custom_***id*. So if you find that the id of the new field is 74, refer to is as **custom_74** in your code.

Now that we have our Network Login field, let's see how to populate it automatically with a hook. We'll switch back to the Drupal naming convention for this example.

Note that we use the civicrm_post hook here because we need the new contact record's ID in order to save a value to one of its custom fields. New records don't have an ID until they have been saved in the database, so if we ran this code in the civicrm_pre hook, it would fail.

```php
<?php

function myhooks_civicrm_post( $op, $objectName, $objectId, &$objectRef ) {
    # configuration stuff
    $customId = 74;

    if ($objectName == 'Individual' && $op == 'create') {
        # generate the login
        $firstName = $objectRef->first_name;
        $lastName = $objectRef->last_name;
        $firstInitial = substr( $firstName, 0, 1 );
        $networkLogin = strtolower( $firstInitial . $lastName );

        # assign to the custom field
        $customParams = array("entityID" => $objectId,
            "custom_$customId" => $networkLogin);
        require_once 'CRM/Core/BAO/CustomValueTable.php';
        CRM_Core_BAO_CustomValueTable::setValues( $customParams );
    }
}
```

Custom mail merge token

The CiviMail component lets you customise a bulk email message using mail merge tokens. For instance, you can begin your message with, "Hi, {recipient.first_name}!" and when John Doe receives it, he'll see, "Hi, John!" whereas when Suzy Queue receives it, she'll see, "Hi, Suzy!" You can find out more details about working with custom tokens on the CiviCRM wiki:
http://wiki.civicrm.org/confluence/display/CRMDOC/Mail-merge+Tokens+for+Contact+Data.

Besides the built-in tokens, you can use a hook to create new custom tokens. Let's make a new one that will show the largest contribution each recipient has given in the past. We'll use Drupal syntax again for this one.

```php
<?php

# implement the tokens hook so we can add our new token to the list of tokens
# displayed to CiviMail users
```

```
function myhooks_civicrm_tokens( &$tokens ) {
    $tokens['contribution'] =
        array('contribution.largest' => 'Largest Contribution');
    /*  just array('contribution.largest'); in 3.1 or earlier */
}

# now we'll set the value of our custom token;
# it's better in general to use the API rather than SQL queries to retrieve data,
# but in this case the MAX() function makes it very efficient to get the largest
# contribution, so let's make an exception
function myhooks_civicrm_tokenValues( &$details, &$contactIDs ) {
    # prepare the contact ID(s) for use in a database query
    if ( is_array( $contactIDs ) ) {
        $contactIDString = implode( ',', array_values( $contactIDs ) );
        $single = false;
    } else {
        $contactIDString = "( $contactIDs )";
        $single = true;
    }

    # build the database query
    $query = "
      SELECT contact_id,
         max( total_amount ) as total_amount
       FROM   civicrm_contribution
       WHERE  contact_id IN ( $contactIDString )
       AND    is_test = 0
       GROUP BY contact_id
      ";

    # run the query
    $dao = CRM_Core_DAO::executeQuery( $query );
    while ( $dao->fetch( ) ) {
        if ( $single ) {
            $value =& $details;
        } else {
            if ( ! array_key_exists( $dao->contact_id, $details ) ) {
                $details[$dao->contact_id] = array( );
            }
            $value =& $details[$dao->contact_id];
        }

        # set the token's value
        $value['contribution.largest'] = $dao->total_amount;
    }
}
```

57. IMPORTING DATA

The CiviCRM import system can be used to import contacts, activities, contributions, event participants, and memberships. You can extend the import system to allow it to parse different data sources, such as XML, JSON, Excel, or OpenDocument. The import system is especially useful when you have legacy data in another system (such as a spreadsheet), or have data you need to migrate from one system to another.

As of version 3.2, the import system has a few important limitations. It is currently not very good at importing:

- Large data sets
- Data sets which contain information for more than component (such as contact data that also contains contributions)
- Data sets which should be imported into more than one group or tag (currently, you can choose only one group or tag for the entire import rather than specifying the value in a field of the imported data set).

These limitation apply to any extensions you build on the import. To overcome these limitations, one strategy would be to write a custom script using the CiviCRM API that parses the incoming data and makes the appropriate API calls to import it.

Note: If you're reading this in a printed copy, you may want to access the online version so you can copy and paste the code examples more easily. You can find the online version here: http://en.flossmanuals.net/civicrm

DATA SOURCES

The import system supports two data sources out of the box. CSV and SQL. CSV is exported by most spreadsheets, many web sites, and a lot of legacy systems. SQL is the language of relational databases.

Here's your first insider tip on the import system: *Every* import is an SQL import. The CSV import data source, for example, starts out by dumping the CSV into a temporary database table and then running an SQL import on those data. If you write a custom data source, it's important to remember this because it will save you a lot of mental energy. You don't need to worry about formatting or validating the import data at all. Just get it into a database table and let CiviCRM take it from there.

When would you want to write an import data source? It might be useful if, say, a client were migrating from another CRM to CiviCRM and wanted to import their data themselves. Another example would be to support a different import file format.

To make things easy on yourself, check for an existing PHP library that can read the format of the data you want to import. If you fine one, use that library to read the data into a database table.

DATA SOURCE API

The data source API is essentially a set of functions you should implement in a new PHP class. Many software developers refer to this as an "interface" or "protocol." The abstract class that defines this interface is located in *CRM/Import/DataSource.php*. You should also look at the *CRM/Import/DataSource/CSV.php* file, because this implements the interface for the CSV import feature.

Here are the functions you will implement and what they should do:

```
getInfo(); # should return an array with the title of your data source plugin
```

```
preProcess( &$form ); # if you need to set anything up before the form is
displayed, this iss the place to do it

buildQuickForm( &$form ); # here you should build a form snippet that asks the user
for the appropriate information to access the incoming data

postProcess( &$params, &$db ); # this is where you dump the incoming data into the
database table
```

After defining your import data source, you need a new Smarty template to create your form snippet. This is pretty specific to the type of import data source you're defining. Let's look at an example of a real custom data source.

EXAMPLE DATA SOURCE

This example of a custom import data source reads a JSON file and imports its contents as new contacts. This file should be named *JSON.php* and be added to the *CRM/Import/DataSource/* directory.

```php
<?php

/* My awesome JSON importer of dubious utility and efficiency (but still awesome!)
 *
 * JSON should look like this:
 * {
 *    "contacts" : [
 *       {
 *          "first_name" : "Foo",
 *          "last_name" : "Bar",
 *          "other_field" : "baz"
 *       },
 *       {
 *          "first_name" : "Other",
 *          "last_name" : "Contact",
 *          "something_else" : "yep"
 *       }
 *    ]
 * }
 */

require_once 'CRM/Import/DataSource.php';

class CRM_Import_DataSource_JSON extends CRM_Import_DataSource
{
    function getInfo()
    {
        return array('title' => ts('JavaScript Object Notation (JSON)'));
    }

    function preProcess(&$form)
    {
        # nothing to do here, but we still define the function
    }

    function buildQuickForm(&$form)
    {
        ### In this function we're calling a lot of QuickForm functions.
        ### If you're unfamiliar with that library, it might be good
        ### to look up the documentation for it.

        # define a hidden field that tells the system which
        # data source class we're using
        $form->add( 'hidden', 'hidden_dataSource', 'CRM_Import_DataSource_JSON' );

        # grab the config object so we respect some system settings
        $config = CRM_Core_Config::singleton();

        # get the max upload file size from the config
        $uploadFileSize = $config->maxImportFileSize;
        $uploadSize = round( ( $uploadFileSize / (1024*1024) ), 2 );

        # assign the max upload file size to a template variable
        # see the template documentation for more info on this
        $form->assign( 'uploadSize', $uploadSize );

        # add the file selection field to the form
        $form->add( 'file', 'uploadFile', ts('Import Data File'),
            'size=30 maxlength=60', true );

        # now set the max file size so the form enforces it
        $form->setMaxFileSize($uploadFileSize);
        $form->addRule( 'uploadFile',
```

```
                ts('File size should be less than %1 MBytes (%2 bytes)',
                array(1 => $uploadSize, 2 => $uploadFileSize)),
                'maxfilesize', $uploadFileSize );

        # not a very smart rule, but it'll do for now
        $form->addRule( 'uploadFile', ts('Input file must be in JSON format'),
            'utf8File' );

        # make sure we end up with a file after the form posts
        $form->addRule( 'uploadFile', ts('A valid file must be uploaded.'),
            'uploadedfile' );
    }

    function postProcess(&$params, &$db)
    {
        # grab the name of the file that was uploaded
        $file = $params['uploadFile']['name'];

        # call a helper function we'll define below to parse the JSON
        $result = self::_JsonToTable( $db, $file,
            CRM_Utils_Array::value( 'import_table_name', $params ) );

        # grab the import table name (CiviCRM determines this for us)
        $table = $result['import_table_name'];

        # create a new ImportJob object for our table
        require_once 'CRM/Import/ImportJob.php';
        $importJob = new CRM_Import_ImportJob( $table );

        # the ImportJob modifies the table name a bit, so let's update it
        $this->set( 'importTableName', $importJob->getTableName() );
    }

    /**
     * We define this function just to keep things cleaner, the import data source
     * interface doesn't look for it; it's a private function. We use an
     * underscore at the beginning of the name to indicate this.
     */
    private static function _JsonToTable(&$db, $file, $table )
    {
        # read the JSON into a string variable
        $jsonString = file_get_contents($file);
        if (!$jsonString) {
            # oops, reading the file didn't work, generate an error
            CRM_Core_Error::fatal("Could not read $file");
        }

        # grab the config object again
        $config = CRM_Core_Config::singleton();

        # this is a bit presumptuous of us, but oh well
        $db->query("DROP TABLE IF EXISTS $table");

        # create the table where we'll store the incoming data
        $create = "CREATE TABLE $table LIKE civicrm_contact";
        $db->query($create);
        # drop the id column because the import system will add one
        $dropId = "ALTER TABLE $table DROP COLUMN id";
        $db->query($dropId);

        # decode the JSON and INSERT the records one by one;
        # it might be more efficient to build one big multi-insert,
        # but we'll leave that as an exercise for the reader

        ### BE CAREFUL THAT YOU DON'T RUN THIS ON A MASSIVE JSON FILE!!
        ### It creates one big object from the entire JSON file, so you'll quickly
        ### eat up every bit of memory PHP can use if you try to import a large
        ### file.

        # this requires that the JSON PECL extension is installed and
        # enabled in PHP
        $importObj = json_decode( $jsonString, true );

        # loop through each record in the JSON object, put it into an SQL query,
        # and insert it into the database
        foreach ($importObj['contacts'] as $newContact) {
            $fields = array_map( '_civicrm_mysql_real_escape_string',
                array_keys( $newContact ) );
            $sqlFields = "(" . implode( ',', $fields ) . ")";
            $values = array_map( '_civicrm_mysql_real_escape_and_quote_string',
                $newContact );
            $sqlValues = "VALUES (" . implode( ',', $values ) . ")";

            # construct the query and run it
            $sql = "INSERT IGNORE INTO $table $sqlFields $sqlValues";
            $db->query($sql);
        }
```

```
            # get the import tmp table name and return it
            $result = array( );
            $result['import_table_name'] = $table;
            return $result;
        }
    }
}

# Another couple private helper functions we define
function _civicrm_mysql_real_escape_and_quote_string( $string ) {
    return _civicrm_mysql_real_escape_string( $string, true );
}

function _civicrm_mysql_real_escape_string( $string, $quote = false ) {
    static $dao = null;
    if ( ! $dao ) {
        $dao = new CRM_Core_DAO( );
    }
    $returnString = $quote ? "\"{$dao->escape( $string )}\"" :
        $dao->escape( $string );
    return $returnString;
}
```

And here's the Smarty template. It should be saved in *templates/CRM/Import/Form/JSON.tpl*.

```
<fieldset><legend>{ts}Upload JSON File{/ts}</legend>
  <table class="form-layout">
    <tr>
        <td class="label">{$form.uploadFile.label}</td>
        <td>{$form.uploadFile.html}<br />
            <div class="description">{ts}File format must be JavaScript
              Object Notation (JSON). File must be UTF8 encoded if it contains
              special characters (e.g. accented letters, etc.).{/ts}</div>
            {ts 1=$uploadSize}Maximum Upload File Size: %1 MB{/ts}
        </td>
    </tr>
  </table>
</fieldset>
```

SUMMARY

The CiviCRM Import system has a few limitations, but it is by far the easiest way for end users to get data from other systems into CiviCRM. When a client has ongoing data import needs and wants non-technical users to initiate and manage the imports, writing a custom data source may be a good solution.

If the import system cannot handle the type or amount of data you need to import, your options are to write a separate import program that calls the CiviCRM API, write your own improvements to the import system, or sponsor other developers to write improvements. If you write or sponsor improvements to the import system, make sure you contribute them back to the core system! The CiviCRM development team would be happy to discuss potential improvements with you. You can find them in the #civicrm IRC channel on irc.freenode.net.

58. TIPS AND TRICKS

There are a few practices that seasoned CiviCRM developers have found very helpful when working on CiviCRM projects. This chapter contains a few of them, as well as some guidance on how to make use of them yourself. You don't *have* to use any of these tips, but they have made many other developers' lives easier, so give them a try and see if you agree.

RUN A LOCAL DEVELOPMENT INSTANCE OF CIVICRM

When hacking on CiviCRM customizations and extensions, you don't want to interrupt your users' work or corrupt the data in the CiviCRM database. That's why you should never, ever hack on the same instance of CiviCRM that other people are using to store and work with live data. That's a recipe for disaster. Instead, load CiviCRM and its associated programs onto your own development "sandbox," where you can do whatever you want to CiviCRM without disturbing anyone else.

If your computer runs Linux or Mac OS X, running CiviCRM on your local machine is pretty easy. If your computer runs Windows, you have a little more work to do, but it's not impossible. You should seriously consider running Linux inside a virtual machine (there's a free program called VirtualBox that makes this pretty easy). We recommend running the latest version of Ubuntu Linux inside the virtual machine. You can download that here: http://www.ubuntu.com/

Preparing your machine to run CiviCRM

These instructions will tell you how to prepare your system to run CiviCRM. Jump to the section that matches your operating system.

Debian / Ubuntu Linux

```
sudo apt-get install apache2 php5 libapache2-mod-php5 mysql-server \
libmysqlclient15-dev php5-mysql php-db
```

Red Hat / CentOS Linux

```
sudo yum install php-xml
```

Mac OS X

Mac OS X does not have a built-in package manager like most Linux distributions do, but there are some third-party ones you can install. MacPorts is a good choice. The installation instructions can be found here: http://www.macports.org/install.php

Once MacPorts is installed, open up Terminal (in Applications -> Utilities) and run this command (quit Terminal first and re-launch it if you already had it running):

```
sudo port install apache2 mysql5-server php52 +pear +mysql5
```

Be sure to read the output of that command carefully, because there are often further tasks you need to perform to enable some of the packages (especially PHP and MySQL).

Next Step for All Operating Systems

Follow the CiviCRM installation instructions already provided in the documentation. You can find these instructions here:
http://wiki.civicrm.org/confluence/display/CRMDOC/Installation+and+Upgrades

USE XDEBUG

This is our main recommendation for developers. Readers familiar with what a debugger is and how it works should feel free to skip ahead to the "Setting Up XDebug" section.

What is a debugger?

A debugger is a software program that watches your code while it executes and allows you to inspect, interrupt, and step through the code. That means you can stop the execution right before a critical juncture (for example, where something is crashing or producing bad data) and look at the values of all the variables and objects to make sure they are what you expect them to be. You can then step through the execution one line at a time and see exactly where and why things break down. It's no exaggeration to say that a debugger is a developer's best friend. It will save you countless hours of beating your head against your desk while you insert print statements everywhere to track down an elusive bug.

Debugging in PHP is a bit tricky because your code is actually running inside the PHP interpreter, which is itself (usually) running inside a web server. This web server may or may not be on the same machine where you're writing your code. If you're running your CiviCRM development instance on a separate server, you need a debugger that can communicate with you over the network. Luckily such a clever creature already exists: XDebug.

Setting Up XDebug

XDebug isn't the only PHP debugger, but it's the one we recommend for CiviCRM debugging.

The instructions for downloading and installing XDebug are here: http://xdebug.org/docs/install

Those instructions are a bit complex, however. There is a far simpler way to install it if you happen to be running one of the operating systems listed here.

Debian / Ubuntu Linux

```
sudo apt-get install php5-xdebug
```

Red Hat / CentOS Linux

```
sudo yum install php-pecl* php-devel php-pear
sudo pecl install Xdebug
```

Mac OS X

```
sudo port install php5-xdebug
```

Next Step for All Operating Systems

Tell XDebug to start automatically (don't do this on a production server!) by adding the following two lines to your php.ini file:

```
xdebug.remote_enable = On
xdebug.remote_autostart = 1
```

Once XDebug is installed and enabled in your PHP configuration, you'll need to restart your web server.

Installing an XDebug Front-End

After you have XDebug running on your PHP web server, you need to install a front-end to actually see what it is telling you about your code. There are a few different options available depending on what operating system you use:

All Operating Systems

NetBeans is a heavyweight Java IDE (Integrated Development Environment). It offers lots of features, but isn't exactly small or fast. However, it is very good at interactive debugging with XDebug. And since it's written in Java, it should run on any operating system you want to run it on. You can find it at http://www.netbeans.org/

After installing NetBeans, open your local CiviCRM installation in NetBeans and click the Debug button on the toolbar. It will fire up your web browser and start the debugger on CiviCRM. You may went to set a breakpoint in *CRM/Core/Invoke.php* to make the debugger pause there. For more information, see the NetBeans debugging documentation.

Mac OS X

A much lighter-weight option for Mac users is a program called MacGDBp. You can download it here: http://www.bluestatic.org/software/macgdbp/

After installing MacGDBp, launch it and make sure it says "Connecting" at the bottom in the status bar. If it doesn't, click the green "On" button in the upper-right corner to enable it. The next time you access CiviCRM, the web browser will appear to hang. If you click on MacGDBp, you'll see that it has stopped on the first line of code in CiviCRM. From there you can step through the code to the part you're interested in. But it's probably a better idea to set a breakpoint in the part of the code you're interested in stopping at. See the MacGDBp documentation for more information.

DEBUGGING TIPS

Note that to use these tips this you need to enable your Debugging in CiviCRM.

- **Smarty Debug Window**
  Loads all variables available to the current page template into a pop-up window. To create this window, add &smartyDebug=1 to any CiviCRM URL query string. Make sure you disable pop-up blocking in your browser for the CiviCRM site URL.
- **Session Reset**
  Resets all values in your client session. To trigger this, add &sessionReset=2
- **Directory Cleanup**
  Empties the template cache and/or the temporary upload file folders.
    - To empty template cache (the *civicrm/templates_c* folder), add &directoryCleanup=1
    - To remove temporary upload files (the *civicrm/upload* folder), add &directoryCleanup=2
    - To clean up both, add &directoryCleanup=3
- **Stack Trace**
  To display a stack trace listing at the top of a page, add &backtrace=1

LOG EMAILS TO A FILE

For this you need to modify your CiviCRM settings (http://civicrm.settings.php) and add following line:

```
define('CIVICRM_MAIL_LOG', '<path to of the file >/mail.log');
```

CHECK THE QUERIES FIRED BY DATAOBJECT

```
define( 'CIVICRM_DAO_DEBUG', 1 );
```

FOREIGN CONSTRAINT ERRORS

If you are getting foreign key constraint errors, try logging out from CiviCRM and logging in again.

HOW TO FIND THE TEMPLATE FILE

Finding which template is used on a given page can be difficult. The easiest way is to view the source of the page from a web browser and search for ".tpl". For instance, for the contact summary page, use the web browser to access the contact summary page, then click "View Source" in the browser. You should find an HTML comment such as:

```
<!-- .tpl file invoked: CRM/Contact/Page/View/Summary.tpl. Call via form.tpl
    if we have a form in the page. -->
```

USE A SOURCE CODE MANAGEMENT SYSTEM

The source code of CiviCRM is accessible via Subversion. Although installing Subversion on your own computer is a bit complex, it is worthwhile using source control for your development website.

You should also use a local source code manager (git or mercurial are good solutions) to keep track of your modified files. The workflow that has been proven most efficient is to copy the original file, add it to your repository and then modify it.

CIVICRM COMMUNITY
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59. THE CIVICRM COMMUNITY

Like many open source projects, CiviCRM is shaped, guided, and driven by its community, a far-flung ecosystem of users, developers, and implementers who utilize CiviCRM in many different ways and bring to it a wide array of skills, experiences, and perspectives. These varied and diverse offerings are crucial to the continued success of CiviCRM, but they can move the project forward only if they find their way back into the public stream of discussion and collaboration. This chapter is a guide to finding and engaging in the community of people who are working together to make CiviCRM what it is and what it will become.

FINDING THE COMMUNITY ONLINE

As might be expected of a web-based software project, much of the CiviCRM community's activity occurs online. This means that if you have access to the Internet you also have access to and can participate in the CiviCRM community regardless of where you live or work. English is the predominant language for discussion and contributions.

The CiviCRM website itself (http://civicrm.org) is a good starting point for exploring and participating in the community. In addition to general information about getting and using CiviCRM, you'll find blog posts from community members, announcements about upcoming events, and a Participate section (http://civicrm.org/participate) that lists and links to many of the resources described below.

The CiviCRM Forums (http://forum.civicrm.org) are a central location for CiviCRM discussion and support. The forums are divided into topical boards for:

- Asking general questions
- Getting technical support for installing, upgrading, configuring, using, and customizing CiviCRM
- Discussing and providing feedback on documentation
- Feature requests and suggestions
- Projects in internationalisation and localisation
- Showcasing success stories and case studies
- Conversations around modifying and extending CiviCRM
- Coordination of testing
- Obtaining or providing professional services

Registration for the forums is completely free and most of the boards are very active with frequent new posts and responses.

Another great source of support and discussion is Internet Relay Chat (IRC). The #civicrm IRC channel is hosted by Freenode at irc.freenode.net. You can access the channel using an IRC client (a program that you run on your computer) or through the web interface at http://webchat.freenode.net. Enter #civicrm in the Channels field and a nickname of your choosing in the Nickname field. For more information on using IRC, check out the IRC section of the Drupal website (http://drupal.org/irc). Although the information is targeted to the Drupal community it can also be useful for CiviCRM users, especially because the Drupal IRC channels are also hosted on Freenode.

You'll hopefully find that both the forums and the IRC channel are great sources for help, support, and good ideas. That's all attributable to the good will and generous efforts of people like you! Everyone who visits the forums and the channel is encouraged to give back to the community by responding to questions and requests for help and contributing their own ideas and feedback to the conversations. And simply asking your own questions is also a significant contribution to the community. It's likely that someone else is having the same problems or wondering the same thing, and the responses you solicit help build the community's knowledge base.

The CiviCRM blog (http://civicrm.org/blog) is another good source of information and discussion. Blog posts are written by both the CiviCRM core team and other community members and cover a wide range of topics, including general news and announcements, upcoming events and accounts of events that have occurred, case studies, use cases and ways to get things done with CiviCRM, and new features and development. Comments are encouraged and can create lively discussions that can in turn direct future CiviCRM development. If you've got something that you'd like to post on the blog, we encourage you to write to info@civicrm.org with your ideas and your request to post.

Much discussion of CiviCRM also occurs outside of these official channels. Using your favorite engine to search for CiviCRM will turn up many articles and posts from other folks' websites and blogs. The CiviCRM team is good at keeping an eye out for these posts and often publicize them through Twitter. To keep abreast of the stream of comments, follow @civicrm and find CiviCRM tweets and tag your own tweets with the #civicrm hashtag.

HOOKING IN OFFLINE

Though the online community is both accessible and active, participating in the CiviCRM community offline can be even more rewarding and can help you connect with others in your area who are developing, implementing, and using CiviCRM.

Many cities and regions hold CiviCRM meetups where people gather to learn about CiviCRM, share new ideas, developments, and use cases, and meet other folks involved with the community. You can find out more about meetups at http://civicrm.org. Some meetup and local user groups (or LUGs) also maintain discussion boards at http://civicrm.org/groups. Contact the CiviCRM crew if you'd like a discussion board for your own group on the site.

CiviCRM recently held the first CiviCon conference in April 2010 in San Francisco. More are being planned, including one in Chicago in 2011. CiviCRM core developers and community members also make appearances at other conferences, including DrupalCon, the NonProfit Technology Conference, Joomla! events, and Aspiration Tech events.

CiviCRM also conducts user and developer training in cities around the globe. Check out http://civicrm.org for info about upcoming trainings and contact CiviCRM if you'd like to host trainings in your own area.

OPEN SOURCE = COMMUNITY SOURCED

Here are some additional ways that you can participate in and contribute to the CiviCRM community.
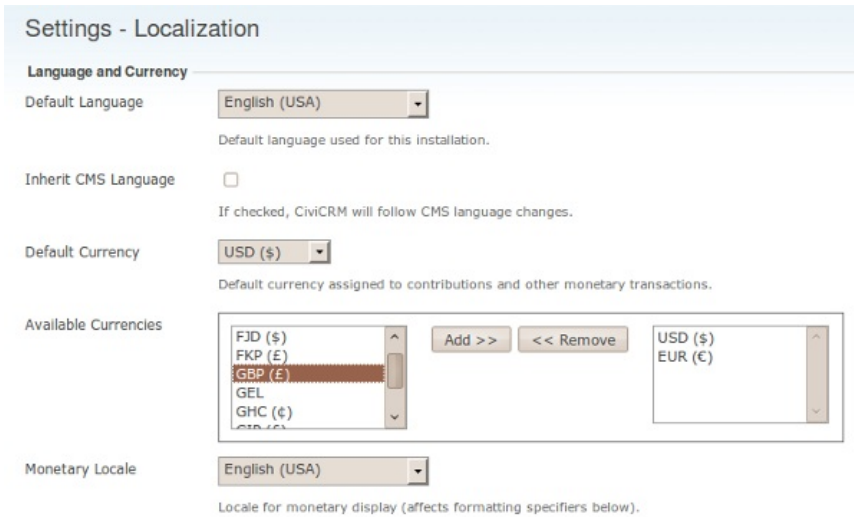
- **Contribute to CiviCRM documentation**. This book was written by community members; you can contribute to it by going to http://en.flossmanuals.net/civicrm, registering, and clicking "Edit this page" on the page you want to edit. You can also find and contribute to the CiviCRM documentation wiki at http://wiki.civicrm.org/confluence/display/CRMDOC/CiviCRM+Documentation.
- **Share use cases and case studies** that describe how your organization uses CiviCRM and the solutions and processes you've developed around the software. You can post your case studies to the CiviCRM Showcase on the Forums, post them on the Wiki at http://wiki.civicrm.org/confluence/display/CRMDOC/Case+Studies, or pitch them as posts for the CiviCRM blog.
- **Share your training resources and materials** with the rest of the community through the wiki, the forums, or blog posts on the CiviCRM blog or your own sites.
- **Contribute code** you've written to extend CiviCRM, because it's likely that someone else out there needs the same functionality. Check out the recommended steps for developing and contributing to the CiviCRM core codebase at http://wiki.civicrm.org/confluence/x/kADNAQ. If you've developed a Drupal module, you should contribute it to Drupal.org; see http://drupal.org/node/7765 for more information on contributing modules. Joomla! extensions can be posted on http://forge.joomla.org/.Finally, you can post your code on the CiviCRM Forums or wiki as attachments.
- **Sponsor development of new features**. If your organization needs certain features or functionality that doesn't yet exist for CiviCRM and can't develop those features in-house, you can sponsor their development by outside coders and developers. This can be a solo effort on the part of one organization or a coordinated effort sponsored by multiple organizations in need of the same set of functionality. Refer to the wiki at http://wiki.civicrm.org/confluence/display/CRM/Developing+with+the+CiviCRM+team or write to info@civicrm.org for more information on sponsoring development.
- **Report any bugs that you find in CiviCRM**. See the Bug Reporting chapter of this book for more information.

60. INTERNATIONALISATION

CiviCRM is written with English-language code and strings for display. It has, however, also been built for organisations worldwide. They need to be able to adapt the tool to local circumstances and demands without modifying the tool technically.

Localising CiviCRM (or any software) affects much more than you might initially think. To adapt CiviCRM to a local language is not just a matter of translating the text displayed on the screen. Consider for example the currency used in a given country (USD or $ in United States, GBP or £ in Great Britain), date and time formats (for example: November 16th, 2009 will be commonly written as 11/16/2009 in United States, but in Russia the format will be 16.11.2009) or the formatting of numbers (the same number will be written slightly differently in different countries: 1 234 567,89 in Slovakia or Hungary, but 1,234,567.89 in Japan or the United States).

CiviCRM provides plenty of functionality to support these language and region specific needs. The development team is constantly developing new tools in this area too. The Localization screen (shown in the following screenshot) lets an administrator select the right locale for the language and country of the organization using CiviCRM. Go to: Administer > Configure > Global Settings > Localization.

TRANSLATIONS

CiviCRM accommodates different languages, however the developers rely on the community to translate the text displayed.

A number of languages have already been provided to a greater or lesser extent. Some have more than 90% of the text translated, others only 5%, and a number of languages have not been translated at all. Please check the online translation tool Transifex (http://www.transifex.net/projects/p/civicrm/) to find out about your language of interest. Download and install it on your CiviCRM installation to find out how well it will suit your needs.

You may find that although the translation is correct, you would want to use different terms in your situation. You are very much encouraged to take part in the translation of your language.

FACILITIES

A number of facilities in CiviCRM support the community in its translation efforts, though some are still under development.

1. Transifex is an online tool that enables groups of translators to translate strings of text and keep an overview on its progress. Register there, look for your language, join the team or, if your language is not available, start translating.
2. A glossary (http://wiki.civicrm.org/confluence/display/CRM/Glossary+for+translations) on CiviCRM's wiki will help you maintain consistency in your translations. It will also help you get some insight on how much work it will be to translate those strings of text that your users will most often see and that would therefore be the first to translate.
3. A tips and tricks wiki page (http://wiki.civicrm.org/confluence/display/CRM/Localisation+community+building+howto) explains how to set up your localization community.
4. A FAQ (http://wiki.civicrm.org/confluence/display/CRM/Getting+started+with+CiviCRM+Localisation+FAQ) on the CiviCRM wiki covers localisation.

GETTING STARTED

Feel like helping translating CiviCRM to a new language or improving the current translation? Here's how to do it (provided you have a bit of a technical background):

1. Go to transifex.net and create an account.
2. Look for your language on http://www.transifex.net/projects/p/civicrm/teams/ and either join a team, or request the creation of a new one if needed.
3. Start translating!

Team work

The CiviCRM translation work flow is still a work-in-progress and until the process becomes more mature, you should probably refer to http://wiki.civicrm.org/confluence/display/CRM/Localisation+community+building+howto for the most current instructions.

The work flow is heavily based on teamwork. Hopefully, there is already a team of translators for your language that you can join. This team will have built a glossary, will have started a translation set and will be able to review your translations and give constructive criticism. If such a team does not yet exist, the opportunity is all yours to create one.

COMPONENTS AND FILES

There are quite a lot of strings (phrases) to translate in CiviCRM. To make it easier to translate the part that you are interested in (hopefully the one you know best), the strings that need translation have been divided into *components*, which are CiviCRM plugins (e.g., CiviCRM core, CiviMail, CiviContribute, etc.). A separate component should be available for each version of CiviCRM, starting with version 3.2 (or 3.1, for language teams that have chosen to do so).

Each component itself contains a number of files, which themselves contain the strings to translate. The main component "CiviCRM" (the *core*) has close to 20 files (for *countries*, *provinces*, *menu*, etc.).

TOOLS AND TECHNICAL DETAILS

The process you use to do translation depends on whether you prefer to do translation online or offline. Online translation does not require installation of any software. Offline translation is done with files downloaded from the translation website, using software that offers more features than the online system.

Online translation

Transifex is the tool to use for online translation. It does not have as many features as an offline tool such as PoEdit, but it's the easiest way to contribute translations and do the occasional quick correction. Every translator should have an account on the Transifex site, because translation teams can use the forums and messaging system to coordinate their work.

The basic steps in online translation are:

1. Select a component on http://www.transifex.net/projects/p/civicrm/. This will display the list of language teams for this component.
2. Click on the icon in the Options column next to the language you are interested in. This brings you to the list of files for this component.
3. Click on the "pencil and paper" icon. This brings you to the online translation screen, which lists all the translatable strings in this file.
4. For each string, you can then enter a translation.
5. When you are finished, you can click on the "Send for review" button at the end of the page.

Offline translation

Most translation is usually done with an offline translation tool. One of the most common is PoEdit (see http://www.poedit.net), which is free software and has a big community of users. The exact steps in translation using an offline tool depend on your tool of choice, but should follow the following steps:

1. Download the files from transifex.net you want to translate,
2. Load the files up in your translation tool and do your translations.
3. Send them back to the site when you are done.

Building a translation memory

PoEdit and other translation software will help you build a translation memory for your language. This translation memory can either be restricted to translations done in CiviCRM, or include translations from other projects. If you include other projects, automatic translation might be able to translate more strings, but you will lose consistency and most strings will be marked as fuzzy. This could be a way to bootstrap a new translation, though.

Building a translation memory based on words from the glossary could go a long way in insuring the consistency of your team's work.

Using version control (mostly for programmers)

Transifex keeps files in a version control system, http://github.com/civicrm/l10n. This is useful to some users who find interacting with the Github site easier than downloading each file separately from Transifex.

Consistency & consensus

To insure a good consistency in the translation, every team is encouraged to build and use a glossary and employ peer review. You can find a glossary of common terms on http://wiki.civicrm.org/confluence/display/CRM/Glossary+for+translations. You definitely should translate these terms to your language, and make sure your team reaches a consensus on all terms.

Building and sharing a common translation memory, which is like a specialized glossary that can be used automatically by translation tools, also helps to insure consistency. The PoEdit help system explains how to build this database (and most other translation software should do the same).

TEAM BUILDING AND SPRINTS

A good way to make progress in translation is to organize *translation sprints*. This means getting as many people as possible together in the same room to translate as many documents as they can. Here are a few things to keep in mind when organizing a translation sprint:

- Choose a good location, where people will be able to get online (enough computers for everybody, or desks to set up laptops and with a decent Internet connection).
- Provide instructions in advance on how to install an offline translation tool such as PoEdit, and have people ready to help others install and use it.
- Create the glossary in advance. Present the glossary, discuss terms which do not have consensus, make sure everybody has access to a copy of the glossary, and print a sufficient amount of copies beforehand.
- Determine goals for the sprint: which component will be translated, and what percentage your team is trying to achieve.
- Make sub-teams with clear objectives: per component or file or a part of it.
- If your translators are not familiar with CiviCRM, do a demo of the features your team is about to translate.
- Clearly designate someone who can be interrupted in order to answer questions.
- Make sure you've got enough coffee, tea, chocolate, etc. in reserve to keep everybody going through the night.
- At the end of the sprint, present the result of the translation in a demo CiviCRM installation.
- Discuss whether the team has reached its goal and how to improve further.

61. BUG REPORTING

There will be times when you use **CiviCRM** - as there are when you use any software - when things don't work the way you expect them to.

When this happens, a good first step is to search the **forums** for similar problems and follow advice given there. If your problem hasn't been addressed, posting to the forum is probably the right thing to do.

Have a look on the forum for good posting guidelines and spend a bit of time writing your post. Make sure you are detailed and specific about what software you are using, what you are trying to do and how you are trying to do it. For example letting people know the url you are using (with any confidential details removed) may cause them to realise that you are configuring the wrong page. Unclear posts are less likely to get good replies.

WHAT CAUSES PROBLEMS WITH CIVICRM?

Check the following possible sources of problems before you report something on a forum. You can save yourself and a lot of people trouble by isolating the problem. CiviCRM forums try to be friendly and don't criticise you for misjudging a problem, but you'll certainly get more help and resolve problems faster by doing some checking of your own first.

- *Misunderstanding the software.* We don't claim our documentation is perfect. But please go back and check it very carefully when you hit a barrier. Frustration makes it hard to concentrate, so be sure to read slowly and thoroughly. Also remember that different parts of CiviCRM depend on each other, so check for problems in related modules, besides the one you think the problem is in.
- *Your **server set up**.* Servers can be configured in many different ways, and these settings can change the way CiviCRM operates. Depending on your issue your server configuration may be causing you issues.
- *Customisations* made to the **source code** of your installation of CiviCRM. Any changes made to the source code of CiviCRM may have unintended consequences. The community forums may be able to help you, but you will have to be patient, share source code, and try out suggestions.
- *Bugs* in the version of CiviCRM you are using. After you have eliminated all the previous options, you can report your problem as a bug. In fact, we appreciate you doing this, because you are making CiviCRM better for everyone.

RECREATING YOUR PROBLEM ON THE DEMO SITE

Recreating your bug on one of the **demo sites** helps determine whether your problem is a result of a **bug** in the source code, or as a result of changes on your site, such as your server setup or any customisations you've made to the code. If you can show us that the code on the demo site turns up your bug, it's very likely that the CiviCRM source code is the problem, and your demonstration will help us find and fix it.

Still, no demo site can cover all possibilities. So even if you can't reproduce your bug there, it might still be a bug in CiviCRM. It is, however, probably triggered by your server setup or other customisations.

Write to the forum and explain the problem you are experiencing. If the bug was reproduced on the demo site, describe exactly what you did there. If not, include as much information about your server setup as you feasibly can. Configuration files from the web server, **CMS**, and CiviCRM will be valuable.

If the forum suggests you discovered a bug in CiviCRM, you can report it to the CiviCRM **bug tracker** (http://issues.civicrm.org/jira/browse/CRM).

USING OLDER VERSIONS OF CIVICRM

If you are using an older **version** and the problem you are experiencing is a bug that has been fixed in the lastest release, be prepared for the answer that it is time to upgrade to the latest version. Although the CiviCRM community tries to be as helpful as possible, and we recognize that upgrading puts a burden on your organisation, it is difficult to support multiple versions simultaneously.

FIXING BUGS

The amount of time taken for the bug to be fixed depends on the severity and complexity of the bug. It could be as quick as the same day, but it could take much longer.

To get bug fixes, the easiest way is just to download and install the latest revision of CiviCRM. Downloading bug fixes between releases and fixing ('patching') your existing software is possible, but it's a more involved process and depends on your technical ability and server setup.

62. CONTRIBUTING TO THIS MANUAL

If you would like to contribute to this book, please follow these steps:

1. REGISTER

Register at FLOSS Manuals:
http://en.flossmanuals.net/register

2. WRITE

Select the manual http://en.flossmanuals.net/bin/view/CiviCRM/WebHome and a chapter to work on.

Make sure you are logged in, choose the WRITE version of the web site (the default is only READ) and click the "edit" link next to the chapter you want to work on. You can also create new chapters and put chapters in a different order.

If you need to ask us questions about how to contribute, join the chat room listed in the next step and ask us! We look forward to your contribution.

For more information on using FLOSS Manuals you may also wish to read our manual:
http://en.flossmanuals.net/FLOSSManuals

To help give our manual some continuity, we've come up with some agreed-upon writing conventions. You should probably read this before contributing, but don't worry so much about the conventions that it hampers your writing.

3. CHAT

It's a good idea to talk with us so we can help co-ordinate all contributions. We have a chat room embedded in the FLOSS Manuals website so you can use it in the browser.

If you know how to use IRC you can connect to the following:
server: irc.freenode.net
channel: #booksprint

4. MAILING LIST

For discussing all things about FLOSS Manuals, join our mailing list:
http://lists.flossmanuals.net/listinfo.cgi/discuss-flossmanuals.net

63. HISTORY OF THIS BOOK

This book is the result of the collaborative effort of many people. A lot of the content was written during two book sprints held in 2009 and 2010 in Tahoe, USA. Many contributions have also been made by individuals in the times between these sprints.

THIRD EDITION

This edition includes minor updates to reflect changes in CiviCRM 3.3 which was released in December 2010. It is being published on the eve of the second annual CiviCon conference. Thanks to the generous contributions of our CiviCon Sponsors (listed in the front of the book) - a copy has been provided to each conference participant.

SECOND EDITION

The second edition of the CiviCRM manual was published after a four-day Book Sprint organised by CiviCRM and led by FLOSS Manuals. The sprint was sponsored by the Information Program initiative of the Open Society Institute (http://www.soros.org/initiatives/information). We are especially grateful to Janet Haven for pushing this forward.

The second edition includes new sections on CiviReports, CiviCase, CiviEngage and Extending CiviCRM. This edition also included an extensive rewrite of nearly every section of the text, including a reorganization of all sections to break up information into Introduction, Planning, Configuration and Everday Tasks sections, the latter to serve as an easy-to-follow user manual for individuals working with CiviCRM on a daily basis.

We also added an entire new section to assist developers get into the code. Finally, we updated the book to match CiviCRM 3.2 (which is a few weeks away from release at the time of writing).

We think that the reorganisation adds a lot to the book and increases it's readability because it helps people who with CiviCRM in a specific capacity get directly to the chapter relevant to them.

The following photo shows the people who worked on this second edition of the book.

In the back row, starting from the left, you are looking at Dave Greenberg (San Francisco, USA), Kyle Jaster (NY, USA), Xavier Dutoit (Geneva, Switzerland and Brussels, Belgium), Kurund Jalmi (Mumbai, India), Michael McAndrew (London, UK), Wes Morgan (Washington DC, USA) , Josue Guillen (DC, USA). The front row from the left is Jack Aponte (NY, USA), Mari Tilos (San Francisco, USA), Sarah Gladstone (Chicago, USA), and Alice Aguilar (NY, USA).

FIRST EDITION

The first edition of manual was written during a five-day book sprint also organised by CiviCRM and led by FLOSS Manuals. The sprint was also sponsored by the Information Program initiative of the Open Society Institute (http://www.soros.org/initiatives/information), and again, we are especially grateful to Janet Haven for pushing this forward.

Having secured sponsorship, the CiviCRM Core team invited a group of people from around the globe to gather for a week at Lake Tahoe in California. The *modest* goal was to transform our diverse experience of CiviCRM into a manual that we hope will help people to use this great piece of software. This turned out to be an interesting, and at times difficult, challenge.

The following photo shows the people who wrote this book.

In the back row you are looking at Michael McAndrew (London, UK), Tony Guzman (Salt Lake City, USA), Brian Shaughnessy (Albany, NY, USA), Dave Greenberg (San Francisco, USA), Yashodha Chaku (Mumbai, India) and Adam Hyde (Berlin, Germany). In the front row are Mari Tilos (San Francisco, USA), Cynthia Tarascio (Philadelphia, USA), Michal Mach (Warsaw, Poland) and Peter Davis (Wellington, New Zealand). In the very front is Eileen McNaughton (Wellington, New Zealand).

We came from different backgrounds, had used CiviCRM in different ways, and had worked with very different organisations. It was often a challenge to meld these perspectives into a cohesive whole, but we hammered away at it and we think this made for a better book. We had some lively discussions about important issues, such as whether there is a "z" or an "s" in organis/zation or a "q" in check/que, and finally agreed to use both spellings in the spirit of internationalism. We also struggled with the word "constituent", which is core to the non-profit sector in America but was unfamiliar to those of us from outside America.

It was been a pretty intense five days. Adam (our friendly Floss manuals taskmaster) kept us realistic, on track, and hard at work - even hauling us back to work after dinner each evening. Overall it was both fun and productive and we really appreciate the way Adam has helped us to actually produce a book within a week. Thank you.

For most of us, however, the highlight of the week has been the breathtaking cuisine cooked by Jill Klein (http://www.partiesthatcook.com/about-us/). We love you, Jill, and wish we could take you home with us. We are also grateful to Dave Greenberg, Bob Concannon and Mari Tilos for their hospitality, and to Scout the dog just for being there.

We had help from around the world during the preparation process, and over the course of the Sprint. Andy Oram helped us both in the planning process and then with editing and feedback during the Sprint. We also had a number of people log in to write and edit the manual during the Sprint. They include Robert Santiago, Xavier Dutoit, Joe Murray, Sarmeesha Reddy, Jay Maechtlen, Dream Gomez, Leila Johnson, Duncan Hutty, and Kurund Jalmi.

Our office for the week was Dave and Bob's house.

We mitigated the hardship of late-night work with some tasty beverages.

And occasionally they let us out for a bit....

64. FREE SOFTWARE?

CiviCRM is **Free Software** - this means it is developed by a community and licensed in a generous way so you can use it for free for whatever you want.

Free Software (sometimes also referred to as **Free and Open Source Software**, **FLOSS**, **FOSS**, **Software Libre**, or **Open Source**) is software that anyone can download, share, and -- significantly -- change in any way they want. Practically speaking, you might never want to change the software, or even have a staff person who can read the **source code** (the instructions written by programmers). But the ability to change the software protects you in many ways:

- **CiviCRM** will not go away, unlike non-free software from some companies that gets abandoned if the company goes bankrupt or decides to discontinue specific product.
- The software can be used and customised free of charge.
- Nobody can suddenly take away features or change the terms under which you're allowed to use features.
- If an organisation wants a feature that CiviCRM doesn't provide, the organisation can just hire someone to create it. Of course, the organisation can also submit a feature request to the CiviCRM team as with any software product.
- Similarly, anyone can fix a **bug** (error in the software) if he or she has the skills to do so. Because the source code is available, clients can also find bugs more easily.
- Members of the community have much more input into how CiviCRM develops, because they can understand the product by reading the code and can make changes. Furthermore, many people can try different implementations of features and the community can decide by vote or consensus which one to make official.

That may be enough for you, but for the sake of completeness we'll offer some widely used definitions:

"Free software or **software libre** is software that can be used, studied, and modified without restriction, and which can be copied and redistributed in modified or unmodified form either without restriction, or with minimal restrictions only to ensure that further recipients can also do these things and that manufacturers of consumer-facing hardware allow user modifications to their hardware. Free software is available gratis (free of charge) in most cases."
(from: http://en.wikipedia.org/wiki/Free_software)

"Open source software (OSS) is defined as computer software for which the source code and certain other rights normally reserved for copyright holders are provided under a software license that meets the Open Source Definition or that is in the public domain. This permits users to use, change, and improve the software, and to redistribute it in modified or unmodified forms. It is very often developed in a public, collaborative manner."
(from: http://en.wikipedia.org/wiki/Open_source_software)

Nearly any software that qualifies as free also qualifies as Open Source, and vice versa. The main reason that two different terms exist is that "free software" emphasizes the freedom aspect (that you aren't under the control of the original programmers) whereas "open source software" emphasizes the convenience and potential for innovation provided by having the source code available.

When you install and use CiviCRM, you'll notice there's no annoying click-through **software license** imposing a thousand things that you can or cannot do with it. That's because free software doesn't limit your right to do with the software whatever you want. Free and open source software have licenses, but they're simpler than and quite different from **proprietary software** ('closed software') licenses. CiviCRM itself is available under **Affero General Public License version 3.0**, one of the popular free software licenses used by many other projects.

FREE SOFTWARE AND NON-PROFITS

Explaining all of the possible considerations on using FOSS in non-profit and advocacy work might take a really long time, so let's focus on the most important highlights:

- One of the priorities of FOSS projects, including CiviCRM, is to involve the community of users in the process of designing and building the software. In the long run, this not only assures that the software is doing exactly what it should do to sustain the needs of its users, but it also allows indirect exchange of knowledge and experience between organisations. By using CiviCRM, you're basically taking advantage of other non-profit and advocacy practitioners' experience.
- Having access to the source code gives you and your organisation certain independence. With proprietary software it's usually impossible to customise the tools to meet your specific needs. With FOSS, you can hire a developer or consultant and work with them on providing specific functionality needed in your work. Additionally, if you contribute your improvements to the project community other organisations will most probably start using them. It means you can receive testing and further improvements of your functionality.
- When a company which provided you with a closed software goes out of business, the usual procedure for an organisation reliant on that software is to abandon the software and start investing in a new one (which is resource intensive and costly). It's less likely to happen with Free and Open Source Software - there is always a community of users and developers around it and there is no single "point of failure". With FOSS projects, if the main organisation behind a specific piece of software shuts down or changes their focus, the community takes over, a new organisation is formed and the software development and support continues.

Apart from the quite practical advantages listed above, there is also a more philosophical approach to answering the question of importance of FOSS for non-profits and advocacy organisations. Without getting too deep into philosophical discussions, there is a great overlap between values shared by non-profit organisations and these shared by Free and Open Source Software communities. By working with the community of users, providing your feedback, contributing your changes back into the project, you're actually strengthening the non-profit sector.

FURTHER READING

Free Software Foundation
http://www.fsf.org/

The Free Software Definition
http://www.gnu.org/philosophy/free-sw.html

Open Source Initiative
http://www.opensource.org/

The Open Source Definition
http://www.opensource.org/docs/osd

GNU Affero General Public License v3
http://www.opensource.org/licenses/agpl-v3.html

Choosing and Using Free and Open Source Software: A primer for nonprofits
http://www.nosi.net/projects/primer

65. GLOSSARY

ACCIDENTAL TECHIE

Someone who has inherited the role of **IT** technical support but whose primary role maybe something else; often has little or no formal IT training (which is not always a bad thing!).

ACCORDION

A **javascript**-based effect on a web page that allows additional content to be revealed or hidden (often referred to as collapsed or uncollapsed) without the user leaving the web page.

ACL (ACCESS CONTROL LIST)

ACLs define **permissions** for a group of **contacts** to perform an operation (e.g. edit, view, delete) on a set of data or a type of record. For example, you could set up a group called "Administrators" that allows people to view and edit all contact records, and a group called "Volunteers" that can view contact records but not edit them.

ACTIVITIES

An activity in **CiviCRM** is a record of any scheduled or completed interaction with one or more **contacts**. Examples include meetings, phone calls, emails, event attendances and contributions. You can define additional types of activities as needed.

ADMIN / ADMINISTRATOR

The person or persons that maintain a **server** or a web-based software like **CiviCRM**. Administration includes maintenance, configuration, **backup**, security, creating and deleting user accounts and so on.

AGM (ANNUAL GENERAL MEETING)

An AGM is a meeting held every year by an organisation to inform its members of previous and future activities. Certain types of organisations are required by law to hold an AGM.

AGPL (AFFERO GENERAL PUBLIC LICENSE)

A license for **open source software**. **CiviCRM** uses the [AGPL version 3.0 license](#), which gives you the right to do with the **software** as you like and guarantees that the **source code** will always protect your rights in this way.

ALPHA VERSION

A **software** version that contains very new **source code** with new functionality and bug fixes. An alpha version is released for testing purposes, and for people who want to follow its development, but it is not considered to be any where near ready for general release or use.

APACHE

The most popular web **server software**. Apache is free and **open source** (see also **FLOSS**).

API (APPLICATION PROGRAMMING INTERFACE)

An interface employed by a **software** application to enable interaction between itself and other software.

BACKUP

Protecting your data by regularly making copies and storing them independently of the original files so they can be restored if necessary.

BANDWIDTH

The speed at which you can transfer information through a network or internet connection. If a connection can transfer a lot of information it is said to be "high bandwidth".

BETA VERSION

A **software** version that is in good condition but still needs testing to make sure it functions as intended before general release. Testing beta versions is a helpful way to participate in the **CiviCRM** community.

BLOG

Short for web-log. A website which is regularly updated with news and views from one or more individuals.

BUG

An error that prevents **software** from behaving as the user would expect.

BUG REPORTING / BUG FIXING

The process of reporting **bugs** to the **software developer**(s), and then fixing the bugs so the software operates as intended.

BUG TRACKER

An official repository for recording **bugs**. The **CiviCRM** bug tracker can be found here: http://issues.civicrm.org/ (click on Issue Tracker).

CACHE

A recent copy of frequently used data that can be quickly and easily accessed. This is especially useful if the data is complicated or takes a large effort to generate. The disadvantage of caching is that data can become out of date, but this normally isn't a problem. Even caching data for 5 minutes might be useful in certain circumstances. If a page is accessed 1,000 times in 5 minutes, having a cached version means the data will only need to be generated once.

A web cache holds copies of recently visited web page files. Sometimes a user may need to clear their web cache in order to see updated information on a web page.

CAPTCHA

A spam prevention tool. See **reCaptcha**.

CIVICASE

The case management **component** of **CiviCRM**. CiviCase provides service organisations with tools for structuring, scheduling and recording case activities.

CIVICONTRIBUTE

CiviContribute is an online fundraising and donor management **component** which enables you to track and manage contributions to your organisation.

CIVICRM

What this whole manual is about! **CiviCRM** is web-based, **open source software** that allows you to record and manage information about your various **constituents** including volunteers, activists, donors, employees, **clients**, vendors, etc.

CIVIDOG

See **Scout**.

CIVIEVENT

CiviEvent provides integrated online event registration and management for paid and free events.

CIVIMAIL

CiviMail is a mass-mailing **component** which allows you to engage **constituents** with personalised email blasts and newsletters.

CLIENT

A term used sometimes instead of **constituent** or **contact**, more often in a context involving a financial transaction.

Client is also a term for a system (computer) or application that accesses a remote computer such as a web **server** to receive information; examples include a personal computer that is connected to the internet, or an email application that downloads email from a server.

CLOSED SOFTWARE

Software that does not allow users to access its **source code**, as opposed to **open source software**. See also **proprietary software**.

CMS (CONTENT MANAGEMENT SYSTEM)

An application used to create, edit, manage, search and publish various kinds of digital content (text and other media such as images and videos). Web-based CMS allow organisations to add and manage content on their website without requiring advanced technical skills. **CiviCRM** is often integrated with a CMS (commonly **Drupal** or **Joomla!**) which helps to facilitate **client** interaction.

COMPONENT

A part of a **CMS** or other application that can be enabled or disabled, according to the needs of the user. Examples include **CiviEvent** or **CiviCase**. See also **module**.

COMMUNITY ADVISORY GROUP

A representative group of people from the **CiviCRM** community who work with the CiviCRM team on project development.

COOKIE

A file stored on your computer and used by a website to identify you on return visits. Some websites cannot be accessed unless you allow your computer to accept and store cookies.

CONSTITUENT

A constituency is usually defined as a group of people bound by shared identity, goals, or loyalty. In **CiviCRM**, "constituents" is used to a describe all supporters, current or potential, of a given organisation. See also **contact** and **client**.

CONTACT

In **CiviCRM** a contact is either an individual, an organisation or a household about whom information is stored in the database. See also **constituent** and **client**.

CONTACT SUMMARY SCREEN

A page that displays at a glance all the data about an individual, organisation or household that is stored in the **CiviCRM** database.

CORE CODE

The **source code** that constitutes the official code of **CiviCRM**. Also called core.

CORE DATA FIELD

A field that is included in a record structure "out-of-the-box". For example, the **CiviCRM contact** record includes First Name as a core field.

CORE TEAM

The people most closely involved with **CiviCRM** development.

CRM

Acronym for Contact (or Constituent, Customer or Client) Relationship Management. CRM (or eCRM) **software** was originally developed from a sales perspective, to help companies track and organise their interactions with current and potential customers. **CiviCRM** is oriented specifically toward the needs of **non-profits**, advocacy and non-governmental organisations, so the term "customer" is replaced with "**constituent**". Outside the USA it is often referred to as Contact Relationship Management.

CRON JOB

A cron job is a way of automatically scheduling a programme to run at certain intervals. Crons are often used in **CiviCRM** to handle daily or monthly events such as sending membership renewal reminders or processing ongoing payments.

CRUD

Create, Read, Update and Delete: the basic functions performed on databases.

CSS (CASCADING STYLE SHEETS)

A way to control the style of a website by defining design and layout elements in a single file which is linked to all files in a website and applies the style across the site. An element, such as the formatting of a heading or a background colour, can be changed once in the CSS file to effect a change on all pages of the site.

CSV (COMMA SEPARATED VALUES)

A simple format for a spreadsheet. CSV files are text files where each cell is separated by a comma, and each row is separated with a return. This very simple format is understandable by many different programmes.

CUSTOM DATA FIELD

A field that is added to the data structure of a **CiviCRM** record by your organisation. Custom data fields extend the information that can be stored in that type of record. For example, your organisation might need a custom field to record each **contacts**' professional qualifications, or the food preferences of event participants.

DASHBOARD

A user's homepage, which displays when the user logs in to **CiviCRM** and which can be personalised with **dashlets**.

DASHLET

A report on some data in the **CiviCRM** database, configured to appear on a user's **dashboard**. For example, monthly figures in graph and/or numerical form, appointments for the day, or a list of new memberships.

DATA CENTRALISATION

Storing all your data in one place.

DATABASE

DEMO SITE

A website that allows you to test and explore the functionality of a piece of software. **CiviCRM** maintains three demos sites: one integrated with **Drupal**, one integrated with **Joomla!** and one in standalone mode.

DEDUPE

Refers to the task of finding and merging multiple entries for one **contact**.

DEVELOPER

Someone who develops **software**.

DOMAIN

See **DNS**.

DONOR

Someone who makes a donation, i.e. voluntarily gives money to an organisation.

DNS (DOMAIN NAME SYSTEM)

The Domain Name System (DNS) converts domain names, which are made up of easy-to-remember combinations of letters (example.com), to IP addresses (123.456.123.234) which are hard-to-remember strings of numbers. Every computer on the internet has an unique address (a little bit like an area code + telephone number).

DRUPAL

An open source **CMS** that integrates with **CiviCRM** to provide a user-interface and additional website functionality (http://drupal.org).

ENCRYPTION

A way of disguising data when it is being transferred from one computer to another so that it is unreadable by any other computer that it may pass through on the way.

ENVIRONMENT

The specific hardware and operating system on which you are running your **software**.

EVENT LISTING FEED

A **RSS feed** containing the list of events defined in **CiviEvent**.

FIREFOX

A popular free and **open source** web browser, developed by the Mozilla Foundation (http://www.mozilla.com)

FLOSS (FREE/LIBRE OPEN SOURCE SOFTWARE)

Software that is licensed so as to guarantee the essential freedoms of users to its **source code** and reuse. A combination of "**free software**" and "**open source software**", with "libre" added in to emphasise that software freedom is essentially a matter of rights, not price.

FOSS

Free and Open Source Software - see **FLOSS**.

FORUM

A web-based online discussion tool (see http://forum.civicrm.org/).

FREE SOFTWARE

Software that is licensed so that you can use and distribute it without restriction. **CiviCRM** is free software. See also **FLOSS**.

FTP (FILE TRANSFER PROTOCOL)

The FTP protocol is used for file transfers from one computer to another over the internet. Many people use it for downloads, and it can also be used to upload files to web **servers**. A popular free and **open source** FTP **client** for Windows is FileZilla. There are also web-based FTP clients that you can use with a normal web browser like Firefox.

FUNCTIONALITY

The set of tasks that a piece of **software** can perform.

GEOCODING

The process of finding associated geographic coordinates (often expressed as latitude and longitude) from other geographic data, such as street addresses, or zip codes (postal codes).

GUI (GRAPHICAL USER INTERFACE)

User interface offering windows, icons, mouse control, multiple fonts, and so on - the normal way for non-programmers to communicate with their computers. The alternative to a GUI is a command line interface with text only.

HOOK

[needs definition]

HOSTING SERVICE

A service (usually commercial) that provides **server** space for your website. Hosting services also can provide physical space to put your own server in so that it is connected to the internet.

ICT

Acronym for Information and Communication Technology.

INTERNATIONALISATION: I8N

The process of making **software** ready for adoption in different countries and different cultures, without the need to modify it technically. This is done by the **developer** (software engineer) when writing the software. See also **Localisation**.

INTERNET SERVICE PROVIDER (ISP)

A business that provides services such as internet access, email, and website hosting.

INTRANET

A network of computers that are connected within a home or office but not accessible from outside the local network.

IT

Acronym for Information Technology.

JAVASACRIPT

A scripting language primarily used in web pages to display dynamic content.

JOOMLA!

A **CMS** that can integrate with **CiviCRM** to provide a user interface and additional website functionality (http://www.joomla.org).

LAMP

LINUX

A type of operating system (other common operating systems are Windows and Mac OS). Linux has been popular as a web **server** for a long time and is now gaining popularity on personal laptops and desktop computers. Linux is **free software** and **open source**.

LOCAL COMPUTER

A computer that runs **CiviCRM** but is not publicly available via the internet. This could be your personal or home computer, or it can be in your office. It can also be called a **client** computer in the context of receiving information from a **server**

LOCALISATION: L10N

The process of translating a product into different languages or adapting a language for a specific country or region. This is done by translators with no need for technical wizardry.

MAIL SERVER

A computer that transfers email from one computer to another.

MAPPING PROVIDER

A service provider that allows displaying contact locations on maps - Google Maps or Yahoo Maps in **CiviCRM**.

MODULE

A part of a system, also called a **component**. **CiviCRM** includes a number of modules, each of which adds functionality to the basic contact management features. For example, the **CiviEvent** module provides event management functionality. Organisations using CiviCRM can turn modules on or off, according to their needs.

MYSQL

A popular database engine. **CiviCRM** uses MySQL to hold its data. MySQL is **free software**. (http://mysql.com)

NGO (NON-GOVERNMENTAL ORGANISATION)

A legally constituted non-business organisation with no participation or representation from government. In the United States, this type of organisation is more often referred to as a **Non-profit**. They may be also called civil society organisations or not-for-profits.

NON-PROFIT

see **NGO**.

ONLINE CONTRIBUTION PAGE

A function of **CiviCRM** which allows the creation of a page on the website where visitors can make online donations using credit cards.

OPEN ID

A convenient free system to use a single digital identity across the internet.

OPEN SOURCE SOFTWARE

Software with **source code** that is publicly available, as opposed to **proprietary software**; see also **FLOSS**. Open source software is based on the philosophy that sharing and collaborating on code leads to better software and greater benefit for everyone.

PAYMENT INSTRUMENT

Medium or method that is used for online payments.

PAYMENT PROCESSOR

A company (usually a third party) appointed by a merchant to handle credit card transactions for merchant banks. A payment processor is required to handle online transactions through a system such as **CiviCRM**.

PERMISSIONS

Allow you to limit access for different users to different parts of the system.

PERSONAL CAMPAIGN PAGES

A feature of **CiviCRM** that can be enable to allow **constituents** to create their own fundraising pages.

PHP

The programming language in which the majority of **CiviCRM** is written.

PING

Sending and receiving small amounts of data to and from a **server**; often used to measure the response time across the network.

POINT PERSON

Someone given the responsibility to keep their eye on a certain issue.

PREMIUM

A gift that can be offered to contributor in exchange for donation. **CiviCRM** allows offering premiums as a part of the donation gathering process.

PRICE SETS

A way of storing and re-using complicated price structures for events. For example, you can charge for different elements of an event.

PRIMARY LOCATION

The information that a **constinutent** wants to be used as their main point of contact for mailings etc.

PROFILES

A central concept in **CiviCRM**. In essence a subset of fields. See the chapter on **Collecting and Sharing Data** for a full explanation.

PROPRIETARY SOFTWARE

Also called **closed software** or closed source software. **Software** licensed so that you cannot access the **source code** and modify it without first coming to an agreement with the authors. See also **open source software**.

PROTOCOL

An agreed-upon method of doing something. HTTP and SMTP are two examples, one being an agreement on how to transfer website data across the web, the other an agreement on how email will be transferred across the web.

RADIO BUTTON

An element of a web-based application user interface that allows the user to choose only one of a predefined set of options. Usually indicated by a white circle that can be filled with a click.

RECAPTCHA

A common tool for testing whether a user is a human or a computer, used to prevent spam.

REQUIREMENTS

The things that you require a particular **software** application to do.

RICH TEXT EDITOR

A text editor that allows you to add formatting, such as bold, italic and underline, to text (as opposed to just plain text).

ROOT DOMAIN

The 'raw' **URL** of a website without 'www' or any other **subdomain**. For example, http://civicrm.org/ is the root domain while http://www.civicrm.org/ is not.

RSS (REALLY SIMPLE SYNDICATION) FEED

RSS feeds are a way to publish frequently updated information, either for inclusion on a website or to be read by an RSS reader.

RSVP

"Répondez s'il vous plaît", a French phrase that translates to "please respond". Commonly used to request confirmation (or declining) of attendance at an event.

SCRIPT

A script is a short programme that does one specific task. Many web pages include scripts to manage user interaction, so that the **server** does not have to send a new page for each change.

SCOUT

The **CiviCRM** Book Sprint official dog. Scout likes dog biscuits, rolling on the ground, eating snow and proof-reading.

SENDMAIL

Sendmail is one of the most popular mail transfer agents (MTA) used for handling email on a **server**. Sendmail is free and **open source software**.

SERVER

1. Software that "serves" content to a **client**. See **Apache**, or **Mail Server** for two examples.

2. A computer that is used primarily to serve content. Any computer can be set up this way, but the term traditionally refers to those that deliver web content. See also **client** computer.

SHARED HOSTING

A website hosting service, where multiple websites reside on single **server**.

SMART GROUP

A group in **CiviCRM** to which **contacts** are automatically assigned. Smart groups are created by running and then saving a search. They are useful for groups that might change frequently, for example "donations over $1000 in the last month".

SMTP

Simple Mail Transfer Protocol. A standard or **protocol** used by email **software** to transfer (send) email.

SOFT CREDIT

Allows you to credit a **contact** for a donation made by someone, for example the person who inspired the actual donor to make a donation. See
Personal Campaign Pages.

SOFTWARE

Applications (also called programs or programmes) that enable specific functionality on your computer. There are many broad categories of software such as web browsers, word processors and email **clients**. Within each category there are many available softwares that perform the functions you require. For example, Firefox and Internet Explorer are two commonly-used web browsers.

SOFTWARE LICENSE

The terms you must accept before using a piece of **software**.

SOURCE CODE

Software is created by writing instructions that a computer understands. These lines of instructions are known as **code** or source code.

SSL (SECURE SOCKETS LAYER)

One way of making internet communication secure. You can easily see if you are using SSL by looking at the URL in your browser: if it starts with https instead of http, your connection is using SSL.

SSL CERTIFICATE

Provided by the server to prove its identity, in the same way that a person carries a passport or driving license. See also **SSL** (Secure Sockets Layer).

STABLE VERSION

A version of **software** that has been tested and is considered to be ready for general use.

STANDALONE

An installation of **CiviCRM** which is not integrated with a **CMS** such as **Drupal** or **Joomla**!.

STRING

A string is a sequence of characters for example "Hello, World", the **URL** "http://www.flossmanuals.net/" or the text message "No such file or directory". Different character sets allow different strings. Unicode strings can include any combination of languages, such as "Japan (日本) and Korea (대한민국)".

SUBDOMAIN

A **domain** that is a part of larger larger domain. For example: en.flossmanuals.net and fa.flossmanuals.net are subdomains of the domain flossmanuals.net.

TOKEN

Tokens are used in **CiviCRM** to insert elements such as a **contact**'s name or a standard greeting into emails being sent from the system. In an email sent to a group of people, the token {first.name} will be replaced with actual name of each message recipient, in the email that each individual receives.

UPGRADE

The process of replacing **software** with a newer **version** of the same software. An upgrade may fix bugs, improve security, enable the software to continue to work with upgraded operating systems, or provide new features and other enhancements.

URL

Acronym for Unique Resource Locator, sometimes referred to as a Universal Resource Indicator, or URI. The technical convention that identifies the location of a resource on a network. The resource might be a web page, in which case the URL refers to the location of that web page on the internet, for example www.civicrm.org is the URL for **CiviCRM**.

USE CASE

Use case is a central concept in **software** development. A use case is a story or scenario that documents the experience of performing a specific task with the application. Generally, a use case should avoid technical or database-specific language, such as 'fields' or 'record', and concentrate on real world objects and scenarios in order to communicate the idea clearly to people who may not be familiar with technical terms.

VERSION

Updates to **software** are released periodically, and these releases are referred to as a version of the software. There are different types of version, for example the most recent release of a software which has been tested and is intended for general use is referred to as the **stable version**, while a very new untested version is the **alpha version**.

VPN (VIRTUAL PRIVATE NETWORK)

A method of sharing information between members of an organisation over encrypted connections.

WEB APPLICATION

A **software** application that provides a website with additional functionality. **CiviCRM** is a web application.

WEBMAIL

Webmail is email service through a website. The service sends and receives email messages for users in the usual way, but provides a web interface for reading and managing messages, as an alternative to running a mail **client** like Outlook Express or Thunderbird on the user's computer. For example a popular and free webmail service is https://mail.google.com/

WEB-SERVER

WIKI

A web-based **software** that enables anyone to edit content via a web browser. Wikipedia is the best known example of a wiki.

WILDCARD

A character that can match an any number and collection of characters, normally represented by . **For example, when used in searches, ab** finds ab, abba and abracadabra but not fabulous; **ab** finds fabulous.

WORK STATION

A computer used for working; often in a situation such as an office where there are other computers that may include **servers**.

WYSIWYG (WHAT YOU SEE IS WHAT YOU GET)

An application that provides a visual tool for editing web content, so that the user can see how the page will look in the browser as they are editing, instead of working in the HTML **code**. See also **rich text editor**.

66. CREDITS

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