

Part I

Understanding the Facebook Platform

Chapter 1: Facebook as a Platform

Chapter 2: Building Your First Application

Chapter 3: Facebook Markup Language (FBML)

Chapter 4: Advanced FBML

Chapter 5: Using the Facebook API

Chapter 6: Data Mining with FQL

Chapter 7: Authentication

Facebook as a Platform

The Internet has plenty of social networks and communal web sites focused on helping those with like interests contact and interact with each other. A *social network* focuses on the building and verifying of online social networks for communities of people who share interests and activities, or who are interested in exploring the interests and activities of others — which necessitates the use of software. A *social platform* goes beyond that, though. In addition to providing its own services and content to its users, it allows other developers and communities to extend its social attributes and reach.

This chapter is split into two parts. In the beginning, I'll give some background information on where Facebook started and some more information on the growth and worldwide use of the web site. After that, I will go into detail about the operations and technology behind Facebook. This chapter will also cover the Facebook Application and describe what it is and how it works and give an overview of Application traits.

Evolution of Facebook

Launched in early February 2004, Facebook is, on its own, a social networking web site. From February 2004 to March 2004, more than half of the students in the undergraduate program at Harvard were members. In seven months, the user base hit its first millionth user. Later that year, it also raised its first round of funding from angel investors.

In May 2005, Facebook raised another round of venture capital from Accel Partners and started to brand itself. The *the* was dropped from the domain, and the domain `facebook.com` was purchased. Facebook also began its high school initiative, allowing students from various high schools throughout the United States to join. By October 2005, Facebook included the majority of universities and junior colleges in the United States, Canada, and the United Kingdom. The Facebook user base included more than 2,000 colleges and more than 25,000 high schools in the United States, Canada, Mexico, the United Kingdom, Australia, New Zealand, and Ireland, with more than 11 million users worldwide.

Part I: Understanding the Facebook Platform

In May 2007, Facebook transcended from social network to social platform by opening up its user base to allow applications to extend and deepen the communal reaches. It quickly became one of the top social network web sites with more than 30 million users as of July 2007. It was ranked in the top 20 most-visited web sites in the summer of 2007 and is the top photo-sharing web site in the United States. More than 85 percent of all U.S. college students have Facebook accounts. According to Facebook, more than 50 percent of members log in daily, spending on average 19 minutes a day on the site.

For several reasons, 2007 was a good year for Facebook. The development and release of the *Application Programming Interface (API)* put the growing web site in the spotlight, giving it a chance to shine. In May 2007, the Facebook Platform was officially launched, bringing new ideas and a wealth of buzz to the industry.

According to ComScore, the number of unique monthly visitors almost doubled from 14 million in May 2006 to 26.6 million in May 2007. Total page views increased more than 140 percent during the same time period, from 6.5 billion per month in May 2006 to 15.8 billion per month in May 2007. Most provocatively, average minutes spent on the site per user per month increased 35 percent over the last year, from 138 minutes in May 2006 to 186 minutes per month in May 2007.

Facebook is no longer just for college students. The number of visitors between the ages of 25 and 34 increased 181 percent between May 2006 and May 2007. Visitors over the age of 35 have also increased by 98 percent in that same period.

The launch of the Facebook Platform has received the attention of its competitors, too. Within weeks of the Platform launch, two of Facebook's biggest competitors were making press announcements stating that they would be (or were in the process of) launching something similar.

Facebook Services

Facebook has several basic services that compose its core services available to its users. Through the Facebook Platform, the majority of these and the information contained are available to third parties through Facebook applications.

- ❑ **The Social Graph** — The Facebook *social graph* is made up of users and their direct or indirect relationships. *Direct relationships* include meeting someone at a party or through a business connection. *Indirect relationships* could include a social, educational, or regional network.
- ❑ **User Profiles** — Information about users is available through *user profile* pages. These pages include user-generated content, as well as information derived from the social graph. These pages make this information available to other users. In addition, there are also hints about the users' activities within Facebook, including photos they are in and groups they have joined.

User profile pages include the different ways to communicate with other users through message links and a profile *Wall* where users can post one-off messages to each other.

- ❑ **Messaging** — *Messaging* includes user-to-user messages, as well as general notifications.
- ❑ **Pages** — *Facebook Pages* are one of the more recent additions to Facebook. Pages are a way to create a sort of profile for a business, band, or product that can be managed and modified by one or more Facebook users. A Facebook Page allows Facebook users to interact with the page's subject by becoming a fan or by using the message board.
- ❑ **Information Aggregates** — With all of the information available on Facebook, sorting out what users are really interested in is a job in and of itself. This is done through *information aggregates* such as the News Feed or Mini-Feed (available on the Facebook home page), or the user profile pages.

The Technology behind Facebook

Facebook is built on open-source software. Some of the open-source technologies used by Facebook include Apache, PHP, MySQL, and memcached. Facebook has also released several projects under open-source licenses, including the following:

- ❑ **Thrift** — This is an open-source package used to create libraries and systems that efficiently communicate with each other. It includes software libraries and code-generation tools to build client/server protocols. It is available in many languages and has been extensively tested. As Facebook says, if you are using Facebook, you are using Thrift. More information can be found at <http://developers.facebook.com/thrift/>.
- ❑ **PhpEmbed** — This is an open-source software library that allows developers to embed PHP into C++ projects and code. More information can be found at <http://developers.facebook.com/phpembed/>.

Facebook also provides a mirror of the open-source projects and code used at <http://mirror.facebook.com/>.

Introduction to the Core Technologies

Like any other large web service, there are many moving parts and pieces, and it is important to understand how they fit together to create the Facebook Platform. It is the platform model that Facebook has adopted that separates it from just another web site with an API.

At the very highest level, the Facebook Platform has four main duties:

1. Provide uniform and consistent methods to exchange information between itself and third parties.
2. Manage relationships between users.

Part I: Understanding the Facebook Platform

3. Provide methods to distribute content on different mediums.
4. Provide methods of interaction between users.

From the application developer's point of view, there are three components that create the Platform. Those components are the Application Programming Interface (API), the Facebook Markup Language (FBML), and the Facebook Query Language. These are the Platform Core Technologies that allow developers to create rich applications that interact with Facebook.

From a Facebook application developer's point of view, there are four components to be concerned with:

1. **Application Program Interface (API)** — The Facebook API is a collection of REST methods that allow developers to exchange information with the Facebook Platform.
2. **Facebook Markup Language (FBML)** — This is a markup language designed to provide developers and designers with a quick medium to create clean and uniform interfaces.
3. **Facebook Query Language (FQL)** — This is a SQL-like query language to mine data from the Facebook Platform.
4. **Authentication** — While not a component of its own, the authentication process and model require a certain amount of understanding, and no other component can be used without first understanding authentication.

There are other technologies that make up the Facebook Core Technologies, which the Platform Core Technologies access and use indirectly. These are authentication, user management, user relationship management, and message handling.

At a very high level, Facebook itself is a modular content management system (CMS) with authentication. It manages the high-level user functionality and system-wide authentication, as well as subsystems like caching and message handling. Facebook uses callbacks and hooks to allow more feature-rich applications and maintains an API-to-API protocol for the Facebook-supplied applications such as Photos and Groups.

Role of the Application

Applications on Facebook are the key pieces that turn Facebook into a social platform. They have a direct impact on the users and, as the Platform continues to grow, they will play a pivotal role in the growth of Facebook as a whole. More and more, entrepreneurs are discovering that instead of creating an independent social networking site, it's easier and more effective to just plug in to an existing platform like Facebook. The applications available help transition users from using *web sites* into using *web operating systems*.

Within weeks of the Platform launch, there were more than half a dozen applications available with a million users. One of them crossed the 10-million-user threshold in late July 2007.

The real shift is the total cost of building, releasing, and maintaining your web applications versus creating a Facebook application. More and more, developers and companies are looking at what it takes to create a full web application, acquire users, and add new features, instead of creating a Facebook application that can be just as feature-rich, as well as offering a reliable user base and platform to build upon. Facebook provides the building blocks and the users.

Anatomy of an Application

The term *Facebook application* is a bit misleading in that a Facebook application doesn't really live on Facebook or any of its servers. A Facebook application, in its strictest sense, is a web application that is viewed and used by Facebook users through Facebook by means of *callbacks*.

This model works very well and gives the developers everything they need to create unique, feature-rich applications without affecting the core functionality of Facebook. Through the use of callbacks, Facebook enables applications to integrate very tightly with Facebook.

Facebook applications have two types of components. The first type is what the application renders data onto. The second type is those that the application shares with other applications and Facebook itself.

An application can interface with the users and Facebook as a whole. Following are the areas that the application directly draws onto:

- ☐ The Application Canvas
- ☐ The Application Profile Box
- ☐ The Application About page
- ☐ The News Feed and Mini-Feed
- ☐ The Application Directory
- ☐ Application Alerts and Notifications
- ☐ Facebook Pages
- ☐ Message attachments

Application Canvas

The *Application Canvas* (Figure 1-1) is the area where the application can directly render content, and is considered the Application Home. More information about the markup provided by the application is provided later in this chapter in the section, "Application Request Process."



Figure 1-1: Application Canvas.

The FBML provides a toolset of common elements for applications to use to create the user interface. The FBML generated by the application is taken by Facebook and rendered on the Application Canvas with several caveats. Facebook does heavy filtering of possible dangerous content and prevents it from being accessed. The Facebook Platform also parses those FBML elements and replaces them with structured content and HTML widgets.

Application Profile Box

The *Application Profile Box* (Figure 1-2) is the area on the user's profile through which applications can display content. There are two forms of the profile box: the wide and narrow. The wide form is displayed on the right-hand side of the user profile, and the narrow form of the profile box is displayed on the left. The content of each version of the profile box is set explicitly by the application developer.

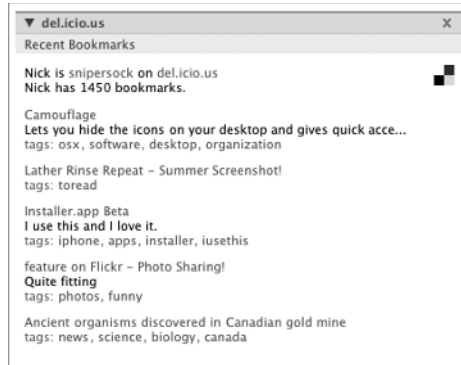


Figure 1-2: Application Profile Box.

The Application Profile Box has several restrictions in place on the types of FBML entities that can be used. This is to prevent private or otherwise sensitive information from being displayed to users. Chapter 3 provides more detail on FBML and contains a full listing of the FBML entities available on user profiles.

Application About Page

The *Application About page* (Figure 1-3) is one of the most trafficked areas of an application when the application has not been installed by the user. This is where users go to see what the application is about, which and how many of their friends have it installed, who made the application, and how often it is updated. The Application About page also includes a Wall where users can post quick one-off comments or messages, as well as a Discussion Board.

Once your application is alive and users start coming in, be sure to watch the Wall posts and Discussion Board for feedback. These provide users with a means of communicating how they feel about the application, and what issues they may have. If the Discussion Board is active, be sure to keep up with what your users are saying, and watch any messages and comments that could get lost in the activity.

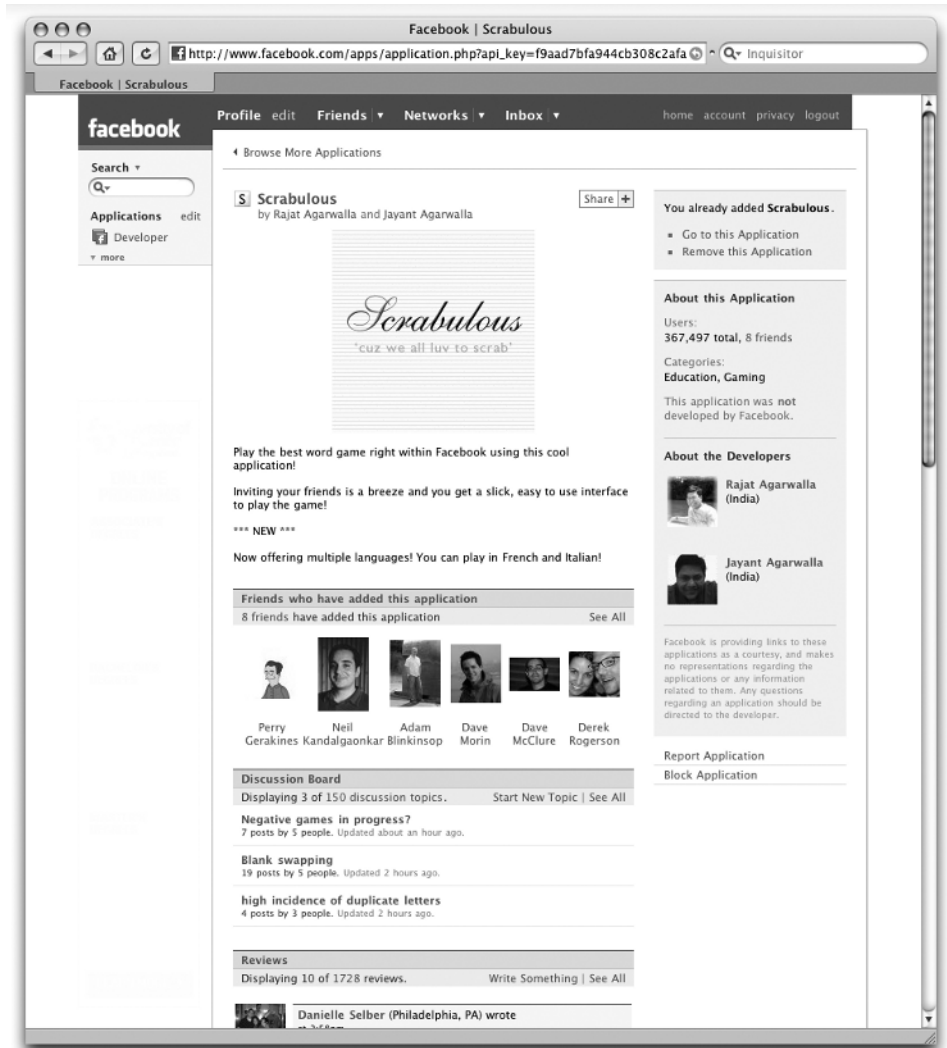


Figure 1-3: Application About page.

News Feed and Mini-Feed

The *News Feed* and *Mini-Feed* are shared Platform components used to broadcast actions of the user. Some examples include a user in your network adding an application, uploading or adding a new photo, or one or more of your friends adding the same person as a friend.

The difference between the News Feed (Figure 1-4) and the Mini-Feed (Figure 1-5) can be confusing. The News Feed is the main component of the home page and is a live stream showing the activity of your friends. The Mini Feed is a compact view of events specific to a single user and is displayed on the user's Facebook profile page.



Figure 1-4: News Feed.

Facebook has imposed several restrictions on how often an application can send content to be included in the News Feed and Mini-Feed. Users also have a decent amount of control regarding the types of updates they see, and whom the updates are about. Users can also opt to see more information about certain users or block feed updates from a list of users.

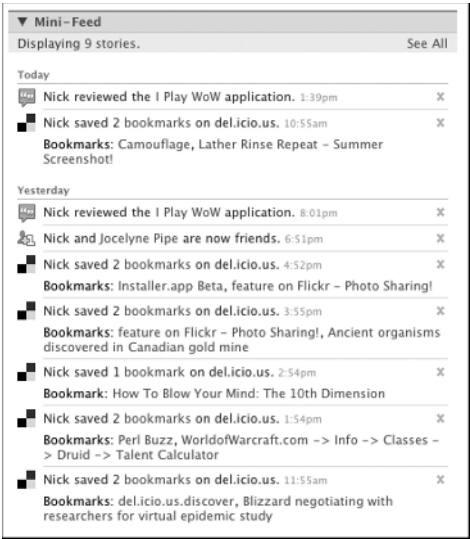


Figure 1-5: Mini-Feed.

From the developer’s point of view, the feeds are an excellent way to broadcast messages. However, given the level of customization involved, it is not the most reliable way to get your message out. The Facebook Platform ranks and organizes the data available to be displayed in the News Feed and weeds out content that it determines shouldn’t be displayed. There is no way to guarantee that a particular story will be displayed to a user’s friends.

Application Directory

The *Application Directory* (Figure 1-6) is where applications are categorized and listed for users to look through. Users can search through the applications listed in the directory and get some basic information, including a description and the number of users who have added it.

There is an approval process that an application must go through to be listed in the Directory. At a minimum, the application must have an icon, description, and at least five users.

A developer’s application need not be added to the Directory for it to be used, or even widely accepted. Being listed just means that someone in authority at Facebook has approved the application.

Be prepared for a wait when submitting your application to the Directory. All applications are viewed and examined by a human before being approved.

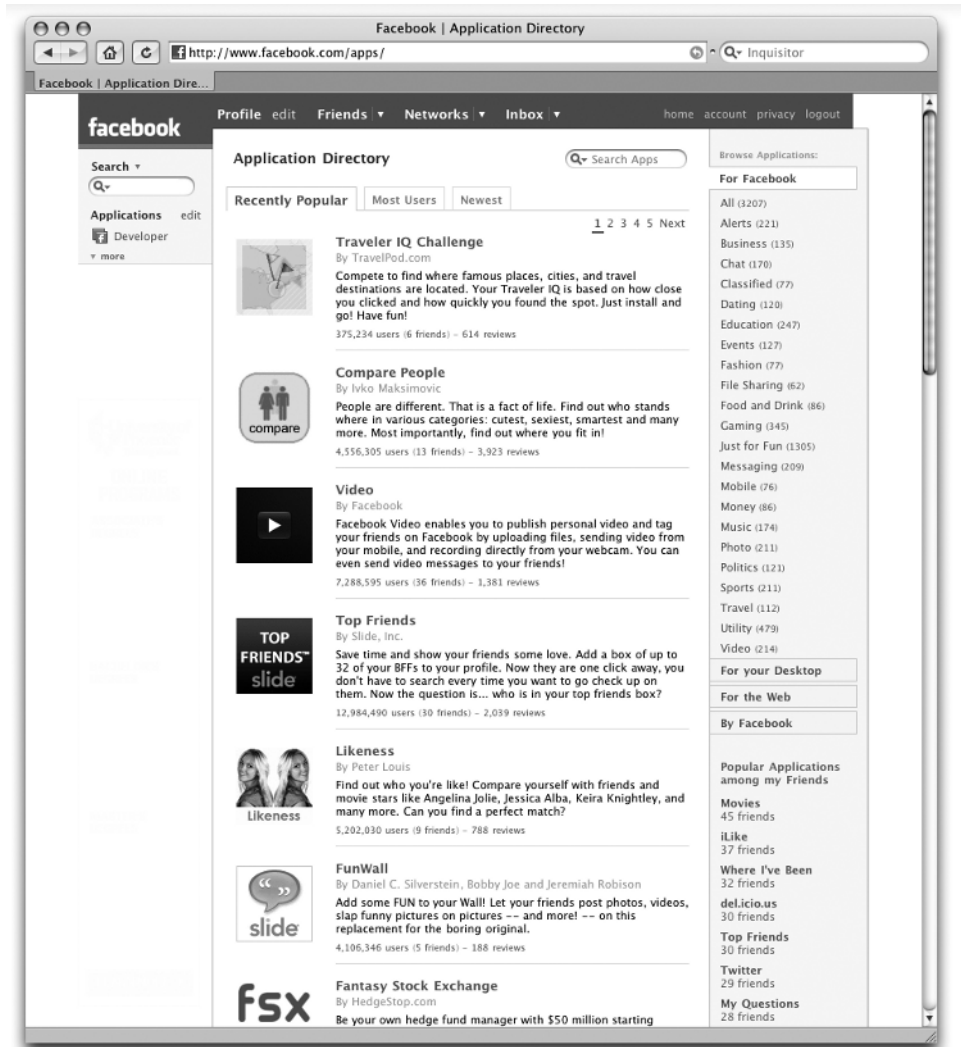


Figure 1-6: A list of popular applications in the Application Directory.

Notifications and Requests

Within Facebook, one of the nicer features is the internal messaging systems for messages and shared content. Applications have the capability to do the same thing with notifications and requests.

Notifications are a way of letting users know about an invitation or action. Notifications range from a small notice that a user has sent you a message (and it is in your Inbox) to a notice about it being your turn in a game of Scrabble.

Part I: Understanding the Facebook Platform

Requests include things such as friend detail confirmations and requests, group and event invitations, and so forth. Unlike a notification, a request requires some sort of action before something can be done. Figure 1-7 shows an example of approving a Friend Request before being able to view the profile of the user.

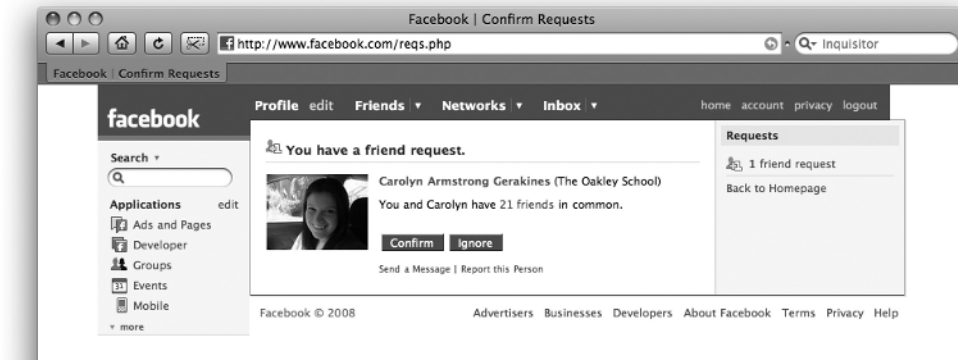


Figure 1-7: A request.

Facebook Pages

The *Facebook Pages* component was introduced in late 2007 and provides a way to create a Facebook profile for a celebrity, organization, band, product, and so on. Facebook Pages were designed to allow those entities to connect with Facebook users to engage and promote themselves.

Facebook users who are considered owners of one or more Facebook Pages have access to the demographics of the users considered fans of the page. They can also send broadcast messages to Facebook Page fans.

Message Attachments

One often overlooked feature is the capability of an application to include attachments in messages between users (Figure 1-8). This is displayed as a button below the body area of a message. When a user selects the application action to include an attachment, the application renders whatever form or body is necessary for it to include the content in question. Figure 1-8 shows an Add Music button under the message window. Clicking that button displays the window shown in Figure 1-9.



Figure 1-8: Add a link or attachment to your message.

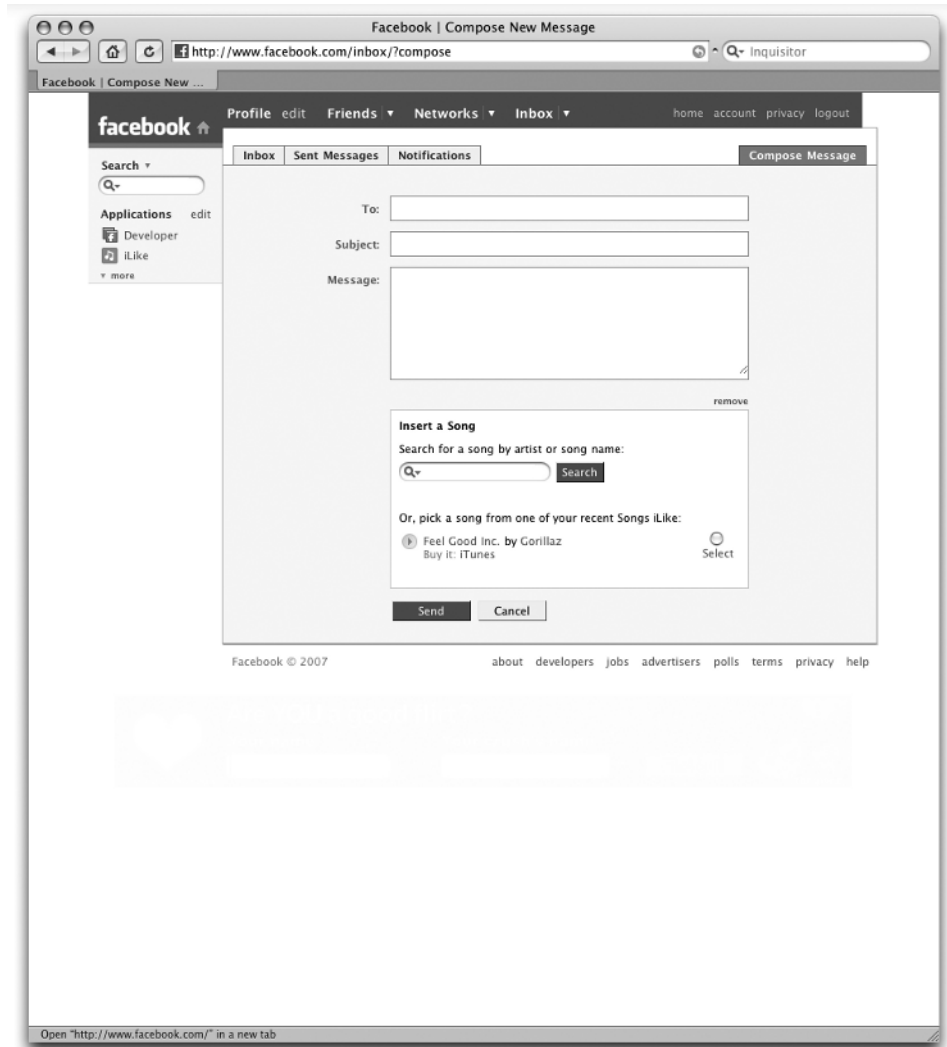


Figure 1-9: Browse for the file to attach.

Application Request Process

Facebook treats all applications as modular plug-ins that Facebook interacts with. Facebook does not host the applications, nor do the applications live on the Facebook network. Therefore, there is a strict request process that all applications must conform to.

1. The user accesses the Application ExampleApp at `http://apps.facebook.com/exampleapp`.
2. Facebook sends a `POST` request to a URL based on the Callback URL provided in the Application configuration.

3. The application parses the `POST` body and validates the `POST` signature.
4. The application performs its actions and generates markup for Facebook to display.
5. Facebook analyzes the markup (FBML) provided and renders it to the user's browser.

At first, the steps involved to display an application may look complex and unnecessary, but with closer examination, there is much reason behind this process. Following are the two main things accomplished:

- ❑ All of the business logic and data storage and management can be handled by the applications.
- ❑ Facebook can force applications to conform to certain display patterns through the use of FBML.

As stated above, every application request contains several parameters. These `POST` parameters vary depending on use and application request type. When a user accesses the application through the Application Canvas, the following parameters will always be included:

- ❑ `fb_sig_in_canvas` — With a value of 0 or 1, this indicates that the request was made through the Facebook Canvas.
- ❑ `fb_sig_added` — With a value of 0 or 1, this indicates that the requesting user has added the application.
- ❑ `fb_sig_time` — This is the current time in seconds since UNIX Epoch.
- ❑ `fb_sig_api_key` — This is the API key of the application.
- ❑ `fb_sig` — This parameter is used to verify that the request came from Facebook. See the section, “Validating the Request Signature,” below in this chapter for more information on validating this parameter.

Users who have already granted access to your application trigger the following `POST` parameters to be sent in addition to those already mentioned:

- ❑ `fb_sig_user` — The numeric ID for the requesting user
- ❑ `fb_sig_friends` — A comma-separated list of user IDs (UIDs) that the requesting user has as friends
- ❑ `fb_sig_session_key` — The current session key tied to the application and requesting user
- ❑ `fb_sig_profile_update_time` — The time in seconds since the last update that the requesting user made to the user's profile

The different combinations of request arguments lead to four different Canvas page request types:

- ❑ Requests where the user is logged into Facebook, but the requesting user has not granted access to the application. This is represented by the absence of a `fb_sig_user` parameter.
- ❑ Requests where the user is logged into Facebook and has granted access to the application but has not added the application. This is indicated when the `fb_sig_added` parameter is set to 0.
- ❑ Requests where the user is logged into Facebook, has granted access to the application, and has added the application. This is indicated when the `fb_sig_added` parameter is set to 1.

Validating the Request Signature

Verifying the signature of a Facebook application is very simple. As per the Facebook documentation, take the `POST` arguments in `key=value` pairs. Sort that list alphabetically by the key. Concatenate the sorted list and append the secret key for your application. The signature is the Message Digest 5 (MD5) encryption of that concatenated string.

Client Libraries

Facebook has released official *client libraries* and links to *unofficial libraries* (created and made available by third parties). The two supported languages are PHP (4 and 5) and Java. Both official client libraries contain relevant classes, as well as an example application.

The unofficial libraries support the following languages:

- ☐ ActionScript
- ☐ Cocoa
- ☐ ColdFusion
- ☐ .NET
- ☐ Perl
- ☐ PHP4
- ☐ Python
- ☐ Ruby
- ☐ VB.NET

Be aware that Facebook does not support these libraries, and links to them are provided only as a courtesy.

It should also be noted that Microsoft and Facebook have partnered to make it easier to develop Facebook Applications in Visual Studio. Visit the Visual Studio Express Showcase for more information: <http://msdn2.microsoft.com/en-us/express/bb510381.aspx>.

The Developer Center and Developer Application

Facebook has provided two places for developers to get more information about the Facebook Platform, as well as documentation, client libraries, and community support.

The first is the official *Facebook Developer Application*. This Facebook Application is the central destination for creating applications and configuring them. It is also the best place to get up-to-date information on the status of the Facebook Platform and news. The developer discussion board is also available here: www.facebook.com/developers.

The *Facebook Development Center* is where you will find the official documentation, client libraries, and several online tools that can be used to debug your application. The official wiki is also available here. It contains a wealth of information across many subjects.

<http://developers.facebook.com/>
http://wiki.developers.facebook.com/index.php/Main_Page

Application Traits

There are many types of applications that do many different things. Some build on new features, some extend existing functionality, and others are just for fun. This section gives an overview of 11 applications, each with one or more notable traits that are worth mentioning. Some of these applications have crossed the million-user milestone, and others have only thousands.

Top Friends

The *Top Friends* application by Slide Inc. has almost 11 million users. This application allows users to display and rank a list of other users on their profiles. This plays into the “top 8” concept that MySpace started, and has worked very well for this application. You can display up to 32 of your friends.

This application has done very well for two main reasons. On social actions such as changing the place of a friend within your ranked list, it notifies that user of the action. If the user hasn’t added the application, the user is prompted to do so. On large networks, this could lead to “spammy” behavior, but generally it is very sound. Top Friends also heavily encourages its users to invite and accumulate more users within the Application Canvas.

The second reason this application does so well is because it plays off user popularity. By allowing users to rank and list other users according to relationship status, it makes for a “Who’s Who” within the social network. It also computes popularity and provides a hard number that users can display. Users can try to increase the number by inviting other users and increasing their own rank with other users.

Following is some key information about Top Friends:

- ❑ **Notable Feature** — This application has excelled at viral marketing. Because of its viral nature, it has grown extremely fast and has become a huge success.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2425101550.

Viral marketing is a marketing phenomenon that facilitates and encourages people to advertise a product or service voluntarily.

iLike

The application *iLike* by iLike Inc. currently has more than 4 million users and was one of the first large Facebook applications. This application allows users to enter favorite music genres and artists. With that information, you can find similar music and present songs/artists on your profiles for other users to listen to.

Part I: Understanding the Facebook Platform

iLike has much more utility than many of the other Facebook applications. Its main purpose is to allow users to discover and share musical interests in a variety of ways. The application provides links to songs in the iTunes Music Store, allowing users to quickly purchase music and videos. iLike also has several secondary features that build on top of it. Users can connect through concerts, dedicate songs to each other, and customize the content that is display within the profile.

Following is some key information about iLike:

- ❑ **Notable Feature** — This application allows users to create and strengthen social relationships through musical connections and like interests.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2413267546.

Extended Info

The *Extended Info* application is a profile enhancer written by Trey Philips. This application allows you to add custom content to your profile similar to the Facebook-provided profile information.

In addition to being one of the earlier applications available, it was also one of the first application acquisitions. Sidestep, creators of the Tips application, purchased the Extended Info application for an undisclosed sum.

This application is a perfect example of Facebook applications that extend current functionality of Facebook. With it, you can add and display more relevant information to your profile visitors.

Following is some key information about Extended Info:

- ❑ **Notable Feature** — This application implements a single really good idea very well.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2374336051.

Art

The *Art* application is purely cosmetic from the user's perspective. The application, written by Matt Kraft and Phil Edwards, has more than 53,000 users. It allows Facebook users to display a piece of art on their profiles. It is one of the smaller applications, but definitely one of the nicer ones.

Once the application is installed, you are presented with a library of more than 160,000 works of art to add to your profile. You can also sift through other types of images depicting such things as bands, movies, sports, and so on. This application provides links to purchase pieces through allposters.com, which makes it very easy to display your favorite piece that you have hanging in your Facebook profile as well.

Following is some key information about Art:

- ❑ **Notable Feature** — This application is noteworthy because it doesn't attempt to be a social application. It is nothing more than a profile decorator, and a nice one at that.
- ❑ **URL** — www.facebook.com/apps/application.php?id=3021260327.

Fortune Cookie

The *Fortune Cookie* application, with more than 4.7 million users, is another content-oriented application. It presents a themed fortune on the user's profile for other users to see and provides links to add the application for visitors who have not already done so.

The Application Canvas is very simple, providing a preview of the fortune, a button to cycle to the next fortune, and an interface to send the current fortune to one or more friends. Unlike other applications, it has a very passive viral strategy.

Following is some key information about Fortune Cookie:

- ❑ **Notable Feature** — This application focuses on small content. The only user input available is to skip to the next fortune. Because of this, the application is incredibly simple.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2355237624.

Honesty Box

The *Honesty Box* application allows users to comment anonymously on other users. At first, this could sound like a very bad idea, but it has proven quite the opposite. With more than 2.5 million users, this application has opened up a refreshing alternative to the traditional Wall application that Facebook provides, which allows users to post notes and comments on your profile.

After you have added the application, you are presented with a seed question on which profile visitors are supposed to remark. Within the Application Canvas, you can configure e-mail notifications, view comment history, and block users (anonymously, of course).

Following is some key information about Honesty Box:

- ❑ **Notable Feature** — This application takes full advantage of the capability to be anonymous. Given that most social networks are made to expose users, this application is refreshing in that it allows anonymous (and semi-anonymous) actions.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2552096927.

Causes

The *Causes* application allows Facebook users to contribute financially to some of the causes they care about. It has more than 2.2 million users and has had a steady stream of application add-ons and buzz since its launch. The Help section describes its goal very well:

Facebook Platform presents an unprecedented opportunity to engage our generation, most of whom are on Facebook, in seizing the future and making a difference in the world around us. Our generation cares deeply, but the current system has alienated us. Causes on Facebook provides the tools so that any Facebook user can leverage their network of real friends to affect positive change.

Part I: Understanding the Facebook Platform

This application creates profiles for causes that users can either join or create. Users can donate money to one or more causes and display on their profiles the causes they have joined. Each “cause” has an area for users to discuss the cause, as well as information about the cause. There is also an area available to include statistics and other information. Each cause includes a low- and high-level description and information on how to join and help.

Following is some key information about Causes:

- ❑ **Notable Features** — This is one of the first of few altruistic applications. It provides a medium for doing good in the world in a very organized and thought-out way.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2318966938.

del.icio.us

The *del.icio.us* application allows users to display the bookmarks they have saved on *del.icio.us*. It is listed here because it is one of the few applications that is almost completely external from the user’s point of view. *del.icio.us*, being a social utility, allows users to save content for themselves as well as other users and expand communal knowledge through knowledge sharing. This fits very well with the tight social networks formed within Facebook.

When users first add this application, they are brought to the *del.icio.us* Settings page, where they associate their *del.icio.us* and Facebook accounts, as well as configure how they want the application to work. The application itself does not have any presence within Facebook, other than items in the News Feed and content within the user profile.

Following is some key information about *del.icio.us*:

- ❑ **Notable Features** — This application is passive compared to others. It updates the user’s feed and profile based on activity on an outside web site. It shifts from an application that is part of Facebook to an application with a presence in Facebook, putting more of a focus on the user’s bookmarks, content, and activity, rather than social relationships and Facebook.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2411052087.

Pirates vs. Ninjas

Pirates vs. Ninjas is a fun application that lets you recruit your friends to become either a ninja or a pirate. It has more than 650,000 users and makes it very easy to recruit other ninjas or pirates to increase the ranks.

This is one of a growing number of competitive applications. It is composed of one or more groups that will “defeat” the other groups based on the number of users and/or points.

Following is some key information about *Pirates vs. Ninjas*:

- ❑ **Notable Features** — This class of Facebook application is very viral because of its competitive “help a friend out” nature.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2400559068.

Election '08

The *Election '08* application is one of a growing number of politically focused Facebook applications. In particular, this application presents the user with several 2008 presidential election candidates (there is an option for independent, green, and none, as well) and allows the user to select one and record his or her vote.

This application serves multiple purposes. The first is to allow users to display their political views and 2008 presidential candidate of choice on their profiles. Facebook allows you to select a political view to display, but this application takes it a step further.

The second role of this application is to collect data. This application, created by NewsVine, has the capability to collect a huge amount of data regarding the political views and candidate preferences of the Facebook user base.

Following is some key information about Election '08:

- ❑ **Notable Features** — The first is the politically charged theme and purpose. The second is the capability to collect valuable data.
- ❑ **URL** — www.facebook.com/apps/application.php?id=2360172394.

Scrabulous

This Facebook application is multi-user game within Facebook. It allows you to invite up to three other users to play the turn-based game Scrabble. Because the game does not require all users to be present during each other's turns, it makes playing very easy, and games can take as long as the users wish.

The idea of using Facebook as a gaming platform is very interesting. Turn-based games, multi-user games, and single-player flash games are ideal.

Following is some key information about Scrabulous:

- ❑ **Notable Features** — Its lax restrictions on user presence during turns makes it easy to start and continue games between friends where it might not be normally feasible. It also allows users who have not added the application to join games.
- ❑ **URL** — www.facebook.com/apps/application.php?id=3052170175.

Application Trait Overview

Now, let's review the application traits noted here and examine them further. It is a combination of these traits mixed with marketing, audience targeting, utility, and luck that plays a part in the application's success.

Advertising and Marketing

One of the most common things done to promote an application is marketing and/or advertising. A viral application isn't one that installs itself but is promoted by the users with or without their consent. There are many applications that are considered "viral" for just this reason.

There are various tactics used by application developers to make their applications more viral. Following are just a few of the most popular:

- ❑ **Forced Invited** — Some applications have aggressive policies requiring users who have added the application already to invite other users before they can take full advantage of its features. Sometimes this is done by having an Invite screen displayed after an action. Other times it is done by tracking the number of invites the user has sent with reminders displayed until the target number of invites is met. This is reminiscent of the old shareware days. In some ways, this is a necessary evil, although I don't advocate it. There have been many applications that have done very well with such aggressive behavior. If the users really objected to them, they wouldn't use the application in the first place.
- ❑ **Application Partnerships** — A growing trend in Facebook applications is to partner with other applications and advertise for each other. This takes several forms, such as a small blurb, series of text links, or larger visual advertisement on a confirmation page. This can work very well, depending on the situation. If you have multiple applications with the same target audience, it could be very beneficial. It also makes for a great way to spread the word about an application and get people to notice.
- ❑ **User Profiles and Feeds** — User profile real estate is very valuable. At the core of all of this is a social network where users visit the profiles of other users. Having an eye-pleasing profile block for other users to see can go a long way. The same holds true for feeds. Several very successful applications attribute the News Feed and Mini-Feed to much of their success. Good messaging and clarity provide non-application users a feeling of what the application is about.
- ❑ **Word of Mouth** — There is nothing an application can do that is better than a friend's recommendation. Having the application users spread the good word is the most effective way of getting new users. It also follows that having good feedback and positive comments in the application Forum and Wall is also helpful.
- ❑ **Building Relationships** — Some applications serve no other purpose than creating, building, and strengthening the relationships between users. Sometimes the application may come across as a popularity contest (such as Top Friends), but what it boils down to is users profiling the relationships they have with their friends.

Perfecting a Single Idea

Applications often do best when taking a single idea and perfecting it. Within the Facebook Platform, it is easy to create multiple applications and have them all serve a specific purpose. Splitting out applications provides the chance to have more of an impact on how the user perceives Facebook and the tools they use.

Adding New Functionality and Extending Functionality

Not all systems are complete. With the launch of the Facebook Platform and the introduction of Applications, Facebook acknowledges that fact. Facebook Applications are a great way to add new functionality to Facebook. What better way to increase the usefulness of the Platform for its users than by allowing the users to do it themselves? The capability to add new functionality to Facebook is the number one purpose of the Platform.

The second purpose of the Platform is to extend and enhance existing functionality. In addition to stating that not all systems are complete, it can also be said that the first revision of a system is not as good as the second. With a Facebook Application, a developer can take an existing application or feature, examine it, take feedback from those who use it, and create a better application from that knowledge.

This has been shown to be true by looking at the usage of countless applications that clone and extend the features built into Facebook.

Cosmetic Enhancements

Whether it is with an image, a list of all of the places you've been, or even a picture of your pet, users like to show things off and cosmetically enhance what is theirs. Profile enhancement comes in many forms, which fits with the many ways that this is accomplished.

Business Relationships

Facebook is making it easier to identify and separate professional networks and social networks. There are applications out there that build on the idea that the line between work life and the home is blurring. They offer various features that appeal to business networking, rather than social networking.

Facebook Beacons

The *Facebook Beacon* service was added in late 2007 and serves as a bridge between actions taken on third-party sites and how they are represented on Facebook. In a nutshell, when a user on a third-party site takes an action such as adding a movie to his or her favorites list or saving a bookmark, that third party sends a small amount of information to Facebook. Facebook then correlates that information with a Facebook account, and, depending on that user's privacy settings, the information is then displayed on the user's News Feed or Mini-Feed.

Summary

This chapter has examined the history of Facebook and taken a look at where it is going. The discussion touched the core components of Facebook and the Facebook Platform. You learned what an Application is and how the underlying structure of requests and components fit together. Finally, this chapter took a deep look at several applications, and defined the notable traits that make them unique.

Chapter 2 dives right into application development and takes a more hands-on approach to the Facebook Platform. Chapter 2 complements this chapter by taking what you have learned and putting it into action with a small application that uses the Facebook Canvas page, the PHP Client Library, and several API methods.

