



Escola Politècnica Superior
de Castelldefels

UNIVERSITAT POLITÈCNICA DE CATALUNYA

MASTER DEGREE FINAL PROJECT

TITLE: Creation, distribution and social data gathering by an application on Facebook.

MASTER: Master in Science in Telecommunication Engineering & Management (MASTEAM)

AUTHOR: Prince, Sébastien

DIRECTOR: Aguado Chao, Juan Carlos

DATE: 07th of April 2010

OVERVIEW

With this project, a Web-application is created and expanded taking advantage of the existing infrastructure of the Social Network Site Facebook with the aim of improving communication among users.

My objective has been to profit of the most important existing users data base of the World Wide Web, the social network site Facebook, to make users information gathering and collect data which in a future would be available for any type of statistics. Many multinational companies as Zara or Coca-Cola need to make marketing studies before launching a new product to characterize for each country an approximate anticipation of sales. The application developed in this project is centered on the mood of the users, and can reveal some other personal information as user location or favorite colors, any type of user information which can be really precious for marketing companies.

Amongst others, the technologies that have been used are:

- HTML, the marking-up language in which web pages are written.
- PHP5, a scripting language that is especially suited for web development and can be embedded into HTML.
- JavaScript, mainly used to improve the management between the client/server interface.
- FBML, the Facebook Markup Language.

The following objectives of the implementation have been met, thus guaranteeing:

- Taking advantage of the free Internet web and Facebook infrastructure without having to acquire any type of hardware device.
- Integrating a classic Web-application with its structure in the Facebook Platform.
- The application being available to any user on the Social Network Facebook.
- Improving the communication between Facebook users.
- Interpreting the results obtained from the data gathering of all active-users which executed the application.

INDEX

TITLE: CREATION, DISTRIBUTION AND SOCIAL DATA GATHERING BY AN APPLICATION ON FACEBOOK.	0
---	----------

CHAPTER 1: INTRODUCTION	1
--------------------------------------	----------

1.1 MOTIVATION	1
----------------------	---

1.2 MAIN GOALS.....	1
---------------------	---

1.3 PLANNING OF THE PROJECT.....	2
----------------------------------	---

1.4 METHODOLOGY OF THE WORK	2
-----------------------------------	---

1.5 TEMPORAL DIVISION.....	2
----------------------------	---

CHAPTER 2: PROJECT PRESENTATION	4
--	----------

2.1 WHAT IS SOCIAL NETWORKING	4
--	----------

2.1.1 Definition.....	5
-----------------------	---

2.1.2 The limits of the social networks.....	7
--	---

2.2 FACEBOOK	8
---------------------------	----------

2.2.1 Presentation of Social Network Site Facebook	8
--	---

2.2.2 The Facebook Platform	10
-----------------------------------	----

2.2.2.1 <i>The API</i>	11
------------------------------	----

2.2.2.2 <i>FBML, Facebook Markup Language</i>	12
---	----

2.2.2.3 <i>XFBML, an extension to FBML</i>	12
--	----

2.2.2.4 <i>FBJS, Facebook Java Script</i>	13
---	----

CHAPTER 3: TECHNOLOGIES	14
--------------------------------------	-----------

3.1 LANGUAGES	14
----------------------------	-----------

3.1.1 HTML	14
------------------	----

3.1.1.1 <i>HTML History</i>	14
-----------------------------------	----

3.1.1.2 <i>Core principles</i>	15
--------------------------------------	----

3.1.2 JavaScript (See Appendix)	15
---------------------------------------	----

3.1.2.1 <i>What is JavaScript?</i>	15
--	----

3.1.2.2 <i>History of JavaScript</i>	16
--	----

3.1.2.3 <i>What is it used for?</i>	16
---	----

(See APPENDIX)	16
----------------------	----

3.1.3 PHP	16
-----------------	----

3.1.3.1 <i>What is PHP?</i>	16
-----------------------------------	----

3.1.3.2 <i>History of PHP</i>	17
-------------------------------------	----

3.1.3.3 <i>Evolution of the PHP versions</i>	18
--	----

3.1.3.4 <i>What is it used for?</i>	18
---	----

3.2 TOOLS	19
------------------------	-----------

3.2.1 Filezilla Client.....	19
-----------------------------	----

3.2.2 PsPad	20
-------------------	----

3.2.3	Microsoft Word Excel.....	21
-------	---------------------------	----

CHAPTER 4: APPLICATION DEVELOPMENT 23

4.1	FACEBOOK APPLICATION REQUIREMENTS	23
	Create an application in Facebook.....	23
4.1.1.1	<i>Install the Facebook developer application.....</i>	23
4.1.1.2	<i>Create the Facebook application.....</i>	24
4.1.1.3	<i>Fill in the application details.....</i>	24
	Hosting requirement	24
4.2	APPLICATION STRUCTURE	24
4.2.1	Application goals and functions.....	24
4.2.2	Anatomy of the application in Facebook	26
4.2.3	Basic application Architecture	29
4.2.3.1	<i>FBML or IFrame?.....</i>	29
4.2.3.2	<i>Programming solution: PHP.....</i>	29
4.2.3.3	<i>Description of the basic architecture.....</i>	29
4.3	APPLICATION PROGRAMMING ARCHITECTURE	30
4.3.1	Facebook Platform client libraries	31
4.3.2	Index.php.....	32
4.3.3	Countlectura.php.....	38
4.3.4	Count.php.....	39
4.3.5	Count.txt.....	40

CHAPTER 5: CONCLUSIONS 42

5.1	SUMMARY OF RESULTS AND GOALS	42
5.1.1	Integration of the application in the Facebook Platform	42
5.1.2	Enhance the interactivity of Facebook users.....	42
5.1.3	Statistics from the data result	42
5.2	SUSTAINABILITY DATA.....	47
5.2.1	Environmental dimension	47
5.2.2	Economic dimension	47
5.2.3	Social dimension	47
5.3	DIFFICULTIES OF THE PROJECT	48
5.4	PERSONAL CONCLUSIONS	48
5.5	FUTURE	49

BIBLIOGRAPHY..... 50

INDEX OF FIGURES

Fig. 1.1	Temporal division of the project	3
Fig. 2.2	Picture of the idea of Social Networking	4
Fig. 2.3	Screenshot of user information page.....	9
Fig. 2.4	Screenshot of user Home page.	10
Fig. 2.5	The Facebook Platform	11
Fig. 2.6	FBML request.....	12
Fig. 3.7	How PHP works	17
Fig. 3.8	Screenshot of Filezilla window.	20
Fig. 3.9	Screenshot of PSPad window.....	21
Fig. 3.10	Screenshot of Microsoft Excel window.....	22
Fig. 4.11	Template for the acceptance of the Developer application*	23
Fig. 4.12	Chronogram of the application	26
Fig. 4.13	Inviting user to login Facebook	27
Fig. 4.14	Allowing API access to user profile	27
Fig. 4.15	Welcoming application page	28
Fig. 4.16	Result application page	28
Fig. 4.17	Basic architecture of the application	30
Fig. 4.18	Programming architecture	31
Fig. 4.19	Facebook Platform client libraries package	32
Fig. 4.20	Integrating the application in the Facebook Platform	33
Fig. 4.21	Verifying the user login.....	33
Fig. 4.22	Catching user information	34
Fig. 4.23	Calculating the number of user friends	34
Fig. 4.24	Including the number of visitors by calling <i>countlectura.php</i>	34
Fig. 4.25	Form of 4 questions.....	35
Fig. 4.26	Forcing user to fill all the questions	36
Fig. 4.27	Calculating the result.....	36
Fig. 4.28	Personalizing the result	37
Fig. 4.29	Sharing the result on the user Wall	37
Fig. 4.30	Allowing the user to access the application profile	38
Fig. 4.31	Capture of <i>countLectura.php</i>	38
Fig. 4.32	Capture of <i>count.php</i>	39
Fig. 4.33	Capture of the <i>count.txt</i> file	40
Fig. 4.34	Managing the permission access to <i>count.txt</i>	41
Fig. 5.35	Statistics of all the users' Mood Result	43
Fig. 5.36	Statistics of users male Mood Result	43
Fig. 5.37	Number of user friends of user who add the application after at least one friends	44
Fig. 5.38	Log/log	45
Fig. 4.39	Number of Friends VS number of users.	45
Fig. 5.40	log(Number of friend) VS log(Number of user)	46
Fig. 5.41	Scheme of sustainable development.....	47

INDEX OF TABLES

Table 5.1 Result mood statistics depending on the users gender.....	43
Table 5.2 Result mood statistics depending on users location.....	44
Table 5.3 Number of user who add the application after at least one friends	44
Table 5.5 Number of user friends	45
Table 5.6 Estimation of #user corresponding to #friends.	46

CHAPTER 1: INTRODUCTION

1.1 *MOTIVATION*

Why this project? To begin with, I was working as an intern in a Spanish engineering and systems integration company in Barcelona, and it was a really interesting environment to develop my final project within my department. That year, the company was in need of lot of trainees, and who came first would have more chances to get assigned to a project. In spite of the nature of the company operations, I could not make my final project in the firm. So I decided to contact an investigator of the UPC and ex-professor in the master I'm actually completing.

As I met Juan Carlos Aguado Chao, he was working on different projects in connection with the subject of Social Networking. He suggested me to try this subject to begin and see what I could find interesting to develop. I accepted right away and began to investigate. After a - too much- long time of prospecting I decided to base my research on the most important Social Network Site, Facebook.

Facebook has the most relevant social website for the past five years, so it is really easy to find information and there is plenty of documentation about it. Also another important Facebook characteristic motivated me, the Facebook Platform. This is one of the most important political changes of Facebook and it has accelerated its growth considerably. The concept of Facebook Platform allows anybody with minimum skills in programming to participate in the development of new applications in Facebook.

I liked the idea to create a little application on Facebook for two reasons. First of all, I needed to consolidate my knowledge in programming. I was coming from an educational background more centered on electronics systems, and I was not specialized in any programming language. In another words, it was a good challenge to build an application which all people in Facebook could enjoy for a personal use and profit the world biggest world profile data base to base my Master final project.

1.2 *MAIN GOALS*

The main goal of the project work is to develop a web application open to any user of the Social Network Site Facebook from a given infrastructure which supports the network web site, the Facebook Platform.

The application has to distract users in Facebook to get a minimum of success and expand itself in the social network site without means of any advertisement. In a first conception, it is a free tool.

However, another application goal is to extract data from the user profiles in order to interpret it and make statistics. For example, the marketing division of Zara wants to launch a new collection of jacket in Spain. They want to know the preferred colors for a jacket in Spain, to control the production of an approximated amount of colorized jackets. User personal information can be exploited to develop any type of statistics. A basic application developed in Facebook can extract user personal information very useful to base a marketing research.

1.3 PLANNING OF THE PROJECT

The proposal of the project planning starts from 4 phases:

Phase 1:

A first meeting is scheduled with the director of the project, Juan Carlos Aguado Chao to define the subject and make decisions for the direction to take in the first phase of documentation and information. The subject of Social Networking is chosen and the study begins.

Phase 2:

Focus on the social network site Facebook. Definition of general idea and goals for the Web-application. Study of the Facebook Platform characteristics and how to create a Web-application to integrate it on. Choice of the PHP Language for the Web-application realized.

Phase 3:

Choice of the web hosting and Web-application development. Creation of the application on Facebook. Programming the application in PHP with the Facebook Platform tools and languages.

Phase 4:

Collect the user personal data and push up some interesting interpretation and statistics result. Conclusion of the work and definition of future enhancements.

1.4 METHODOLOGY OF THE WORK

During the 6 months of length of the process I have carried out a series of tasks depending on the situation I found myself in, and some of them have been more appropriate than others.

I have to point out that, before this 6-month period, I had dedicated some time to the study of the Social Networking in general and the various programming languages used. And this period of time which is not counted in here, is equally or more important than the later 6 months, since without great part of the knowledge acquired, it would have been very difficult for me to undertake the tasks I have carried out.

1.5 TEMPORAL DIVISION

The different phases described in the planning are exposed in the calendar of the project.



Fig. 1.1 Temporal division of the project

CHAPTER 2: PROJECT PRESENTATION

2.1 WHAT IS SOCIAL NETWORKING

The exponential growth of the Internet and particularly the new concepts called Web 2.0 and Web 3.0 generate many new Web applications. In the beginning of 2010, according to Alexa The Web Information Company, Facebook, Microsoft Network (MSN) and MySpace appeared in the Top 20 of world-wide Internet traffic. These applications allow creating profiles, messages, forums, forming a circle of friends, and finding partners, job or other business partners to be related to on the Web.

This type of Internet applications forms what we are used to call online social networks: places dedicated to the communication of knowledge, the meeting of new people or the construction of professional relationships.

They all have a similar operation: create a profile (personal information, photos, and hobbies or skills) and invite "friends" or "partners" to be linked together.

According to the ideal version of the creators of these social networks, each new contact that accepts an invitation increases the network of contacts. Users who just arrived register their contacts as well and so on... until the entire world is connected.

But generally, most of the users do not invite anybody, but look for familiars which are already part of the network, mainly individuals that know themselves by interposed Internet. "Friends", "virtual" contacts!



Fig. 2.2 Picture of the idea of Social Networking

2.1.1 Definition

The first serious studies about social networking put forward the theory of “6 degrees of separation”. In 1967, the American sociologist Stanley Milgram conducted the small world experiment examining the average path length for social networks of people in the United States.

But a current objective of the new Internet-based social networks could be to regroup some usual Website applications on the same social Network Site. By the same way it gives the possibility for the user to be reached only by one click of any application he or she is using regularly. For the social network site it means to secure its users.

Why to register in a social network site? First of all, by curiosity and because it is “in vogue”. Other reasons are more idealistic and to be able to make contact with the whole world is not the last one of the causes. Finally some are materialistic: to obtain benefit from the contacts of a “friend” (the friends of my friends always are my friends in the social networks...), to find somebody in his virtual relations who have the answers to the questions that we are considering...

Generally, social networks allow users to meet old friends and get in contact with some missing persons. But mainly, for an important part of the Internet users, social networks allow to manage their virtual reputation. In addition, some social networks make the persons who meets more people (the one that get more contacts) look more important. That implies on the other hand the reflection: “The more people he or she knows, the more important he or she is, therefore I have to add him or her to my contacts, if I am somebody”. Some people register with the intention to improve their ego: to become someone more important. An amused case very probable would be people who knew their next door neighbor in these social networks, instead of talking with him or her in the stairs.

One of the interesting uses of these networks in professional way is contracting. If you do not have a “profile”, run to register. LinkedIn, the leader in business social networking, give the possibilities of its network for the following interesting points:

- Manage the information that’s publicly available about you as professional
- Find and be introduced to potential clients, service providers, and subject recommended experts
- Create and collaborate on projects, gather data, share files and solve problems
- Be found for business opportunities and find potential partners
- Gain new insights from discussions with likeminded professionals in private group settings
- Discover inside connections that can help you land jobs and close deals
- Post and distribute job listings to find the best talent for your company

For marketing use, social networks constitute an alternate mechanism of data processing within the market. The postulate is that it makes possible for information to arrive at the desired individuals with the greatest economy of means (compared to a diffusion generalized of the whole information to all the actors). Social networks play the part of filter. They are the means which allow most quickly reaching the points furthest away from the network, and to saturate a network as well as possible. In that way, social networks can be seen as a channel of distribution based on the cooperative filtrate. There are many more possibilities on this context...

Another example of successful use of social network sites, is in politics. In USA the last presidential campaign strategy was both inspired by and run on sites of virtual communities like Facebook and MySpace. One of the four founders of Facebook, graduated in Harvard, Chris Hughes (24 years) leaved the company two years ago, to join the team of Obama campaign. Mark Penn, ex-adviser of Hillary Clinton, indicated to the New York Times that the followers of Obama seemed to belong to the “Facebook world”, and Hughes was satisfied.

In spite of the undisputed means to campaign can still be the television, now Internet makes possible for the candidates communicate with more people and faster. Joseph Mercury, political consultant and president of National Political Services with headquarters in New York explains why the democrats obtained advantages from the use of the last technology. “The campaign of Obama was sophisticated, comparing it with McCain: his people could open a site of Facebook easily and there were hundreds of volunteers who did this every day, up to a million.”

Several types of social networks exist, and they can be grouped within 3 categories, according to their openness:

- Open networks
- Networks to invitation (it is necessary to be invited by one of his members)
- Professional services in line of networking (they favour the professional encounter, the supplies of position and the search of profiles)

And on the other hand, a specialized classification of social networks sites might define 7 categories according to their goals:

- The social network sites of business and jobs
- The social network sites of young people
- The Private social network sites (by invitation)
- The specialized social network sites: video, images...
- The communitarian and thematic social network sites
- The social network sites “numerical identity” like Ziki and MyBlogLog
- The social network sites micro: microblogging, microvideo, etc

A basic and interesting definition of a social network is: “A map of the relationships between individuals, indicating the ways in which they are connected through various social familiarities ranging from casual acquaintance to close familial bonds”.¹

In the Internet, each social network site develops its own definition to attract users to register. An example is with music360, a social network site whose objective is to gather the members together around specific subjects.¹¹

Yahoo, protagonist in social networks with Yahoo!360 until last summer because it closed its services on July 13 2009, described the social network like “a quite ample

term that designates Internet sites that help users to create their own Internet profile and to share a part of its favorite contents, including photography, video and music.”^{III}

“LinkedIn is an interconnected network of experienced professionals from around the world, representing 170 industries and 200 countries”^{IV} With LinkedIn, Members can create customizable profiles that detail employment history, business accomplishments, and other professional accolades.

These definitions are applied to the spirit of the interested social networks correctly. But what is in common between a list of friends published on Facebook or Yahoo!360 (social networks in leisure activity), a place of professional contacts like LinkedIn (social network in businesses) and a social network “numerical identity” like Ziki or MyBlogLog?

As the Web 2.0 concept, the definition of a social networking could be multiplied proportionally to the number of specificities of these networks.

Basically, to characterize social network sites these 3 essentials points are sufficient:

- An user profile
- An investigation among users
- A way to put in contact users on the Web.

2.1.2 The limits of the social networks

Although the social networks are the ideal place to interact with other Internet users, it is important to know they represent a real danger: cases of identity thefts and cheating are common in social networks and can generate potentials damages. A social network is able to define a numerical identity for users and the question that has to be considered is: What is the real use of the registered data in these networks?

In “true life”, personal, familiar, professional, friendly, institutional circles of a human being can come together and complement each others in order to define his identity. And consequently, according to the circle in which we were, we may not share the same information and we may behave differently in front of the members of distinct circles. Nowadays, social network sites do not propose filtering possibilities that would allow to structure and specialize the social network according to the acquaintance circles.

The confidence issue is also a concern. The Internet users who register in a social network really do not feel closer to another member of the same network than a perfect stranger, just think that they might improve the quality of the mutual exchanges. It is a trader speech...

In effect, algorithms of confidence and anonymity are discussed. How can be sure the “friend” of one contact is really his friend?

Each social networking web site has its own rules and restrictions on the types of members who can join. Some websites have age restrictions, country restrictions or restrictions based on the level of interest in a particular topic.

With any social networking web site however, there are a number of dangers that exist.

- Paedophiles and Child Abuse. Adults seeking children for their own sexual gratification may be lurking in social networking web sites, pretending to be other children. Online relationship may be formed which could lead to real life meetings.
- Personal Information. Children may be able to post identifiable personal information in profiles, chat rooms or blogs thus putting them at risk.
- Time Wasting / Internet Addiction. Children and teenagers may spend hours online modifying their profiles and communicating with others. Other tasks, such as homework, may suffer as a result.
- No Age Verification. Many social networking web sites do not have age verification technologies in place, so people of all ages could be members, even if it is against the terms and conditions of joining.
- Cyber Bullying and Flaming. Many web sites let you rate another member's profile. This fact opens the opportunity up for cyber bullying and nasty comments to be made. Negative comments can also appear in discussion groups and blogs.

2.2 FACEBOOK

2.2.1 Presentation of Social Network Site Facebook

The own overview of Facebook is more implicit and a little more affected than others Social Networking Site:

“Facebook's mission is to give people the power to share and make the world more open and connected. Millions of people use Facebook everyday to keep up with friends, upload an unlimited number of photos, share links and videos, and learn more about the people they meet.”^V

Facebook is a global Networking Social website and intended to gather close or unknown people on its website. Since 2010, the website has more than 400 millions active users worldwide^{VI}. It is the 2nd site, after Google, more visited in the world according to Alexa Internet^{VII}. Facebook was born in Harvard in 2004: it was the closed social network only for student of this university before to become accessible to the rest of American universities and its name was “Thefacebook.com”. The verification of the user identity was simply by the e-mail of the student. Since 2006, the website is open to everyone. A January 2009 Compete.com study ranked Facebook as the most used social network by worldwide monthly active users, followed by MySpace^{VIII}. The site has gone from a few Ivy League students looking to locate friends to a major marketing and social networking tool for junior high, high school and college students as well as young professionals, businessmen, and industry powerhouses.

Further expansions included adding a marketplace and allowing users to upload photos. Currently, Facebook is the most popular site to upload photos on the web. Facebook was also opened to companies and other individuals unaffiliated with schools. The site now also contains a dating or personals service and has a whole network available to marketers interested in hosting pages or ads on the site as well as a system of collecting analytics from users to help these marketers.

Like any web application of social networking, Facebook allows its users to enter personal information and interact with other users. Information that can be placed at the disposal of the network is civil status, studies, hobbies and interests.

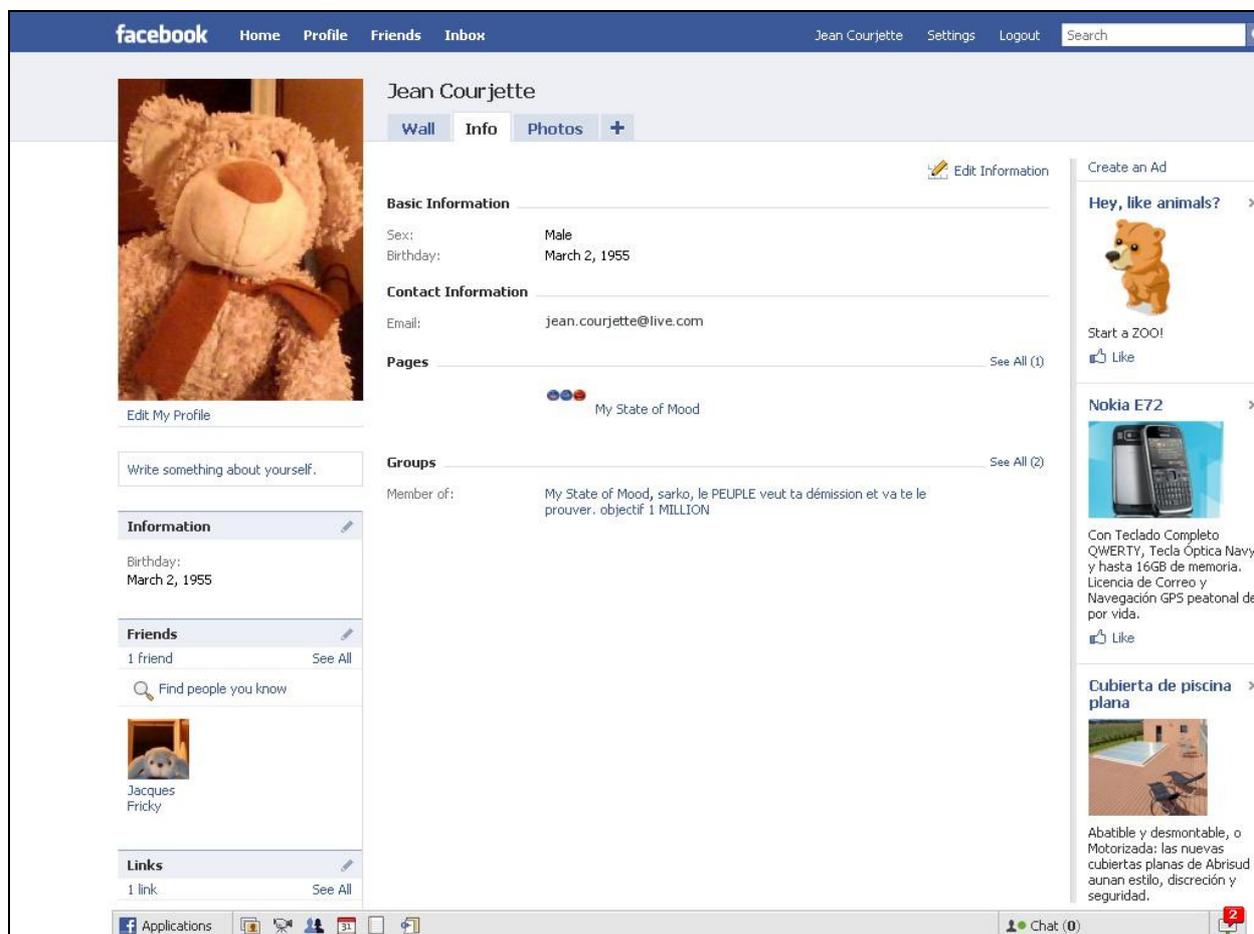


Fig. 2.3 Screenshot of user information page.

The most important step, once the user has created the corresponding profile, is to connect with friends, colleagues or contacts to build his or her personal social network. Facebook enables users to have a list of friends and to join different groups or private networks like high school or company.

The interactivity of Facebook is one the point which makes it grow considerably. Each user shares indirectly his activity on the network (status, participation in a group, uploading photos, wall messages, applications used...) to all the "friends" and contact he made in Facebook. This activity appears in the wall of the user profile, and in the Home page (Live feed) of each contact in the network. It is possible and sometimes necessary to filter all this information. More the user has Facebook friends (or contacts) more information he will have on the wall.

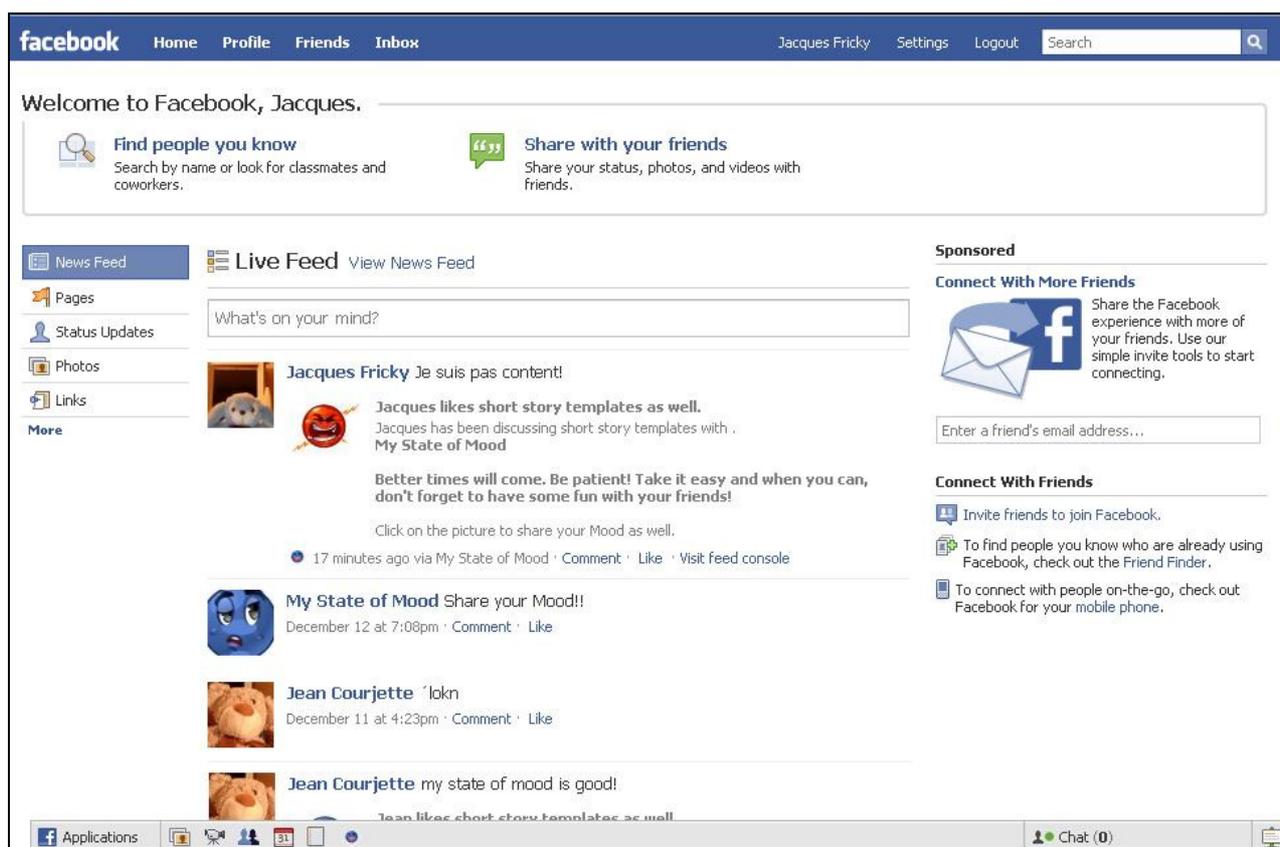


Fig. 2.4 Screenshot of user Home page.

2.2.2 The Facebook Platform

Facebook launched the Facebook Platform on May 24, 2007, providing a framework for software developers to create applications that interact with core Facebook features^{IX}. Facebook Platform (including Facebook Connect, canvas page and desktop applications, Share, and other services) is a set of APIs and tools that enables third-party applications and websites to access content on behalf of Facebook users. Since the inception of Facebook Platform, the goal has been to allow any developer to build more social application that give people the power to share activities on the website.

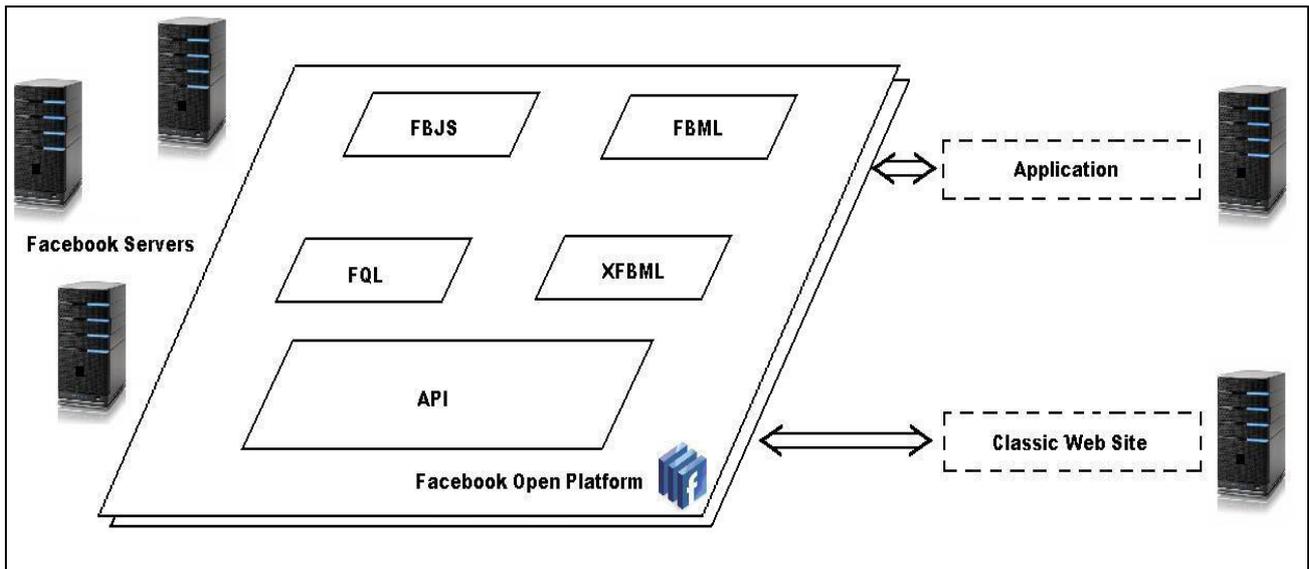


Fig. 2.5 The Facebook Platform

The Facebook Platform comprises a number of core components, including:

- The API.
- FBML, Facebook Markup Language
- XFBML, an extension to FBML
- FQL, Facebook Query Language
- FBJS, Facebook JavaScript

2.2.2.1 The API

The API consists of a number of methods that let the developers-users add social context to their applications.

Facebook uses a system of communication that they denominate REST-interface, something similar to a server SOAP with XML, but with its particularities. In other words, from applications requests routes HTTP are send to Facebook API REST server and will execute the methods that are solicited (or it will send the properties to the application server) and it will give the answer also via HTTP. Nearly any computer language can be used to communicate over HTTP with the REST server.

Example of API methods:

- *users.getStandardInfo* : to get the user info that he share with anybody
- *friends.get* : to get the list of user friends.
- *feed.publishUserAction* : to publish the actions in the user wall
- *stream.publish* : an other way to publish something on the user wall.
- *users.hasAppPermission* : to know if the user allows the application to get his personal information.

2.2.2.2 *FBML, Facebook Markup Language*

FBML (Facebook Markup Language) enables the developers-users to build full integrated applications in the surroundings of Facebook. It allows action like acceding to the profile of the users, profile action, showing his photos, Facebook Canvas.

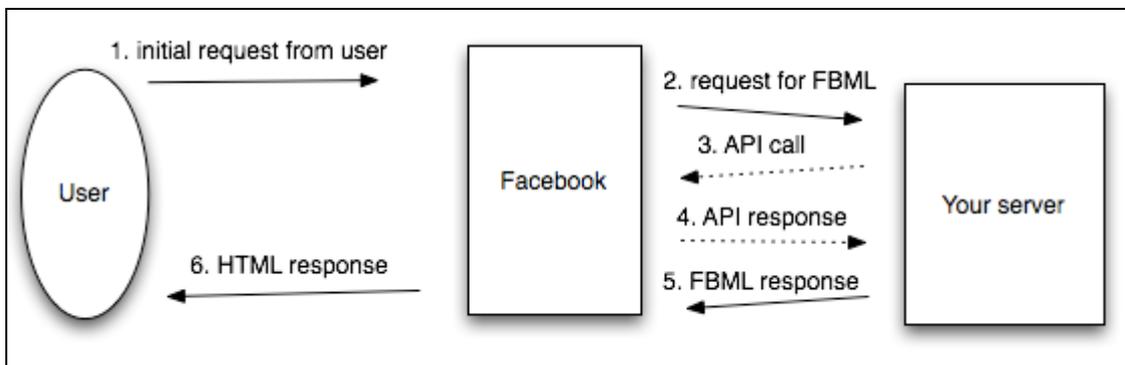


Fig. 2.6 FBML request

It is partly based on a subgroup of HTML instructions for some visual aspects, but over the years, it has been growing with more and more instructions than allow to interact with the data stored in Facebook. Even so, it continues being a language of marks and to develop an application for Facebook it is necessary to get the support of another complete programming language like PHP. FBML can be used completely in the applications, but also it is possible to use a reduced set of Facebook instructions, like it happens with the messages intern Facebook application, the pages of company within Facebook, the wall, etc.

Using Facebook Connect the language of marks is the XFBML, it is very similarity, but with many less tags (at least until now).

A high-level technical spec for FBML is shown at FBMLspec, and Allowed FBML and HTML Tags shows which HTML and FBML tags can be used in applications, such as canvas pages, email, or Feed stories. Developers can define new FBML tags using Custom Tags, and also use in their application custom tags that other developers created. To see the list of public tags from other developers, they can visit the Custom Tags Directory.

2.2.2.3 *XFBML, an extension to FBML*

Facebook uses XFBML as a way for you to incorporate FBML (Facebook Markup Language, an extension to HTML) into an HTML page on a Facebook Connect site or an iFrame application. At this time, many of tags supported are very similar to existing FBML tags.

There are a number of ways in which developers can use Facebook Connect to provide more social context on their own sites, and reflect (on Facebook) the social actions users take on their sites. Some examples include:

- Discover which users' connected friends on the site are also their Facebook friends.

- Allowing users to see what their connected friends are doing on the site.
- Incorporate Facebook social context like a user's status with the experience on your site.
- Incorporate content from the site on Facebook – have the users add an application tab or box to their profile listing their recent activity.
- Publish social actions taken on the site to Facebook – when a user writes a review on your site (or buys something, or uploads a video), create a News Feed story about it on Facebook.

2.2.2.4 **FBJS, Facebook JavaScript**

FBJS is Facebook's solution for developers who want to use JavaScript in their Facebook applications. FBJS is built to empower developers with all the functionality they need, and to protect users' privacy at the same time.

Most providers who allow developers to embed JavaScript within their domain force developers to use iframes to sandbox their code. Facebook has taken a different approach to this problem. JavaScript that you give us gets parsed, and any identifiers (function and variable names) get prepended with your application ID. For example, the following code block:

```
function foo(bar) {  
  var obj = {property: bar};  
  return obj.property;  
}
```

becomes:

```
function a12345_foo(a12345_bar) {  
  var a12345_obj = {property: a12345_bar};  
  return a12345_obj.property;  
}
```

This creates a virtual scope for every application that runs within Facebook. From there, certain functionality is exposed through a collection of JavaScript objects that allow modifying the content on Facebook. Objects are made to mimic the functionality of JavaScript as closely as possible, but it may take some getting used to for people who are already adept with JavaScript.

CHAPTER 3: TECHNOLOGIES

In this project, an application is developed and integrated on the Facebook Site. The chapter 2 is dedicated to present the Facebook technologies used to incorporate the application in the Platform. This chapter speaks about the technologies used like the programming language and the tools used for the application development and the analysis of results.

3.1 LANGUAGES

3.1.1 HTML

3.1.1.1 *HTML History*

HTML is the marking-up language by means of which webpages are written. Thanks to the Internet and the web browsers, it has become one of the most popular existing formats for the drawing up of documents.

It consists of a structured hypertext language, that allows to have a reference to other text documents by means of links called hyperlinks. This text is composed of tags which indicate us where the document elements start and where they end.

A hypertext document is not only made up of text, it can also include images, sound, etc. Therefore, its result can be considered as a multimedia document.

Thus, HTML, gives the authors of the pages that have been created, the necessary tools to:

- Publish documents online with headers, texts, tables, pictures...
- Obtain information online by means of hypertext links.
- Design forms that allow us to register, make reservations, etc.

HTML was originally developed by Tim Berners-Lee. In the mid nineties, the enlarging of HTML started to achieve the desired presentation, but always from the different developers' perspective, who ended up with different non-standard solutions for different browsers.

HTML 2.0 was developed to encode what was common practice at the end of 1994. In 1993, HTML+ and HTML 3.0 in 1995, proposed more enriched versions of HTML.

Even though an agreement has not been reached regarding the discussions over the standards, these drafts led to the adoption of a number of new features. The efforts of the HTML Working Group of the World Wide Web Consortium to encode the common practice, culminated in HTML 3.2 which was approved in January 2007. This new standard included enhancements provided by the Internet Explorer and Netscape Navigator browsers which had already carried out some extensions of the HTML 2.0 standard.

Each of the HTML versions tried to reflect an increasingly greater consensus among the industry's spokesmen, so the investments the contents providers had made were

not depreciated and so the documents stopped being readable in the short term.

In December 1997 the HTML 4.0 standard was approved, which developed the HTML language with mechanisms by the style sheets, scripts executions, frames, as well as improved support for the text from right to left and mixed directions, richer tables and better forms. Besides it provided accessibility improvements for disabled people.

Finally in September 2001 the 4.01 standard was approved after a revision of the HTML 4.0 which amended errors and at the same time included some changes of the former revision.

3.1.1.2 Core principles

Browsers have the function of interpreting the HTML code of the documents and show the users the resulting web pages of the interpreted code.

Every page of HTML must have some beginning and ending tags, which define a webpage and without which a Web on HTML does not make any sense.

<html> </html> They are the tags which indicate the beginning and end of the web page respectively.

<head> </head> They are the tags which indicate the beginning and end of the webpage header.

<body> </body> They are the tags that indicate the beginning and end of the webpage body.

The rest of information and tags we have used in our intranet will be explained later on another section.

Core tags of a webpage:

<html>

<head>

...

</head>

<body>

...

</body>

</html>

3.1.2 JavaScript (See Appendix)

3.1.2.1 What is JavaScript?

JavaScript is an object-oriented scripting language based on the prototype concept, developed by Netscape Communications Corporation, and resulted in the ECMAScript standard. It's mainly known by its use on web pages, but it's also used on other applications.

Disregarding its name, JavaScript does not come from the Java programming

language, but both of them share a similar syntax inspired by the C language. The name "JavaScript" is a trademark by Sun Microsystems.

JavaScript, like Java or VRML, is one of the multiple ways that have come up to extend the capacities of the HTML language.

3.1.2.2 *History of JavaScript*

At the same period of time, Sun Microsystems launched the JAVA programming language (originally called Oak), which quickly gained popularity, and for only commercial reasons its name changed into JavaScript.

The version 1.0 appeared with the 2.0 of the same company browser and it was later on incorporated in the iExplorer 3.0 by Microsoft. Few times later appear VBScript (Visual Basic Script) by Microsoft, which is its direct competitor.

3.1.2.3 *What is it used for?*

(See APPENDIX)

3.1.3 PHP

3.1.3.1 *What is PHP?*

PHP (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

An example:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
  <head>
    <title>Example</title>
  </head>
  <body>
    <?php
      echo "Hi, I'm a PHP script!";
    ?>
  </body>
</html>
```

Instead of lots of commands to output HTML (as seen in C or Perl), PHP pages contain HTML with embedded code that does "something" (in this case, output "Hi, I'm a PHP script!"). The PHP code is enclosed in special start and end processing instructions <?php and ?> that allow you to jump into and out of "PHP mode."

What distinguishes PHP from something like client-side JavaScript is that the code is executed on the server, generating HTML which is then sent to the client. The client would receive the results of running that script, but would not know what the underlying code was. A web server can be configured to process all the HTML files with PHP, and then Users will not know about it.

The best things in using PHP are that it is simple for a newcomer, but offers many advanced features for a professional programmer allowing starting writing simple scripts in a few hours.

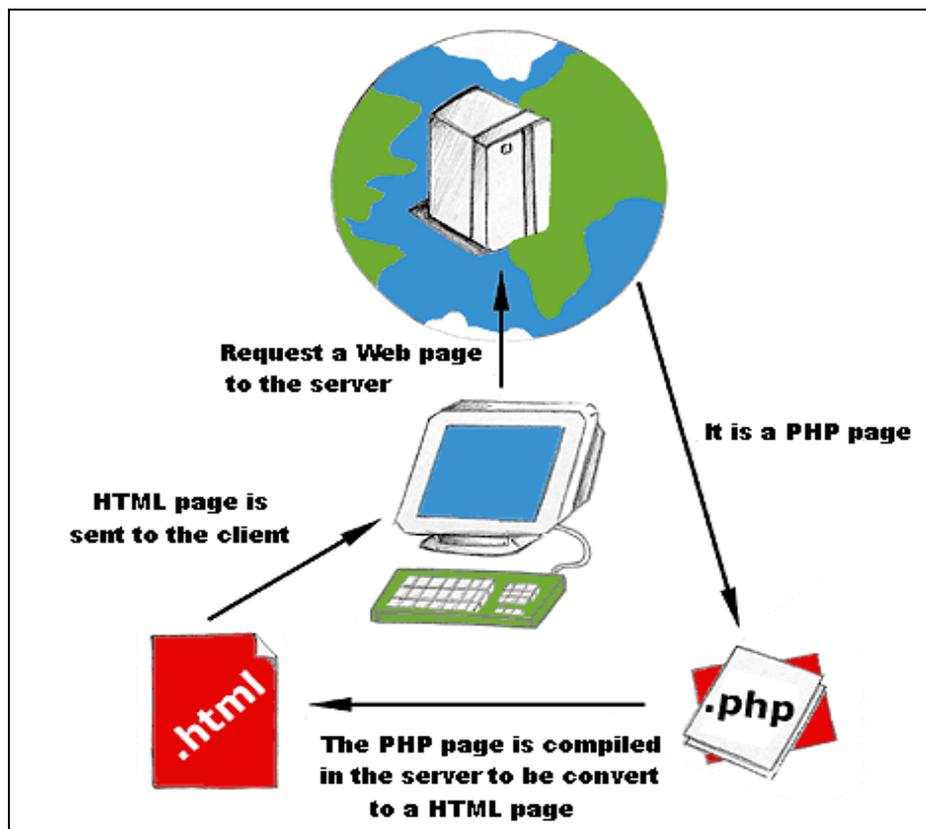


Fig. 3.7 How PHP works

3.1.3.2 History of PHP

PHP took over from an older language called PHP/FI. PHP/FI was created by Rasmus Lerdorf, in 1995. It was initially a library of scripts Perl, used to note the accesses to his CV on line. He gave the name of "Personal Home Page Tools" to this library. As he added new functionalities, Rasmus transformed the library into an implementation out of C, able to communicate with the databases, and to create dynamic and simple applications for the Web. Then Rasmus decided to publish" his code, in order to everyone can use it and benefit from it, with the result of many contributions and improvements of the code.

PHP/FI, which means Personal Home Page/Forms Interpreter, included several basic functionalities still today with variables similar to Perl, an automatic system of interpretation of the variables of forms, and a syntax which is integrated easily in

HTML. Syntax as well was similar to Perl but more limited. It was simple and a little incoherent.

In 1997, PHP/FI 2.0, the second version in language C, already had an estimated audience of several thousands users in the world, and approximately 50.000 domain name indicated with PHP installed. It represented approximately 1% of domain names on the Internet. Even if the number of contributors was important, PHP was still the project of only one man...

PHP/FI 2.0 was officially published in November 1997, after had been passed the essence of its life in beta release. Few times later, a version alpha of PHP 3.0 was published.

3.1.3.3 Evolution of the PHP versions

- **PHP 3.0:** It was the first version of the language such as we currently know. It was created by Andi Gutmans and Zeev Suraski in 1997 in the form of complete rewriting of PHP/FI. Notable improvements were its capacities of extension, a support of syntax object, and a syntax of more robust, coherent language and a modular API. It was published in June 1998 after 9 months of tests with the new name "PHP: Preprocessor hypertext".
- **PHP 4.0:** Leaning on new engine, called "Zend Engine" (combination of the names of Zeev and Andi) PHP 4.0, improved by a large number of new functionalities, was officially published in May 2000, almost 2 years after its predecessor. Besides performances definitely higher, PHP 4.0 brought the support of many Web servers, sessions HTTP, the bufferisation of exit, an increased the safety of information visitors and several new structures of language.
- **PHP 5.0:** Published in July 2004 after a long development and several pre-versions. It is managed by its engine, Zend Engine 2.0 with a new model and dozens of new functionalities.

3.1.3.4 What is it used for?

PHP is a general-purpose scripting language that is especially suited for web development. PHP generally runs on a web server. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content. It can also be used for command-line scripting and client-side GUI applications. PHP can be deployed on most web servers, many operating systems and platforms, and can be used with many relational database management systems. It is available free of charge, and the PHP Group provides the complete source code for users to build, customize and extend for their own use.

PHP primarily acts as a filter, taking input from a file or stream containing text and/or PHP instructions and outputs another stream of data; most commonly the output will be HTML. Since PHP 4, the PHP parser compiles input to produce bytecode for processing by the Zend Engine, giving improved performance over its interpreter predecessor.

Originally designed to create dynamic web pages, PHP now focuses mainly on server-side scripting, and it is similar to other server-side scripting languages that provide dynamic content from a web server to a client, such as Microsoft's Active Server

Pages, Sun Microsystems' JavaServer Pages, and mod_perl. PHP has also attracted the development of many frameworks that provide building blocks and a design structure to promote rapid application development (RAD).

The LAMP and WAMP architectures have become popular in the web industry as a way of deploying web applications. PHP is commonly used as the P in this bundle alongside Linux, Apache and MySQL, although the P may also refer to Python or Perl.

As of April 2007, over 20 million Internet domains were hosted on servers with PHP installed, and mod_php was recorded as the most popular Apache module. Significant websites are written in PHP including the user-facing portion of Facebook, Wikipedia (MediaWiki), Yahoo!, MyYearbook, Digg, Joomla, WordPress, YouTube, Drupal and Tagged.

3.2 TOOLS

The tools used are quite basic at first sight, but they have small features which make programming task easier. Program development using a text editor looks like going more slowly than with a web editor such as PSPad. In order to be directly connected by FTP to the server data base it is really effective to use a free cross platform FTP as Filezilla client. Finally an easy way to present and interpret the final result and statistics of the application is the classic Microsoft Excel.

3.2.1 Filezilla Client

FileZilla Client is a fast and reliable cross-platform FTP, FTPS and SFTP client with lots of useful features and an intuitive graphical user interface.

FileZilla includes a site manager to store all the connection details and logins as well as an Explorer style interface that shows the local and remote folders and can be customized independently. FileZilla offers support for firewalls and proxy connections as well as SSL and Kerberos GSS security.

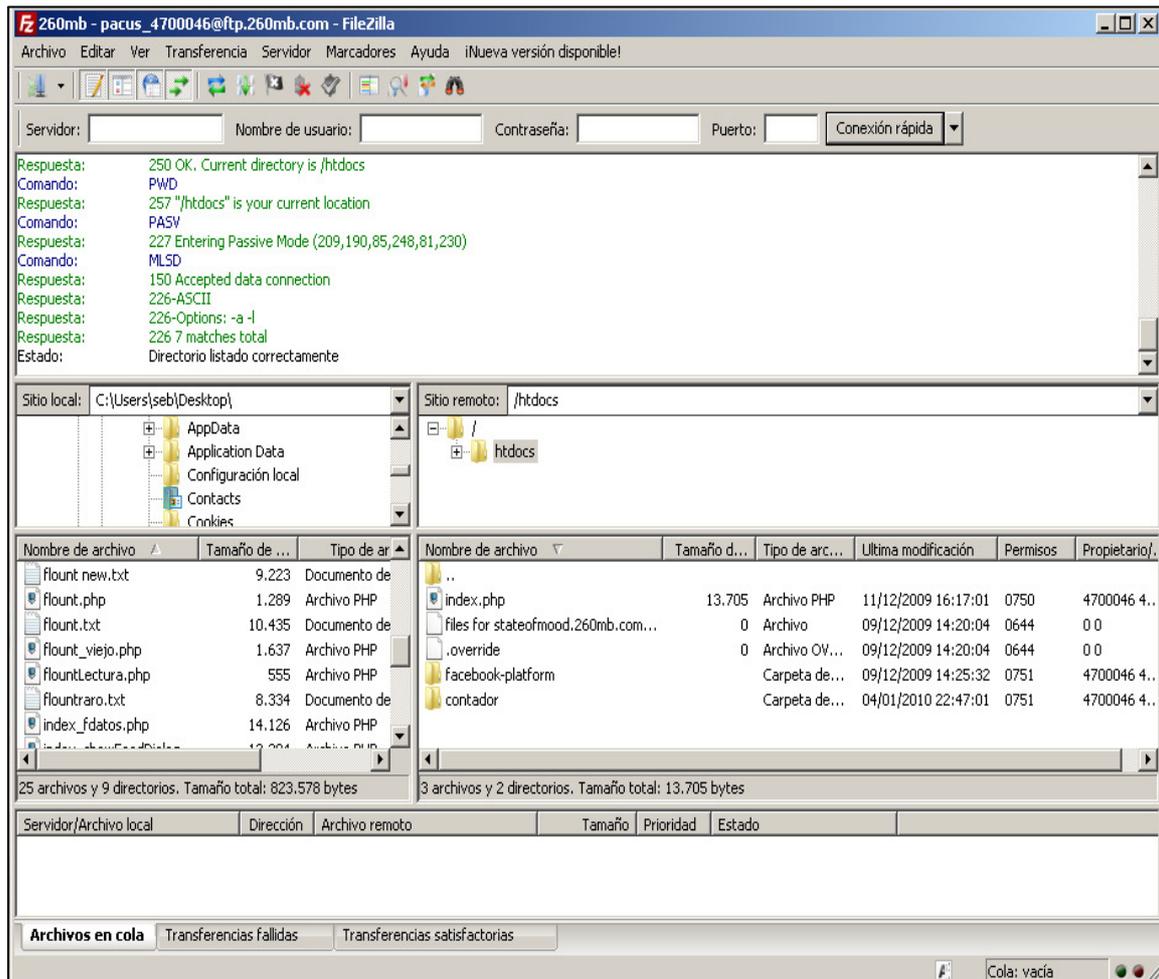


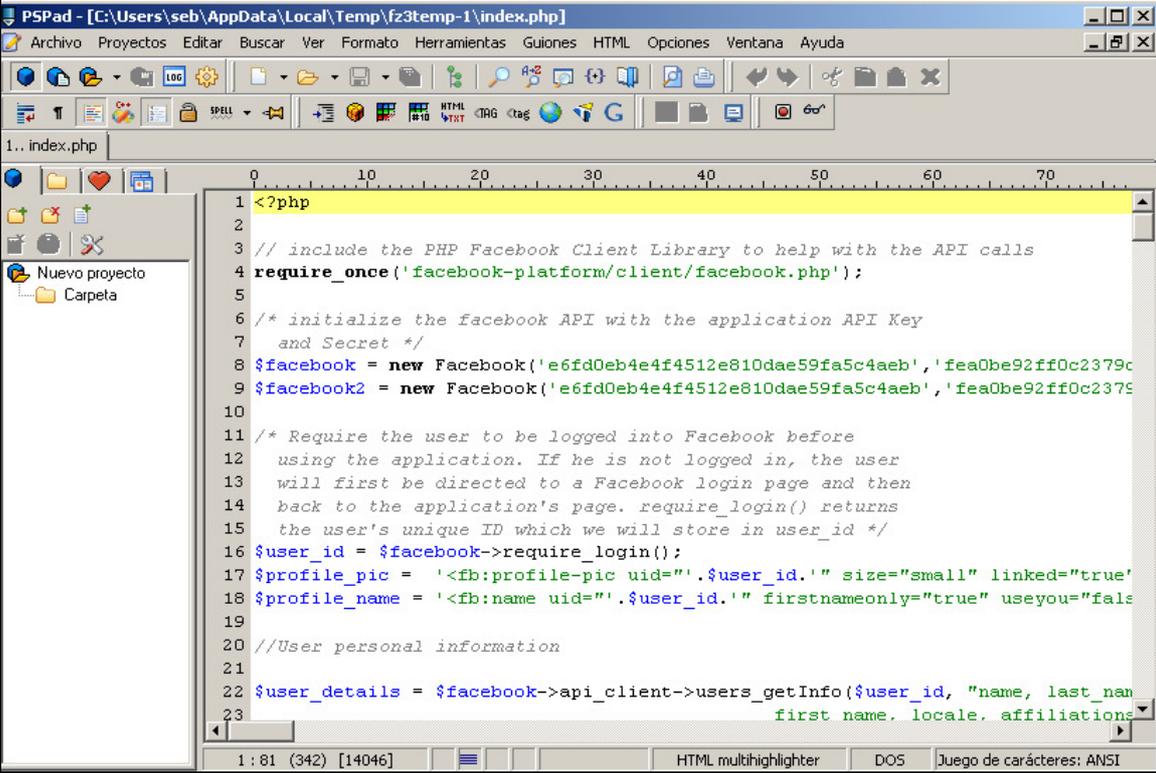
Fig. 3.8 Screenshot of Filezilla window.

3.2.2 PsPad

PSPad is a freeware programmer's editor for Microsoft Windows operating systems, useful for people who work with various programming environments like highlighted syntax in their source code.

PSPad need a small tool with simple controls and the capabilities of a mighty code editor and wants to save time - PSPad offers rich text formatting functions.

Pspad need tool what offer user extension capabilities and want to save money and still have the functionality of professional products because it is free for commercial and government purposes too.



The screenshot shows the PSPad text editor window. The title bar reads "PSPad - [C:\Users\seb\AppData\Local\Temp\fz3temp-1\index.php]". The menu bar includes "Archivo", "Proyectos", "Editar", "Buscar", "Ver", "Formato", "Herramientas", "Guiones", "HTML", "Opciones", "Ventana", and "Ayuda". The toolbar contains various icons for file operations and editing. The main text area displays PHP code for connecting to the Facebook API. The code includes comments in Spanish and PHP comments in English. The status bar at the bottom shows "1 : 81 (342) [14046]", "HTML multihighlighter", "DOS", and "Juego de caracteres: ANSI".

```
1 <?php
2
3 // include the PHP Facebook Client Library to help with the API calls
4 require_once('facebook-platform/client/facebook.php');
5
6 /* initialize the facebook API with the application API Key
7    and Secret */
8 $facebook = new Facebook('e6fd0eb4e4f4512e810dae59fa5c4aeb','fea0be92ff0c2379c
9 $facebook2 = new Facebook('e6fd0eb4e4f4512e810dae59fa5c4aeb','fea0be92ff0c2379
10
11 /* Require the user to be logged into Facebook before
12    using the application. If he is not logged in, the user
13    will first be directed to a Facebook login page and then
14    back to the application's page. require_login() returns
15    the user's unique ID which we will store in user_id */
16 $user_id = $facebook->require_login();
17 $profile_pic = '<fb:profile-pic uid=".'.$user_id.'" size="small" linked="true'
18 $profile_name = '<fb:name uid=".'.$user_id.'" firstnameonly="true" useyou="fals
19
20 //User personal information
21
22 $user_details = $facebook->api_client->users_getInfo($user_id, "name, last_nam
23    first name, locale, affiliations
```

Fig. 3.9 Screenshot of PSPad window.

3.2.3 Microsoft Word Excel

Microsoft Excel (full name Microsoft Office Excel) is a spreadsheet application written and distributed by Microsoft for Microsoft Windows and Mac OS X. It features calculation, graphing tools, pivot tables and a macro programming language called VBA (Visual Basic for Applications). It has been the most widely used spreadsheet application available for these platforms since version 5 in 1993. Excel is part of Microsoft Office.

Thanks to Excel, the data gathering by the application is easily ordered and can be shown by group with the function of filters. It has been a great tool at the time to make statistics from the results collected.

1	Visitor	Date	Name	Number of	Location	Mood	Sex	Birthday	Status
35	34	10/12/2009	Raney Simmon			Bad Mood	female		OMG, I'm excited! Tomorrow is Friday, and I
36	35	10/12/2009	Xenya Konstas			Good Mood	female	11/10/1985	
37	36	11/12/2009	Flavia Duarte			Good Mood	female		
39	38	11/12/2009	Youshka Jam			Bad Mood	female		wt eva ^^
42	41	11/12/2009	Marion Berenger			Bad Mood	female	11/19/1975	c'est quand qu'on va oÁ' ?
43	42	11/12/2009	Marion Berenger			Bad Mood	female		c'est quand qu'on va oÁ' ?
46	45	12/12/2009	Mady Houseman			Good Mood	female	ago-24	STUPID SURGURY!!!
47	46	12/12/2009	Dianne Bell			Good Mood	female	08/26/1982	it was so busy today at work...had a sales g
48	47	12/12/2009	Danae Overweg			Good Mood	female		
51	50	13/12/2009	Simone I. K. Kolleeny			Normal Mood	female	08/31	SO DAMN NERVOUS
52	51	14/12/2009	Sara Saleem		31 en_US	Good Mood	female	11/23	Wo Ansu jo Palko ki Zenat nahi bante.....
53	52	14/12/2009	Sara Saleem		31 en_US	Good Mood	female	11/23	Wo Ansu jo Palko ki Zenat nahi bante.....
54	53	14/12/2009	Sara Saleem		31 en_US	Good Mood	female	11/23	Wo Ansu jo Palko ki Zenat nahi bante.....
58	57	15/12/2009	Chloë Guillemet		213 fr_FR	Bad Mood	female	05/21/1985	BACALAO
59	58	15/12/2009	Dianne Bell		97 en_US	Normal Mood	female	08/26/1982	wishes life was more simple..
61	60	15/12/2009	Hanelore Gob		58 en_US	Normal Mood	female	10/13/1969	In every loss, in every lie, in every truth that :
62	61	15/12/2009	Ivana Frechero		36 es_LA	Good Mood	female	05/12/1985	
68	67	18/12/2009	Emilie Lecoq		119 fr_FR	Good Mood	female	10/31/1980	
74	73	20/12/2009	Cristina Macovei		234 en_US	Normal Mood	female	11/24/1988	
75	74	20/12/2009	Linda Bergkvist Aspring		240 en_US	Good Mood	female	11/07/1966	Efter 6 mÅ#naders svordommar Å#ver att en
82	81	24/12/2009	Natasa Gajic		942 en_US	Bad Mood	female	05/24/1993	ĐœĐ, ĐœĐ'Đ½Đ'Đ° 2 ĐœĐ¼ŦĐœĐ, ĐœĐĐœĐ
84	83	25/12/2009	Maria de la Fuente		34 es_LA	Good Mood	female	01/18/1990	feliz navidad para todos..besos y abrazos!!!
85	84	26/12/2009	Trang Nguyen		110 en_GB	Good Mood	female	10/12/1986	
91	90	28/12/2009	Roro Dian 'ian' Marlina		147 id_ID	Good Mood	female	01/17/1987	>
94	93	29/12/2009	Halen Emerson		18 en_US	Good Mood	female	10/07/1996	SONG!!! sorry!
96	95	31/12/2009	Kavitha Vijayakumar		6 fr_FR	Good Mood	female	12/20/1982	
99	98	06/01/2010	Mona Zaheer		19 en_US	Normal Mood	female	08/09	
100	99	06/01/2010	Dahlia Hani		169 en_US	Good Mood	female	04/08/1978	A goodbye isn't painful unless you're never g
102	101	08/01/2010	Nehal Ali Menhem		68 en_US	Normal Mood	female	01/13/1983	ĐœĐ ĐœĐ'Đ½Đ'Đ° 2 ĐœĐ¼ŦĐœĐ, ĐœĐĐœĐ

Fig. 3.10 Screenshot of Microsoft Excel window

CHAPTER 4: APPLICATION DEVELOPMENT

4.1 FACEBOOK APPLICATION REQUIREMENTS

The application realized in this project corresponds to a simple web-based application but with the particularity to be implanted on the Facebook Platform. Therefore it is important first and foremost to have a look on the Facebook Platform requirements suggested by the social network site. The selection of hosting is an important point and it will be decisive at the time to test and run the application. On the other hand, it is necessary to rate the application resources needed to choose the web hosting corresponding. It will be a decisive point at the time to test and run the application.

4.1.1 Create an application in Facebook

4.1.1.1 *Install the Facebook developer application*

The first thing necessary to create an application is a Facebook account with the Facebook developer application installed. All content added to Facebook is an application. This little tool will allow developer-users to generate their application profile and get an API key proper to the application.

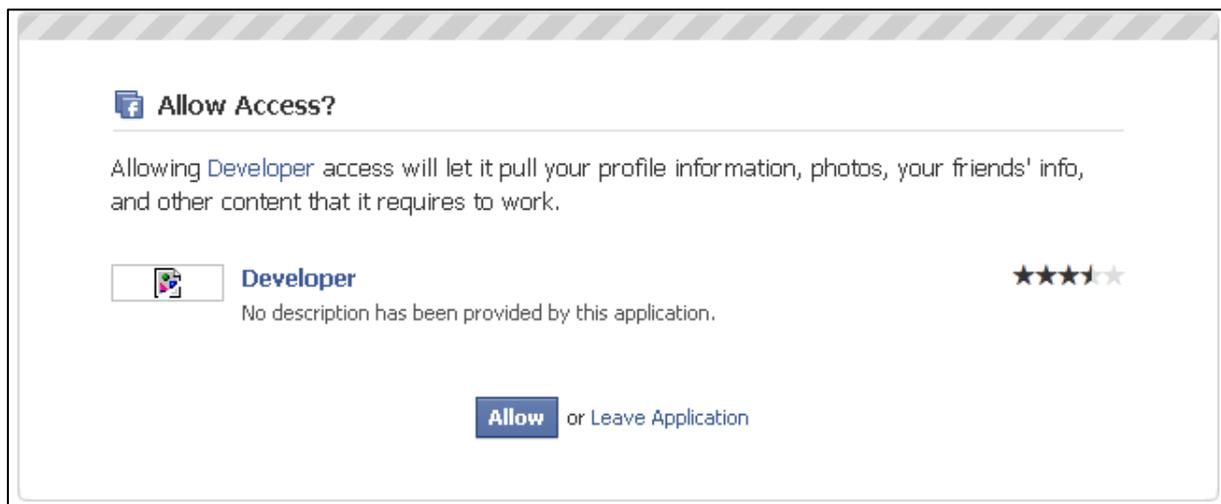


Fig. 4.11 Template for the acceptance of the Developer application*

*Any application in Facebook, as Developer application or the one created in this project, have to pass by this checking. If the users do not allow the application to access their personal profile information, the application can not be executed. It is one of the most important rules of the Facebook "Privacy Policy". But at the same time, it is important to know that certain categories of information such as profile name, profile photo, list of friends and pages user is a fan of, gender, geographic region, and networks user belong to are considered publicly available to everyone, including Facebook-enhanced applications, and therefore do not have privacy settings.

4.1.1.2 *Create the Facebook application*

This step only corresponds to click on the “create application” link in the Facebook Developer application home. Once it is done the application ID, the Public API key and the Secret key are generated for the new application. There are the following:

- Application ID: 58573329986
- API Key: e6fd0eb4e4f4512e810dae59fa5c4aeb
- Secret: fea0be92ff0c2379c3682de66570b994

4.1.1.3 *Fill in the application details*

This step is the definition of the following application settings:

- Basics
- Application Name: Mood State
 - Basic info as short description, icon, language, developers
 - Contact info as developers and user support email
 - User-Facing URS: <http://apps.facebook.com/mystateofmood/>
(it is the bookmark URL, each user can see it)
- Authentication
 - Authentication settings: installable to users and developers
 - Authentication Callback URLs: hosting server address
- Canvas
 - Canvas Page URL, in this case it is the same than the bookmark URL
 - Canvas Callback URL: the posting server name.
 - Canvas setting: FBML ([see paragraph 4.2.2.1](#))

4.1.2 **Hosting requirement (See Appendix)**

4.2 **APPLICATION STRUCTURE**

This section defines the application goals and characteristics and presents the architecture of the programming architecture. Then the various functions of the Facebook application are assigned to each component of this architecture after to present it.

4.1.3 **Application goals and functions**

The main goals of the Facebook application Mood State are the following:

- To integrate the Mood State application to the Facebook platform
- To estimate the actual state of mood of the user of the application in Facebook and to share it with his friends if he wants.
- To save the user personal data on a text file in the hosting server in order to take it advantage for example in statistics studies.

Around these three main objectives, there are some more characteristics and functions which make the application more personalized and interactive to the Facebook user:

- To verify the user login.
- To display the Facebook user information, like name, status, number of friends. Others personal user information are captured but are not edited in the client application page.
- To count and to edit the actual number of visitors who have been done the test.
- To display a form.
- To force the user to answer to all the questions before requesting the result.
- To calculate the user test result by compiling the form answers and to present it personalized (pictures and text which depend on the result).
- To allow the user to share the result with a friend by posting it on the Wall. At the same time, it allows to invite user friends to try the application.
- To allow the user to go to the application profile by clicking on the picture result.

These functions are presented in a chronologic aspect respecting to the client activity on the application. It introduces the chronogram of the application. (See Fig. 4.12)

This chronogram represents all the possible steps realized by the application, from the client first request to the exit of the application. At any time client can abort the application. If he or she aborts before requesting the result, this visit will not be taken into account and no profile information will be saved in the application.

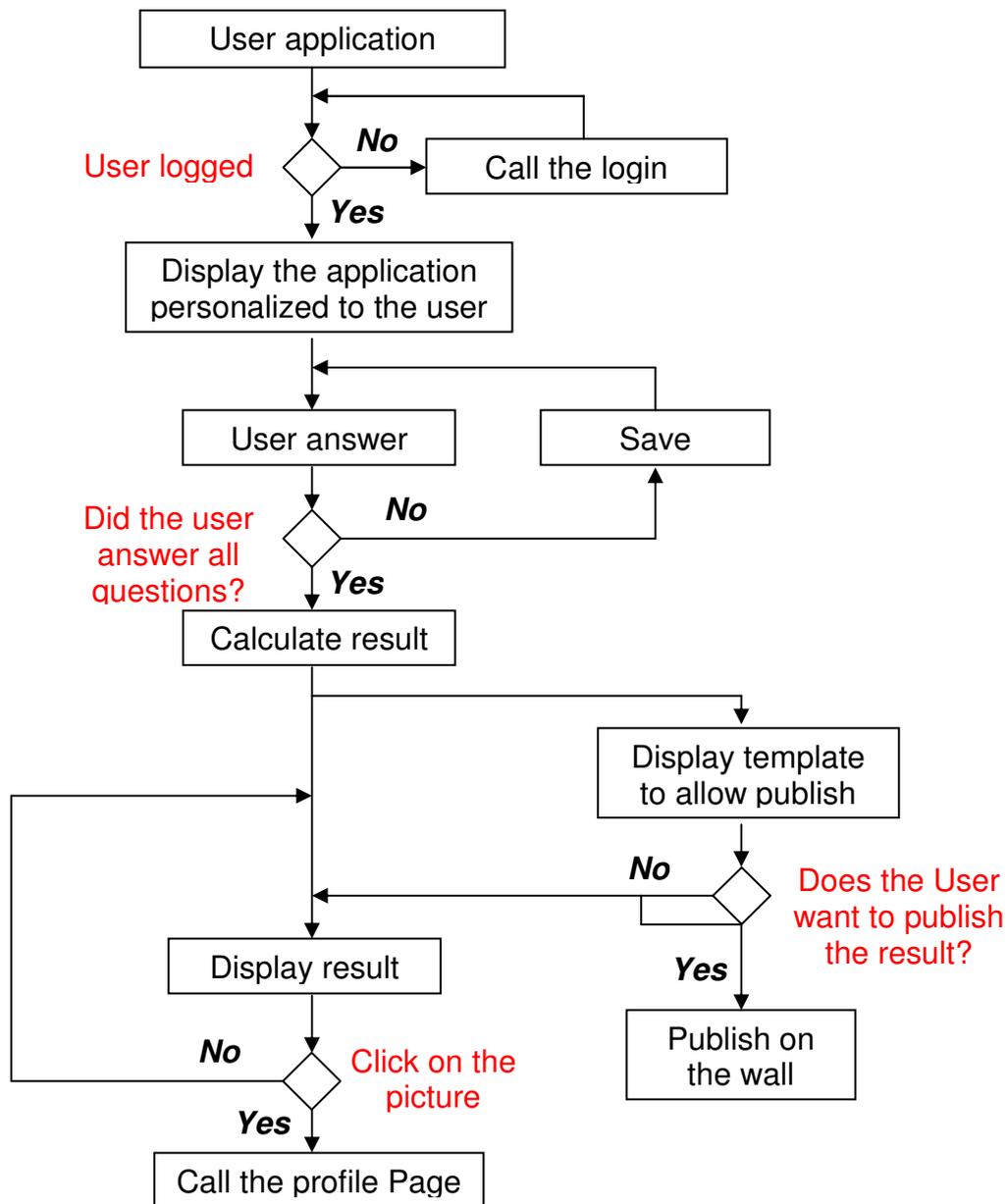


Fig. 4.12 Chronogram of the application

4.1.4 Anatomy of the application in Facebook

An application in Facebook has a complex basic structure. This task is a Facebook intern responsibility implicating any application integrated to the Facebook platform. It has the function to present to the user a standard presentation for all Facebook application and others details concerning Facebook communications. Facebook does not allow any type of modifications to this basic structure.

Following the various step of the chronogram, we present all the application pages corresponding.

When requesting the application the user has to be logged in, if not, he or she is redirected to the Facebook login page shown in the Fig 4.13.



Fig. 4.13 Inviting user to login Facebook

Once the identification of the Facebook user is done, there is an “API privacy setting control”. The user has to allow API to access to his or her profile information to be able to execute the application.

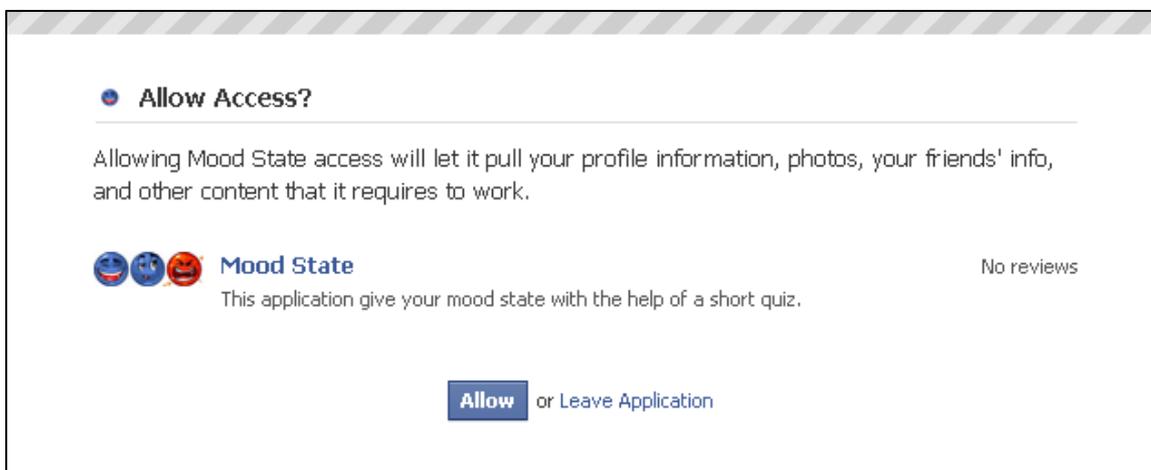


Fig. 4.14 Allowing API access to user profile

Then the first application page can be display (See Fig 4.15). We can observe some information of the Facebook user displayed by the application:

- Profile Name
- Status
- Number of Visitors
- Number of user friends

Below, a form of 4 questions is displaying in order to determine an approximation of the user Mood State. It can be observed as well the bottom “Show your Mood” which is the pass to the result page in case the user fills in the whole questionnaire.

facebook Home Profile Friends Inbox Jacques Fricky Settings Logout Search

Hi Jacques! مرحبا بكم في بلدي! Welcome to My State of Mood!
 You are the visitor 65, and you are actually connected to 1 friends in Facebook.
 Let's see how is your mood these days!?!

Please, answer to the following questions:

How do you feel this week:

- You are doing everything very well, and make you feeling Indestructible!!
- You are not at 100% of your form and you are feeling few things could work better.
- You are going trough a really difficult patch, and you would see the end...

How many girl/boyfriends do you have?

- Less than two.
- More or equal to two.

How much time did you have with your pet this week?

- I do not have any pet.
- Less than one hour at day.
- More than one hour at day.

How many message, more or less, did you get from your friend on facebook this week:

Show your Mood

Built by My State of Mood Contact Report About Advertising Developers Careers Terms

Applications Bookmark My State of Mood Chat (0)

Fig. 4.15 Welcoming application page

If the user fills in all the form and submits it, he gets his result on the following page. Picture and text are corresponding to the answers of the form.

facebook Home Profile Friends Inbox Jacques Fricky Settings Logout

**Carpe Diem Jacques! This is your moment, just enjoy this nice periode-time!
 No doubt, your friends have something to do with your mood!**

Publish to your Wall and your friends' home pages?

What'on your mind?...

Jacques likes short story templates as well.
 Jacques has been discussing short story templates with .
 My State of Mood

Carpe Diem! This is your moment, just enjoy this nice periode-time!

Click on the picture to share your Mood as well.

Not Published Yet via My State of Mood

Publish Skip

Click on the picture to go to the application profile and interact with users.

Fig. 4.16 Result application page

At the same moment a window pops to ask if the user wants to publish or not his or her result on the wall, to share it with friends and contacts.

By clicking on the result picture the user can access the application profile where he could interact with other user, become a fan or know the application description, statistics and characteristics.

4.1.5 Basic application Architecture

4.2.3.1 *FBML or IFrame?*

When an application is created, it necessary to choose between FBML or IFrame as the default for your application's canvas pages. The method opted is FBML for the following reasons:

- FBML lets quickly start building an application from scratch, without an expert skills on it.
- FBML gives easy access to lots of Facebook elements.
- FBML is likely to be faster on first page loads.
- FBML has fewer moving parts and the typical example is closer to the traditional Web.
- FBML lets the application pages to have the URLs desired.
- FBML has a sensible user authorization mechanism.

4.2.3.2 *Programming solution: PHP*

The solution chosen for programming the application is the PHP language, with HTML involved to get the structure of the application page, also FBML and FBJS to access and use the Facebook Platform utilities (API). The solution of FBML canvas pages is straightforward.

PHP is chosen because is an easier way to program a little application. With its evolution (PHP3.0, PHP4.0, and PHP5.0 used) the syntax became simplified and it makes it quicker the programming development. It is a language well used in the web development, therefore there is a lot of help and similar case studied to gain time in resolving problems. For the test phases, the compilation in the hosting server facilitates the programming or syntax errors resolution.

4.2.3.3 *Description of the basic architecture*

When a client makes a request to the application on Facebook, in turn the server of Facebook requests the application hosting server and gets the PHP file compiled. The Facebook server executes the FBML and FBJS commands and creates the application page to serve it to the client.

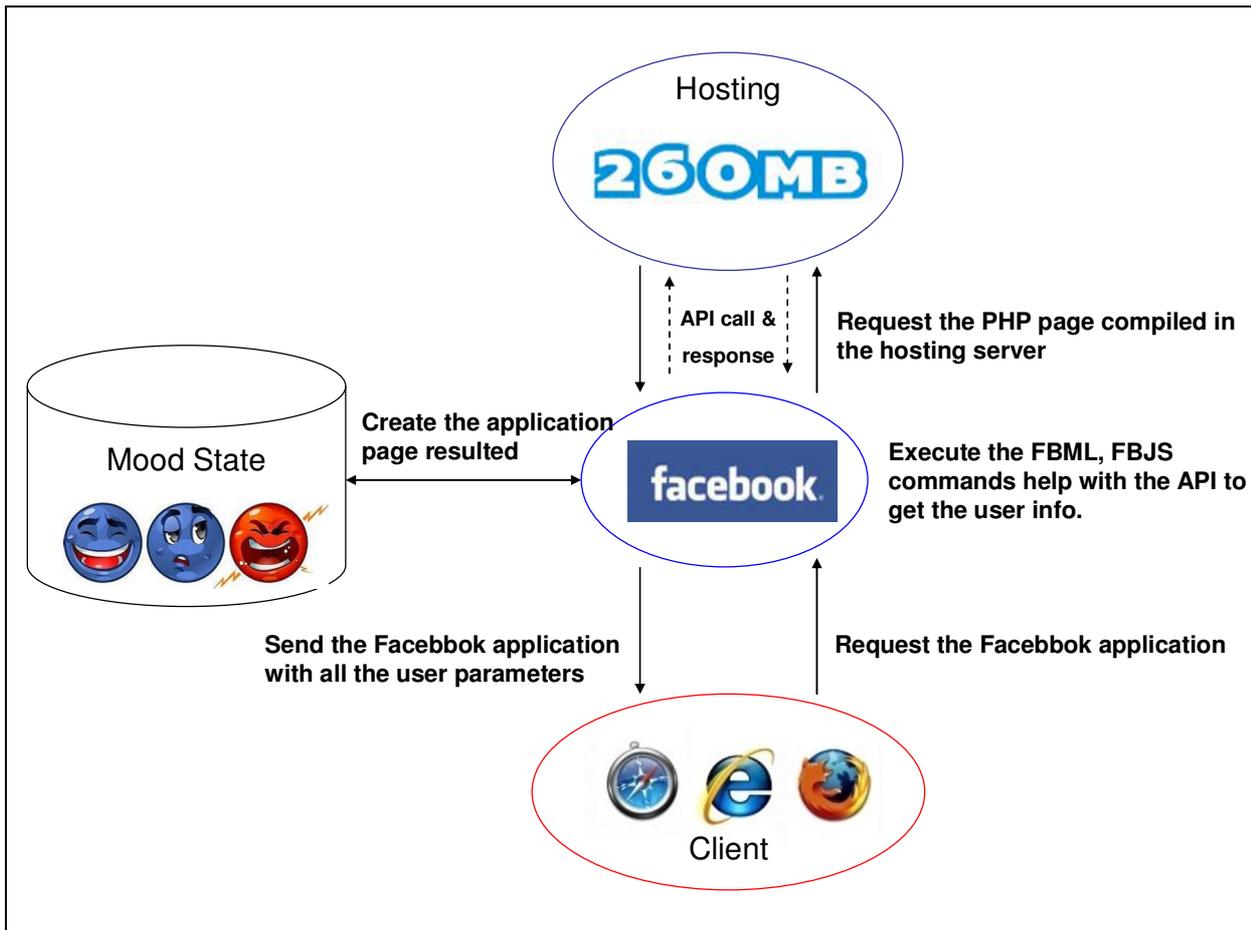


Fig. 4.17 Basic architecture of the application

4.3 APPLICATION PROGRAMMING ARCHITECTURE

The solution designed for the application programming architecture is composed by 5 elements. The first is provided by Facebook and is a simple folder corresponding to the Facebook Platform core elements. The 4 other elements are the own application programming file and are "index.php", "count.php" "countlecture.php" and "count.txt".

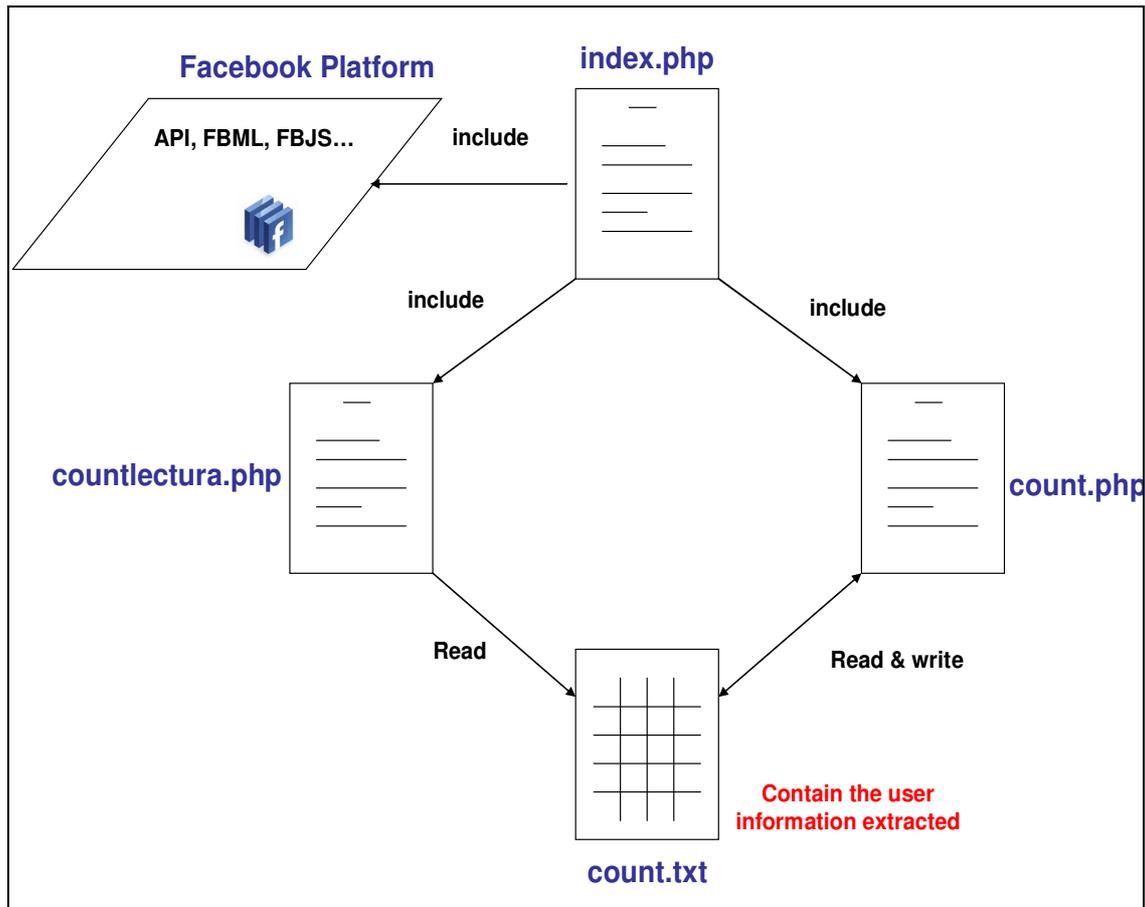


Fig. 4.18 Programming architecture

The PHP file *index.php* is the “coordinator” of the whole architecture. First of all it calls the *facebook.php* file which contains the Facebook platform client class provided by Facebook. Then it calls the *countlectura.php* which its only functionality is to read in the beginning of the *count.txt* file last line to get the actual number of visitors (at the time of the client request). Finally, it calls the *count.php* to add a visitor and at the same time to save the personal user information in the *count.txt* file.

4.3.1 Facebook Platform client libraries

In accordance with the PHP solution the application needs the official Facebook PHP Client Library package. It contains three main elements, client, footprint and php4client directories.

The client directory contains these core components:

- *facebookapi_php5_restlib.php* contains the implementation of the methods that constitute the client library.
- *facebook.php* contains a class that can be used by the web client application.
- *facebook_desktop.php* contains a class that can be used by the desktop client application. Not used in this project.

The footprints directory contains code for a sample application called "footprints". It is not implemented in this project.

The php4client directory contains similar components for PHP4. In this project we use the youngest version, PHP5.

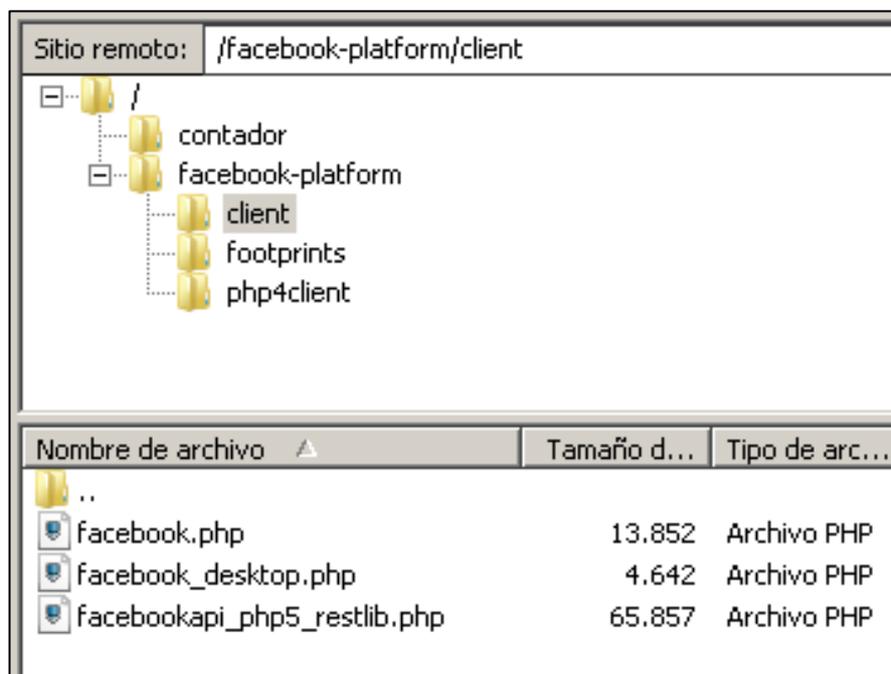


Fig. 4.19 Facebook Platform client libraries package

This 3 core components define the Facebook Platform utilities for the application use. There are created by Facebook and the social network site prohibits any type of modifications by a third part. It is not necessary to know precisely its content but it is interesting to have a look on the class used to quickly understand how it works; the application main file calls Facebook class in *facebook.php* file and then itself call the *facebook_php5_restlib.php* to get the Facebook method needed.

The 3 core components of the client directory include theses functions

- To integrate the Mood State application to the Facebook platform
- To find the Facebook user information name like status, number of friends with the help of the API.

4.3.2 Index.php

The PHP file *index.php* is one of the 3 own and the main file of the application. It coordinates all the client activity by means of calls to the other core element of the application programming. It includes all these functionalities:

1. To integrate the application to the Facebook platform

The following PHP command lines integrate the application to the Facebook Platform:

```
<?php
// include the PHP Facebook Client Library to help with the API calls
require_once("facebook-platform/client/facebook.php");

/* initialize the facebook API with the application API Key
and Secret */

$facebook = new Facebook('e6fd0eb4e4f4512e810dae59fa5c4aeb', 'fea0be92ff0c2379c3682de66570b994');
```

Fig. 4.20 Integrating the application in the Facebook Platform

As it can be observed in the Fig. 4.20, *index.php* calls the *facebook.php* file to get the Facebook classes used to carry out some functionalities of the application.

The second line corresponds to the API call. A variable `$facebook` is created with the Facebook function within the respecting values:

- API key: this key identifies the Mood State application to Facebook.
- Application secret key: Facebook uses this key to authenticate the requests the application makes. It is a personal key for the developer.

This command line generates a Facebook window before enter the application only for client who requests the application for the first time. With this step the client can execute the Mood State application if he accepts to allow the API (the application) to access to his profile information. Any Facebook application has to pass through this step.

2. To verify the user login.

To verify the user login, there is a FBML tag used as shown in Fig. 4.21:

```
$user_id = $facebook->require_login();
```

Fig. 4.21 Verifying the user login

This line allows redirecting the client who requested the application to the login page if he is not logged in Facebook at the time of the request. `require_login()` returns the user's unique ID which we will store in `$user_id` php variable.

3. To display the Facebook user information, like name, status,

The following line code permit to catch any user information as necessary.

```

$user_details = $facebook->api_client->users_getInfo($user_id, "name, last_name,
                    first_name, locale, affiliations,
                    birthday_date, sex, status");

```

Fig. 4.22 Catching user information

This information has been chosen from a list of arguments, which are corresponding to the user information visible by friends. But Facebook allows users to adjust the degree of visibility of his profile information. If the users hide some personal information to third-party (not in his friends list) the `user_getInfo()` function returns an empty result element.

4. Calculating the number of friends.

The following paragraph is a solution to get the number of user friends:

```

//How many friends have the user.

$i = 1;
$ii = 0;

foreach ($facebook->api_client->friends_get() as $friend_id)
{
    if ($i == 4)
    {
        $i = 0;
    }
    $i++;
    $ii++;
}
$friends=$ii;

```

Fig. 4.23 Calculating the number of user friends

The `friends_get()` function gives an array with all the user friends. Then the loop `foreach()` allows counting the variable in this array.

5. Editing the number of visitors which has been done the test.

```

//Number of visits

include ('contador/countLectura.php');

//Welcome to the user

if (($_POST["enviar"]))
{
    echo "<font color='blue' face=Arial Black";
    echo " You are the visitor $cTotalVisitas";
}

```

Fig. 4.24 Including the number of visitors by calling *countlectura.php*

The function `include()` allows using the PHP variable `$Totalvisitas` to edit the number of visitors at the moment of the clients request. This php variable is created in the `countLectura.php` file (see below 4.2.3.3).

6. To display a form.

```
//"First" Mini Form

echo '<FORM action="." method="post" >';
echo '<font color=#000002 face=Arial size=2><b>How do you feel this week:</b><br/><br/>';
echo '<input type="radio" name="answer" value="6"> You are doing everything
very well, and make you feeling Indestructible!! <br/>';
echo '<input type="radio" name="answer" value="3"> You are not at 100% of your
form and you are feeling few things could work better. <br/>';
echo '<input type="radio" name="answer" value="1"> You are going trough a
really difficult patch, and you would see the end... <br/>';
echo '<font color=#000002 face=Arial size=2><br/><strong>How many girl/
boyfriends do you have?</strong><br/>';
echo '<input type="radio" name="answer2" value="4">Less than two.<br/>';
echo '<input type="radio" name="answer2" value="1">More or equal to two.<br/>';
echo '<font color=#000002 face=Arial size=2><br/><strong>How much time did you
have with your pet this week?</strong><br/>';
echo '<input type="radio" name="answer3" value="2">I do not have any pet.<br/>';
echo '<input type="radio" name="answer3" value="1">Less than 1h per day.<br/>';
echo '<input type="radio" name="answer3" value="3"> More than 1h a day. <br/>';
echo '<br/><strong>How many message, more or less, did you get from your
friend on facebook this week:</strong><br/>';
echo '<input type="text" name="message" size="3" <br/>';
echo '<input type="submit" value="Show your Mood" name="enviar">';
echo '</FORM>';
}
```

Fig. 4.25 Form of 4 questions

This form presents four questions to the user. Three are “input type= radio”. A radio field represents a Boolean choice. A set of radio fields with the same name represents a one-of-many choice. At any time only one button of a Radio button group can be ON, and only the selected radio item should be submitted. If none of the radio buttons in a group are ever selected, the name/value pair should not be submitted. (See next paragraph)

7. To force user to fill all the questions before obtaining his result

This functionality results from the characteristic of the form. If user does not fill all the questions, he is invited to complete the form. A new form page is requested with the user last answer saved. The PHP command used is the following:

```
/"Second" Mini Form, if the user did not fill all the questions.  
  
else if (($_POST["enviar"]) && ( ($_POST["answer"]==0) or ($_POST["answer2"]==0)  
or ($_POST["answer3"]==0) or ($_POST["message"]==0)))  
{  
  
    echo "<b><font color='red' size=2> <i>Please check the form, all fields are  
necessary.</i></font></b>";  
    echo '<br/>';
```

Fig. 4.26 Forcing user to fill all the questions

8. To calculate user test result

The user test result is calculated by compiling the form answers. It gives a percentage which corresponds to the user mood state. From each question it results punctuation and the result is divided by the total of point and displayed to the user.

- 0 to 33.33% → Bad Mood
- 33.33 to 66.67% → Normal Mood
- 66.67 to 100% → Good Mood

```
//The results of each of the 4 questions  
$answer=$_POST["answer"];  
$answer2=$_POST["answer2"];  
$answer3=$_POST["answer3"];  
$message=$_POST["message"];  
  
//Total result of the test divides by 14 (max point of the test)  
  
$result=({$answer+$answer2+$answer3+$answer4}/16)*100;
```

Fig. 4.27 Calculating the result

9. Presenting a personalized user result

Once the user result calculated, picture and text corresponding are edited in the final page. As well, in the Facebook window used to share the result. (See next paragraph)

```

if ($result<=50)
{
    echo "<font color='blue' face='Arial Black' size=4> Wow ".$profile_name."!";
    if ($media_co>25)
    {
        echo " Don't forget to share your feeling with your friends";
    }
    elseif ($media_co<12.5)
    {
        echo " No doubt, your friends can improve your state of mood!";
    }
    else
    {
        echo " Sure your friends know how you are!";
    }
    echo '<br/><a href="http://www.facebook.com/apps/application.php?id=58573329'
    echo "<br/><font color=#000002 face=Arial Black size=2>Click on the picture
    $mood="Bad Mood";
}

```

Fig. 4.28 Personalizing the result

The part of the code showed Fig. 4.28 process an eventual user result superior to 50%.

10. Allowing user sharing the result

In order to share the application with his friend, the user can post the result on the Wall. This functionality is provided by a Facebook JavaScript command which creates a window pop-up to the user application. Once the user publishes it on the wall all his or her friends can discover and run the application.

The command used is shown on the following figure.

```

echo <<<EOT
<script>
var template_id = 71670394986;
var user_message_prompt = "What' on your mind?...";
var user_message = {value: ""};

var result="EOT; echo $result; echo <<<EOT ";

if (result<=50){
var template_data={"images":[{"src":"http://usuarios.lycos.es/sebastien84/images
var body_general="<b>My State of Mood<br/><br/>Better times will come. Be patien
}
else if (result<66.66){
var template_data={"images":[{"src":"http://usuarios.lycos.es/sebastien84/images
var body_general="<b>My State of Mood<br/><br/>Don't worry, you are on the good
}
else{
var template_data={"images":[{"src":"http://usuarios.lycos.es/sebastien84/images
var body_general="<b>My State of Mood<br/><br/>Carpe Diem! This is your moment,
}
}
var continuation = function(){};

Facebook.showFeedDialog( template_id, template_data, body_general, '',
continuation, user_message_prompt, user_message );
</script>
EOT.

```

Fig. 4.29 Sharing the result on the user Wall

As it can be observed on the Fig 4.29, All the FBJS command is integrated on the PHP code thanks to the command `<<EOT [FBJS o JS] EOT;`. It is used as well to put the PHP variable `$result` into a JS variable.

The FBJS function `Facebook.showFeedDialog()` has seven parameters which permit to configure the presentation of the window pop up that appears to the user in the result page.

- `template_id`: number used for template identification.
- `template_data`: Can contain images, flash or mp3
- `body_general`: text who appears in the pops-ups windows
- `continuation`: function not used in the application
- `user_message_prompt`: question to invite the user to type a message
- `user_message`: as it says.

11. Allowing the user to access the application profile

By a simple HTML command the user is redirect to the application profile if he clicks on the picture result. (See Fig 4.30)

```
echo ' <br/><a href="http://www.facebook.com/apps/application.php?id=58573329986">
</a>';
echo "<br/><font color=#000002 face=Arial Black size=2>Click on the picture to go
to the application profile and interact with users.";
```

Fig. 4.30 Allowing the user to access the application profile

The command `<href ="">` allows to insert a link to the application profile. Of course the value `id` corresponds to the application ID. The action-redirect is automatically affected to the picture insert on the command ``.

4.3.3 Countlectura.php

The only function of this PHP file is to read the text file `count.txt` and to create a PHP variable to use it in the master file `index.php` in order to edit the number of visitors. (See Fig 4.31)

```
<?
$cabrir = fopen ("contador/count.txt","r");
while (!feof($cabrir)) { $ccont = fgets($cabrir, 256); }
fclose($cabrir);

$ccontador = explode(";", $ccont);

/* Give each position of the array to a variable */
$cTotalVisitas = $ccontador[0]; /* Visitas totales */
```

Fig. 4.31 Capture of `countLectura.php`

From the moment this file has been included in *index.php*, all of its variables can be used without need of any new definitions in the main PHP file. The server compiles a value of the variable, instantaneously given by *countLectura.php*.

The variable `$cabrir` contains the text file opened by the function `fopen()` in a "r" read only mode. Going down well, the instruction `while` allows to point on the End Of the File (function `feof()`) in order to get only the last line of the text file.

By exploring the last line of the text file, the *countLectura.php* creates an array `$ccontador` and grab some part of the last line as groups of text separated by ";". This array can be use to separate the data in PHP variables able to be used in the main PHP file.

4.3.4 Count.php

The functionalities of *count.php* are the followings:

- To increment the number of visits each time a user valid the form. It does not count the number of visits of the application page but only users who requested and got his result.
- To create a PHP variable which contains the date and all the user detail information desired, as name, number of friends, birthday date, resulting mood, gender, affiliation... It can be modified or completed for any special used.
- To save the user information in the text file *count.txt*

```
$cabrir = fopen ("contador/count.txt","r");
while (!feof($cabrir)) { $ccont = fgets($cabrir, 256); }
fclose($cabrir);

$ccontador = explode(";", $ccont);

$cTotalVisitas = $ccontador[0];
$cfecha = date ("d/m/Y");

$cTotalVisitas++;

$cGuardar = $cTotalVisitas.";". $cfecha.";". $user_details[0] ['name'] .";"
            . $friends.";". $user_details[0] ['locale'] .";". $mood.";".
            . $user_details[0] ['sex'] .";". $user_details[0] ['birthday_date'] .";".
            . $user_details[0] ['status'] ['message'] .";";

$filename = "contador/count.txt";
$fp = fopen( $filename,"r");
$OldData = fread($fp, 800000);
fclose( $fp );

$file = fopen("contador/count.txt", "a");

$New = "$OldData\n$cGuardar";
$fd = fopen( $filename,"w");

fwrite($fd, "$New", 80000000);
fclose( $fd );
```

Fig. 4.32 Capture of *count.php*

1. Incrementing the number of visits

As *countLectura.php* this PHP file extract the number of visits from *count.txt* in a PHP variable and incrementes it simply by the command `$cTotalvisitas++`. (See Fig 4.32)

2. Creating PHP variable

The *count.php* inserts all the new user information relative to his session in the PHP variable `$cGuardar`:

- Date
- Name
- Birthday date
- Number of friends
- Result mood
- Gender
- Affiliation
- ... (any other info the developer desires)

All the user info coming from the *index.php* file, is available depending of the user privacy setting. On the other hand, it might have a lot of user info details delivered in blank just because user does not fill all his Facebook profile information.

3. Saving the user information

After opening again the text file, the whole text is insert in a PHP variable called `$OldData` with a fixed length A. A new variable is created containing the user info recently saved added to the “old data”. The new *count.txt* file is created by the function `fwrite`) with a fixed length B (B>A).

4.3.5 Count.txt

The *count.txt* file contains all the user information who execute the application until the final (complete the form and get the result). The *count.txt* is a series of lines (see Fig 4.33). Each one contains the user info concerning his session separated by “;”.

```
60;15/12/2009;Hanelore Gob;58;en_US;Normal Mood;female; 10/13/1969;In every loss,
61;15/12/2009;Ivana Frechero;36;es_LA;Good Mood;female; 05/12/1985;;
62;16/12/2009;Brant Tarigan;78;id_ID;Good Mood;; ;abadikah persahabatan ini...??
63;17/12/2009;William Scozzari;52;en_US;Bad Mood;male; 04/21/1984;i liked metall
64;17/12/2009;Guillaume Orgeas;130;en_GB;Good Mood;; ;la neige est bien trop fro
65;17/12/2009;Jacques Fricky;1;en_US;Good Mood;male; 01/02/1992; يتكونى يوم اخر ع
66;18/12/2009;Tristan Bawbaw;207;es_LA;Good Mood;male; ;Poule Up;
67;18/12/2009;Emilie Lecoq;119;fr_FR;Good Mood;female; 10/31/1980;;
68;18/12/2009;Julien Bott;109;es_LA;Normal Mood;male; 04/12;pronto llegará el mo
69;19/12/2009;Gaelle Bauer;83;fr_FR;Good Mood:: 03/26/1981::
```

Fig. 4.33 Capture of the *count.txt* file

The file *count.php* has the function to read and to write in, and the file *countLectura* only can read it. In order to allow this action in the hosting server, a specified parameter of the file has to be set in the hosting server.

The Chmod is a C command which allows managing the access permission of named file. In this project a performing cross-platform FTP client is used to manage the hosting server file and it allows to easily change the value of this parameter for specified files or directories. (See the Fig 4.34) The value 777 gives all permission to a file or folder, for any third-party.

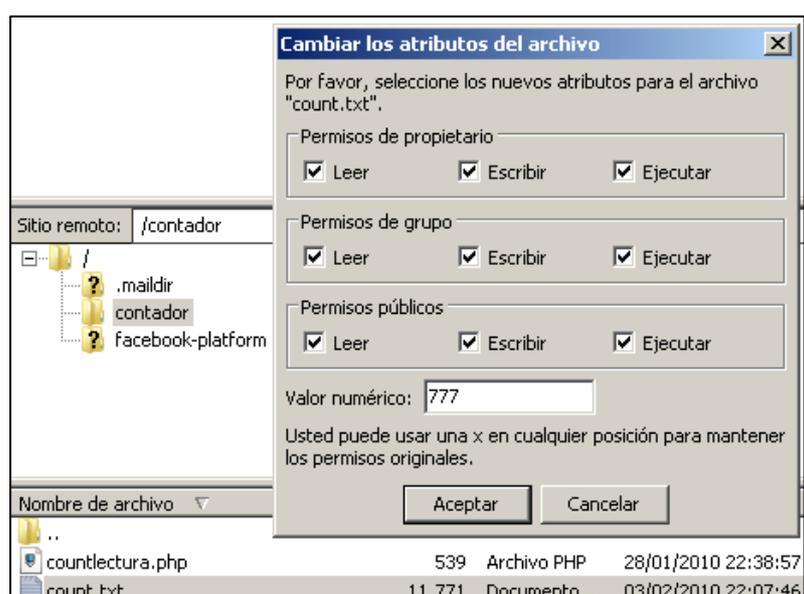


Fig. 4.34 Managing the permission access to *count.txt*

CHAPTER 5: CONCLUSIONS

5.1 SUMMARY OF RESULTS AND GOALS

5.1.1 Integration of the application in the Facebook Platform

The application is reachable by any Facebook user only by searching the name in a repertory of Facebook applications. For example, by typing the word "Mood" in the Facebook browser, users can find in a list of more than 250 applications "Mood State" in a ranking around the 15th position.

As a result of integration, the user who executes the application can see some profile information in the application welcoming page. And if he or she desires at the end, he or she can publish the result in the wall incrementing interactivity with all the friends.

5.1.2 Enhance the interactivity of Facebook users

The application has been opened to Facebook users for 2 months. At this moment, the number of visitors who executed the application until the end is 148. This is an inner calculation from the application, which counts only the number of users who completed the form and got the result of the application test. The Facebook inner statistic of the application inform user about the monthly users of any application. This parameter is higher than 185 because it counts any users who call and accept the application even if they abort it before validating the test.

5.1.3 Statistics from the resulting data

The data is easily collected to build any type of statistics. And for a specific marketing study, it is possible to adapt the application to the information required beyond the user profile information.

The following statistics are extracted from the data gathering. The application as a minimal presentation, but can be easily enlarged, and save this information:

- Number of visitor
- Date
- Name
- Number of friends
- Location
- Mood result
- Gender
- Birthday
- Status

It is easy to manage this user information in Microsoft Excel and to present some simple statistics examples as the following:

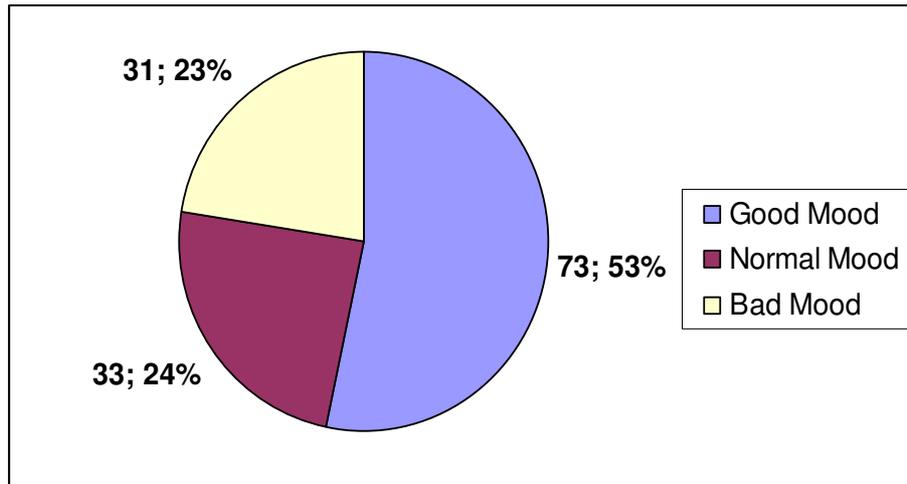


Fig. 5.35 Statistics of all the users' Mood Result

	Male	Female	Hide
	58	53	26
Good Mood	36	21	14
Normal Mood	12	17	5
Bad Mood	10	14	7

Table 5.1 Result mood statistics depending on the users gender.

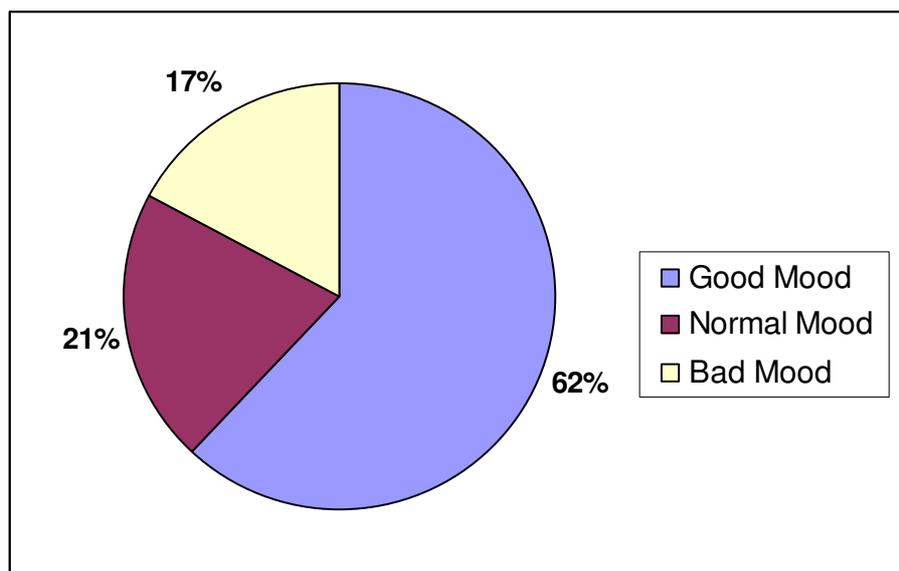


Fig. 5.36 Statistics of users male Mood Result

The application users statistics show the presence of 14 countries taking in consideration that more than 15% users hide (or do not fill in) their location in the privacy settings of Facebook. In the following table, the 5 more represented countries and their related mood statistics are shown.

	USA	France	Spain	England	Germany
	55	31	11	6	2
Good Mood	22	20	7	3	0
Normal Mood	16	6	2	2	2
Bad Mood	17	5	2	1	0

Table 5.2 Result mood statistics depending on users location

In order to study the expansion of the application, it is extracted from the result statistics the number of friends that had executed the application after at least friend did it (See Table 5.3). It can be observed that there is a 26% of users who did the application after a friend did it.

Friends	users
0	108
1	19
2	8
3	3
4	2
5	2
8	1

Table 5.3 Number of user who add the application after at least one friends

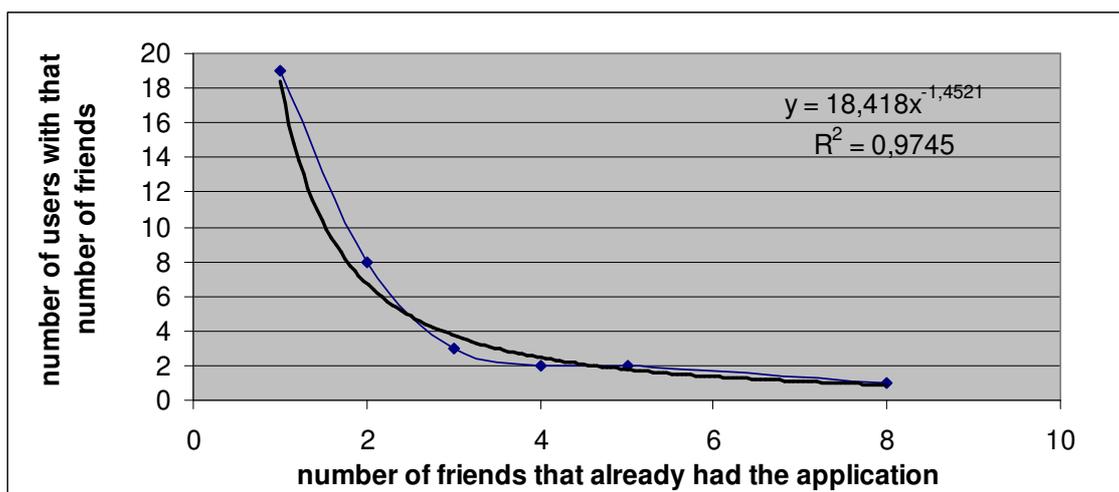


Fig. 5.37 Number of user friends who add the application after at least one friend

It is interesting to observe that the distribution presented in Fig 3.39 follows a power law with the form : $y = Kx^{(-\alpha)}$.

We can perform either a direct regression to calculate K and alpha or a linear regression (less reliable) by taking logarithms the direct regression (5.37 and 5.39). But it is important to see this point in order to characterize the distribution of the application. Like many real networks, it shows a power law degree distribution corresponding to a scale free-network.

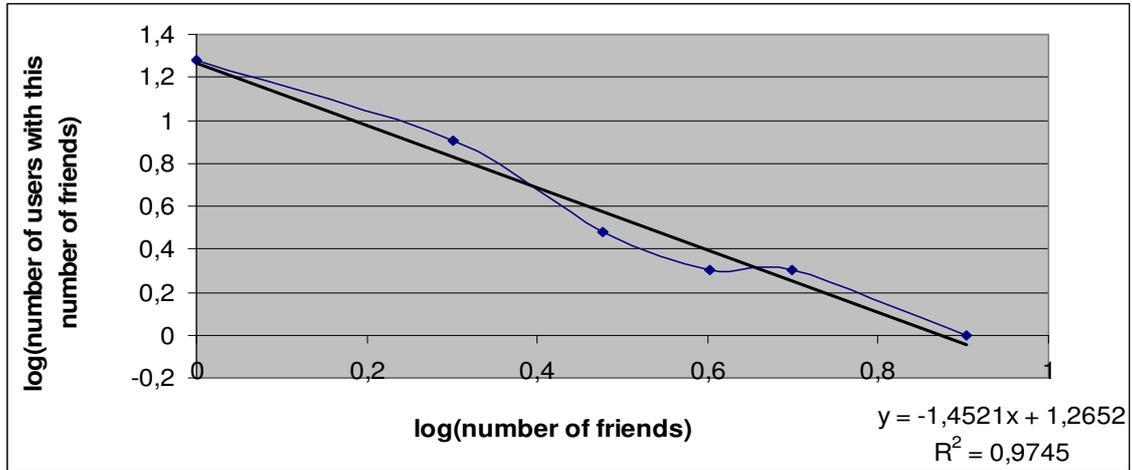


Fig. 5.38 Log/log

The table 5.5 shows the number of user with a specific range of number of friends.

# Friends	# User
0-100	84
101-200	28
201-300	13
301-400	5
401-500	4
501-700	2
701-1000	1

Table 5.4 Number of user friends

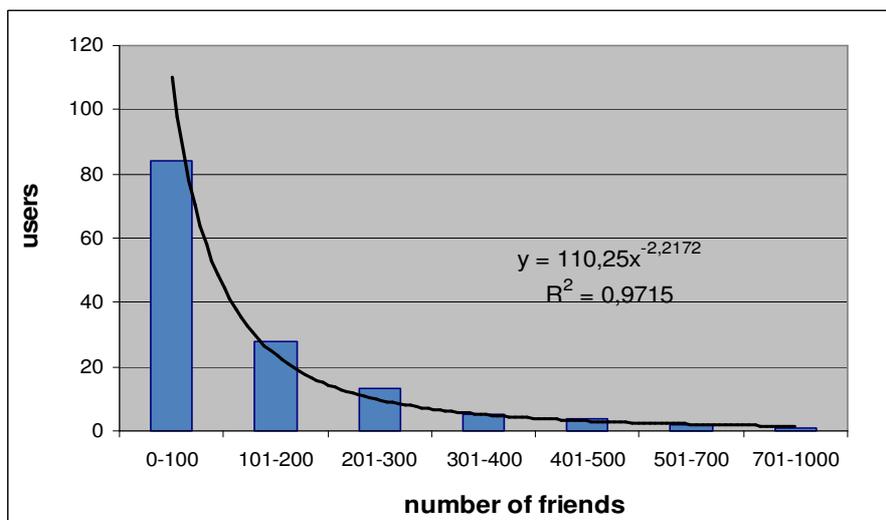


Fig. 4.39 Number of Friends VS number of users.

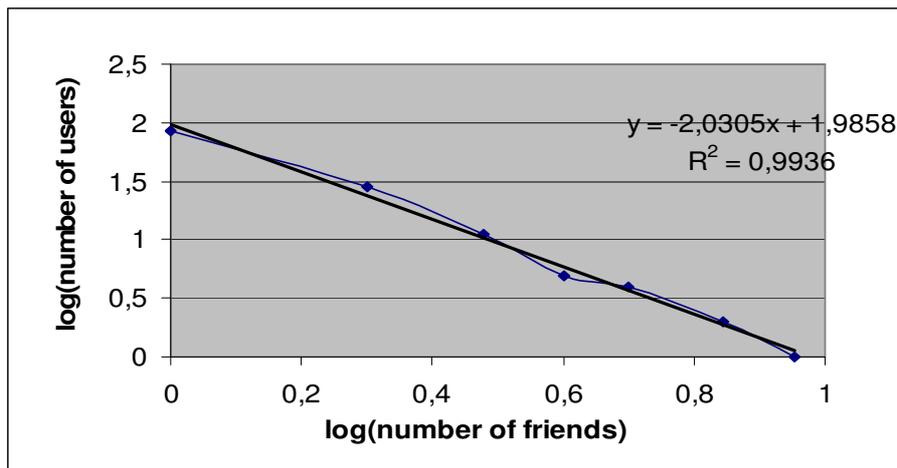


Fig. 5.40 log(Number of friend) VS log(Number of user)

With the regression, an estimation of the number of user corresponding to the same range of number of friends can be calculated. Table 5.6 completes the data with the value in percentage.

#Friends	#User	%
0-100	86,00	62,77
101-200	22,37	16,33
201-300	10,17	7,43
301-400	5,82	4,25
401-500	3,77	2,75
501-700	1,96	1,43
701-1000	1,20	0,88

Table 5.5 Estimation of #user corresponding to #friends.

The power law distribution highly influences the network topology. It turns out the major hubs are closely followed by smaller ones and this phenomenon forms communities. The members of a community also have a few acquaintance relationships to people outside that community and it results all these groups to be connected and form the whole network.

But the power law distribution can be found in many other distributions around us, like the frequency and magnitude of some catastrophic events: earthquakes, extinctions, wars or even terrorist attacks.

More specifically, the casualty rates of all wars follow a power law have a scaling parameter of 2.5. The different among cultures do not have any impact on this mathematical model. Terrorist attacks or natural disaster follow the same power law. U.S. Geological Survey studies demonstrate recently that fractal scaling laws also are applied to distributions of the loss of life due to natural disasters. This is useful information to judge the probability of things that can happen on a large scale in the world.

5.2 SUSTAINABILITY ASSESSMENT

5.2.1 Environmental dimension

The application is integrated in the most important public user data base of the world, Facebook. In order to process all the data the social network site has a considerable amount of servers. Facebook has more than 30 000 servers. Jonathan Koomey offers numbers that suggest average US servers consumes 472W. We can estimate the average power consume for Facebook servers to 15 MW^X. It corresponds to 0.3% of the New York electrical power consumption.

In order to minimize the footprint of any Facebook application developers have to think in reduce servers treatment. This application is developed respecting this concept.

5.2.2 Economic dimension

The application does not have any charge or any subvention, and actually the only cost it had is the developer working time. In a future (See 5.5) some enhancements could be projected and some investments could be done in hosting service and marketing. Incomes would provide from advertising on the application and also from potential clients who will be interested to get and use statistical data from this application.

5.2.3 Social dimension

The application developed in this project is build with the idea to respect all human rights. It allows the Facebook user to increase interactivity with his friends and to communicate his feelings. The projected application to voluntarily extract clients profiles would mean better oriented promotional campaigns, monetary savings and less advertisement saturation from the customer point of view.

Due to the fact that it is a Facebook application that involves user has to connect to Internet to his Facebook profile in order to execute it. In other words all users of the application have at one's disposal a personal computer. This fact classifies user in medium high social class.

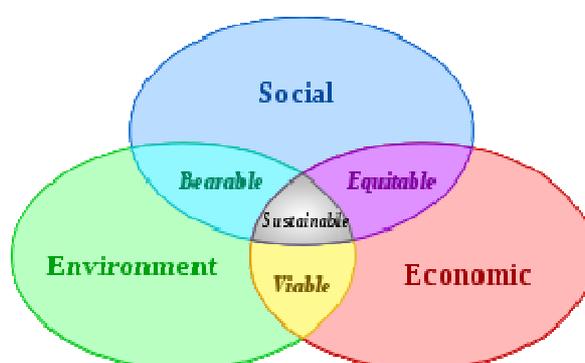


Fig. 5.41 Scheme of sustainable development^{XI}

5.3 DIFFICULTIES OF THE PROJECT

The main difficulty of the project was programming the application. Indeed, the entire technological environment was new and it was not easy to make an idea of the global project at the beginning. For this point, the first part of the project was a long time of learning about the different technologies implemented and the Facebook Platform knowledge requirements.

The PHP language has an easy syntax structure, but its approach is as any programming language. Without basic skills it is quite difficult to begin programming an application from scratch.

The Facebook Platform has a complex architecture and its own languages have a syntax quite similar to the “classic” web programming languages as Javascript or HTML and XML. But the difficulty was to adapt the basic PHP application programming in order to integrate it on the Platform. Thanks to the Facebook Developers Forum a lot of complex situations which blocked totally the project progression were resolved after consulting it and comparing situations to the problem met.

I met some problem with Facebook Platform developers about the utilization of the FBJS function `Facebook.showFeedDialog()` (See 4.3.2/10 Allowing user sharing result). This function was recently deprecated by Facebook after the phase of the application programming development. The fact is Facebook for political reasons decided to change the function by another `Facebook.streamPublish()`. This one does not accept any personalized template for the FBJavaScript windows popup and allows to Facebook applications easier publication in the wall of the user. How does it work? There is a parameter called `auto_publish` which can be left by default at value 0 and allows publishing in the user stream if he or she accepts when beginning the application. This change is applied by Facebook precisely to encourage more interactivity between users in order to increase their activity in the social network site.

5.4 PERSONAL CONCLUSIONS

First of all, this project is the End of Degree thesis included in the official Master MASTREAM of the Universitat Politècnica de Catalunya (UPC). It was a really interesting training to develop this entire project by myself and I learn to wake up alone. In my point of view, that is a really important capacity from a personal as a professional perspective.

The subject of social networking was a good challenge because it was really unknown for me. But fortunately, it is a much exploited subject in Internet since more than 10 years, and I could develop an application corresponding to my technical skills and theoretical knowledge. It allowed me to improve my knowledge in programming and develop a basic experience in web design.

Finally, I discovered the facility of Facebook to manage its important user data base and it guided me to think about lots of possible futures business. Facebook is the most important Social Network Site and its growth will continue during the next years. From this point, it is interesting to see how it was possible for a young student of Harvard University to become in only 5 years the owner of one of the 10 most important web companies in the world.

5.5 *FUTURE*

The future enhancements for this application are completely open and depend on the requirement and necessity of possible clients. Then it will be necessary to adapt the test of the application to the statistic objectives. It means to complete the questions of the form in order to obtain the required information from the user, by example the eye colors, the favorite flavors... Depending on the user answers it will be possible to extract more specific personal information through precise statistics results.

In a second instance it will be a nice enhancement for this project to develop more the topics of application design and interactivity in the social network. In my point of view, the success of Facebook comes from two important things. With all its internal application as profile photo and video management, the discrete and fast web interface allows user to control his or her profile easily and be aware to his or her friends profile. But also the constant interactivity between friends forces the user to be connected to Facebook almost daily. Following this two points a little application as Mood State can have a lot of success, spread in Facebook and easily skip to some other social network sites which develop an open platform.

From a technological view, it will be necessary to increase the capacity of the server that hosts the application to foresee any important growth of requests. Of course the current plan of free web hosting has to be improved and change to a managed hosting service or a dedicated hosting service, depending on the preference of the developer.

Finally this application will need a good campaign of marketing inside or outside Facebook. It exist a Facebook plan which allows developers to create adds for their applications. It corresponds to the definition of a general target between the 400 millions Facebook users and some key words for browsing service. This method will insert some little Facebook ads on all users page which correspond to the target. A campaign well managed will touch a lot of users and will invite lot of people to try the application increasing considerably the statistics results.

BIBLIOGRAPHY

- ^I *Scale-up Survey Susy Safe* project. <http://susysafe.org/v2/survey/scaleUpsurvey.php>
- ^{II} *Le principe*, Music360, <http://www.music360.fr/content/view/6/15/>
- ^{III} *What is social networking*, Yahoo!360°. (link not more available)
- ^{IV} *About us*, LinkedIn. <http://press.linkedin.com/>
- ^V *Press room*, Facebook. <http://www.facebook.com/press.php>
- ^{VI} *Statistics*, Facebook. <http://www.facebook.com/press/info.php?statistics>
- ^{VII} *Top 500 sites of the World*, Alexa, <http://www.alexa.com/topsites> consulted 2009-07-10.
- ^{VIII} *Social Networks: Facebook Takes Over Top Spot*, Kazeniac Andy (2009-02-09). Compete.com.
- ^{IX} *Facebook Platform Launches*, Facebook. 2007-05-27. Retrieved 2007-09-03.
- ^X *The Environmental Cost of Cloud Computing*, Jonathan Koomey, 2009-03-24.
- ^{XI} *Sustainable development*, Wikipedia the free Encyclopedia

APPENDIX

3.1.2.3 *JavaScript. What is it used for?*

In order to understand what JavaScript is used for, first it is important to know what a script is.

A script is a set of instructions, in a particular language, which can be executed by a Web client from its browser and so he can be able to visualize the document which is contained in it. Currently the two more widely used script languages on Web pages are JavaScript and VBScript.

The inclusion of script on HTML documents makes this latter more intelligent. The contents is generated in a dynamic way, while the values introduced in the forms can be checked locally, without the need of having a server and wasting a certain amount of time on this. In spite of the name, JavaScript, this language has little to do with JAVA.

JavaScript is mainly used to improve the client/server interface management. A JavaScript script inserted on a HTML document allows for the recognition and local treatment of the client and the events generated by the user. These events can be the HTML document's path or a form process.

JavaScript is a language interpreted on the client by the browser when the page is loaded, it's multiplatform, directed to events with object handling, which code is directly included in the same HTML document.

- JavaScript has a simple programming structure and it is easy to learn the language.
- JavaScript handles objects within our Webpage and on this object can be defined different actions. These objects facilitate the programming of interactive pages, and at the same time prevent the execution of commands that can be dangerous for the user's computer, such as unit formats, file modifications, etc.
- JavaScript is dynamic, it responds to actions in real time. Actions such as pressing a button, dragging the mouse pointer on a particular text or simply load a page or expire a time. With this we can completely change the page's appearance according to the user's taste, avoiding having a page for each taste on the server, make calculations over the variables base whose value is determined by the user, etc.

3.1.2.4 *Main applications*

- Respond to local actions within the page, such as pressing a button.
- The calculation-making in real time.
- The form validation within a page.

- The personalization of the page for the user, which will allow him to have a tailor-made webpage.
- The inclusion of data of the system itself, such as the time and date.

3.1.2.5 *How to use it?*

The JavaScript code is directly inserted on the HTML or PHP page. There are four ways to do it:

On the document body:

That is the <BODY> and </BODY> controls and using the <SCRIPT> control.

For example:

This code is immediately executed when the page is loaded and produces a text over the page. That's why the "write" method is used, which represents the current document.

On a separate file:

In this case the script code is located on another file and this file is called for.

The call here is included within the body.

```
<HTML>
<HEAD><TITLE>Títol</TITLE></HEAD>
<BODY>
<SCRIPT LANGUAGE=JavaScript>
document.write("Hello ");
</SCRIPT>
</BODY>
</HTML>
```

Using action handlers:

The JavaScript controls are immediately evaluated when the page is loaded. The functions are stored, but not executed, until a certain action is called.

Calling a function:

Within the header, after the title. That is, between the <TITLE> and <HEAD> controls . Then the call to the functions will be done from the body.

```
<HTML>
<HEAD><TITLE>Title</TITLE></HEAD>
<BODY>
<SCRIPT SRC=.js code>
</SCRIPT>
</BODY>
</HTML>
<HTML>
<HEAD><TITLE>Title</TITLE></HEAD>
<BODY>
<A HREF="" action=method or call to an internal
function>TEST</A>
</BODY>
</HTML>
```

```
<HTML>
<HEAD>
<TITLE>Title</TITLE>
<SCRIPT LANGUAGE=JavaScript>
<!-- >
function See() {
    alert("Hello hello !");
}
// -->
</SCRIPT>
</HEAD>
<BODY>
I will say hello if you click here <A HREF="See()">HERE</A>
</BODY>
</HTML>
```

4.1.6 Hosting requirement

The Web hosting is the service that provides to the Internet users a system able to store information, images, video, or any accessible content via Web.

It gives access to all Internet users the contents deposited by the Web-developers in their accounts, generally via software ftp or files manager. To do so, it maintains computers 24 hours connected to Internet (to the Web servers for example) by a high-speed connection (several hundreds of Mbps), with special software installed: waiter HTTP (often Apache), mail server, basic of data...

The Web host is a company that provides server space to their clients.

There are various types of Web hosting and its main characteristics are the following:

- Free Hosting: The free hosting is quite limited when compared with the paid hosting. These services generally add advertisements in the sites and have a space and limited traffic. It is the solution for Web sites or free applications which are not exigent for the execution rapidity..
- Shared hosting: in this type of service clients of several sites are hosted in the same server thanks to the configuration of the program Web server.
- Reseller web hosting: allows clients to become web hosts themselves. Resellers could function, for individual domains, under any combination of these listed types of hosting, depending on who they are affiliated with as a provider.
- Dedicated hosting service: the user gets his own Web server and gains full control over it (root access for Linux/administrator access for Windows); however, the user typically does not own the server.
- Managed hosting service: the user gets his or her own Web server but is not allowed full control over it (root access for Linux/administrator access for Windows); however, they are allowed to manage their data via FTP or other remote management tools.

In a first idea the characteristic of the Shared hosting correspond to the basic requirement of the Web-application of this project. It is a very good alternative for small and medium application; it is an economic service and has good performance. But unfortunately this project is not subject to any subventions. Therefore there is no

alternative to choose the free hosting service and it will be better to be prepared to meet with problem throughout the development and during the test.

Almost all the web hosting companies proposed a free hosting service solution but generally only for a delimited time. In a other way, there is a lot of free hosting companies and that are little organization of web-developers and can not be totally trusty about his stability.

In order for the application to work correctly with Facebook the minimum requirements for the hosting server are the following:

- PHP 5
 - The PHP 5 code makes use of the following extensions, many of which come installed in the standard build or binary.
 - Required standard PHP extensions: ctype, date, iconv, json, mysql, pcre, simplexml, standard, xmlwriter
 - Facebook PHP extensions: fbml
 - Optional standard PHP extensions: The apc extension is referenced in lib/thrift but is not required.
- The Apache 1.3 web server or some web server which supports PHP 5, and inserts data similarly into these variables:
 - `$_COOKIE`
 - `$_GET`
 - `$_POST`
 - `$_SERVER['argv']`
 - `$_SERVER['CONTENT_TYPE']`
 - `$_SERVER['HTTPS']`
 - `$_SERVER['HTTP_HOST']`
 - `$_SERVER['HTTP_USER_AGENT']`
 - `$_SERVER['PHP_ROOT']`
 - `$_SERVER['REMOTE_ADDR']`
 - `$_SERVER['REQUEST_URI']`
 - `$_SERVER['REQUEST_METHOD']`

For the need of the application, the solution chosen is Web host 260mb.

The basic characteristics of the hosting server are

- Web Space: 300 MB
- 7 domains
- 7 MySQL data base
- PHPMyAdmin
- MySQL Space: 50 MB
- Bandwith: 10239 MB
- Operating system Linux
- Apache2.2.12 Version (Unix)
- PHP5.2.10 Version
- MySQL5.0.84 Version

4.1.7 Capture of *count.txt* the 11 february 2010

Visitor	Date	Name	Number of friends	Location	Mood	Sex	Birthday	Friends did the App	Status
1	05/12/2009	<fb:name uid="678286947"	61		Good Mood			0	
2	05/12/2009	<fb:name uid="678286947"	96		Good Mood			0	
3	05/12/2009	<fb:name uid="678286947"	61		Good Mood			0	
4	05/12/2009	<fb:name uid="678286947"	91		Good Mood			0	
5	05/12/2009	<fb:name uid="678286947"	91		Good Mood			0	
6	05/12/2009	<fb:name uid="678286947"	256		Good Mood			0	
7	05/12/2009	<fb:name uid="678286947"	31		Good Mood			0	
8	05/12/2009	<fb:name uid="678286947"	31		Good Mood			0	
9	05/12/2009	<fb:name uid="678286947"	31		Bad Mood			0	
10	05/12/2009	<fb:name uid="612130210"	126		Normal Mood			0	
11	05/12/2009	<fb:name uid="678286947"	2		Good Mood			0	
12	05/12/2009	<fb:name uid="678286947"	67		Good Mood			0	
13	05/12/2009	<fb:name uid="1000057062467"	91		Good Mood			0	
14	05/12/2009	<fb:name uid="1648532104"	219		Bad Mood			0	
15	05/12/2009	<fb:name uid="10000370050031"	188		Normal Mood			0	
16	06/12/2009	<fb:name uid="1509050027"	25		Normal Mood			0	
17	06/12/2009	Hussien Ali	75	ar_SY	Good Mood			0	
18	06/12/2009	Prince Sébastien	124	fr_FR	Good Mood	male	03/22/1984	10	
19	06/12/2009	Prince Sébastien	275	fr_FR	Good Mood	male	03/22/1984	0	
20	07/12/2009	Jacques Fricky	1	es_ES	Bad Mood	male	03/22/1984	1	
21	07/12/2009	Prince Sébastien	88	fr_FR	Good Mood	male	03/22/1984	0	My State of Mood
22	07/12/2009	Jean Courjette	1	fr_FR	Good Mood	male	03/22/1984	1	
23	08/12/2009	Mirjana Krstivojevic	390	pl_PL	Bad Mood	female	03/22/1984	1	
24	08/12/2009	Rashmi Sharma	59	ar_SA	Normal Mood	female	10-nov	0	
25	09/12/2009	Jacques Fricky	1	es_ES	Good Mood	male		0	
26	09/12/2009	Prince Sébastien	91	fr_FR	Good Mood	male	01/13/1990	0	
27	09/12/2009	Prince Sébastien	91	fr_FR	Normal Mood	male	04/22/1987	0	

28	09/12/2009	Prince Sébastien	91	fr_FR	Good Mood	male		0	
29	09/12/2009	Pep Soler	219	es_ES	Normal Mood	male	04/15/1989	2	
30	10/12/2009	Manon Mariniere	188	fr_FR	Good Mood	female	ago-21	3	
31	11/12/2009	Prince Sébastien	91	fr_FR	Good Mood	male	05/26/1991	0	nada
32	10/12/2009	Jacques Fricky	1	es_ES	Good Mood	male	03/02/1955	0	
33	10/12/2009	Prince Sébastien	91	fr_FR	Good Mood	male			
34	10/12/2009	Raney Simmon	105	en_GB	Bad Mood	female		0	OMG, I'm excited! Tomorrow is Friday, and I get my
35	10/12/2009	Xenya Konstas	66	en_US	Good Mood	female	01/02/1992	1	
36	11/12/2009	Flavia Duarte	171	pt_BR	Good Mood	female		0	
37	11/12/2009	ShÃ_Ã_Ã_ZÃ£Ã' Masoud	43	ar_SY	Bad Mood	male		0	Ø` Ø\$Ù...Ù±Ø\$ Ø@Ø±Ø"Ø\$Ù†Ø© Ù†Ø@Ø±Ø"Ù±Ø\$
38	11/12/2009	Youshka Jam	58	sv_SE	Bad Mood	female		0	wt eva ^^
39	11/12/2009	Jean Courjette	1	en_US	Good Mood	male		0	Ã'lokn
40	11/12/2009	Jacques Fricky	1	en_US	Good Mood	male	08/07/1985	0	Aujourd'hui, je pu du cul!!!
41	11/12/2009	Marion Berenger	85	fr_FR	Bad Mood	female	07/21/1988	2	c'est quand qu'on va oÃ¹ ?
42	11/12/2009	Marion Berenger	85	fr_FR	Bad Mood	female		0	c'est quand qu'on va oÃ¹ ?
43	11/12/2009	Marie PonÃ§on	61	fr_FR	Normal Mood	female		1	
44	12/12/2009	Prince Sébastien	91	fr_FR	Good Mood	male	04/23/1990	0	
45	12/12/2009	Mady Houseman	61	en_US	Good Mood	female	ago-24	0	STUPID SURGURY!!!
46	12/12/2009	Dianne Bell	96	en_US	Good Mood	female	11/24/1972	0	it was so busy today at work...had a sales goal of 20
47	12/12/2009	Danae Overweg	61	en_US	Good Mood	female		2	
48	13/12/2009	Prince Sébastien	91	fr_FR	Good Mood	male	03/22/1984	0	
49	13/12/2009	Prince Sébastien	91	fr_FR	Normal Mood	male	03/22/1984	0	
50	13/12/2009	Simone I. K. Kolleeny	256	en_US	Normal Mood	female	ago-31	0	SO DAMN NERVOUS
51	14/12/2009	Sara Saleem	31	en_US	Good Mood	female	nov-23	1	Wo Ansu jo Palko ki Zenat nahi bante..... Chup Ch
52	14/12/2009	Sara Saleem	31	id_ID	Good Mood	female	nov-23	1	Wo Ansu jo Palko ki Zenat nahi bante..... Chup Ch
53	14/12/2009	Sara Saleem	31	en_US	Good Mood	female	nov-23	1	Wo Ansu jo Palko ki Zenat nahi bante..... Chup Ch
54	14/12/2009	Marco Mohamed Koheen	126	en_US	Good Mood	male	02-jul	0	Ù...Ù†ÙŠØ' Ø\$Ø@Ø± ØØ"ÙŠØ" ÙŠØ" Ø@Ù,, Ù...Ø"
55	14/12/2009	Slow Posion	2	en_GB	Good Mood	male	07/02/1980	0	a hVa n aTtiTudE pRobL3m
56	15/12/2009	Brant Tarigan	67	id_ID	Good Mood	male		2	I think I _____ someone...hehehe..
57	15/12/2009	Chloé Guillemet	213	fr_FR	Bad Mood	female	05/24/1993	4	BACALAO
58	15/12/2009	Dianne Bell	97	en_US	Normal Mood	female	10/07/1996	0	wishes life was more simple..
59	15/12/2009	Milos Pejic	153	en_US	Bad Mood	male	11/24/1988	0	Sto ljudi-sto cudil,milion debilnih grupa na fejsbuku!
60	15/12/2009	Hanelore Gob	58	en_US	Normal Mood	female	10/19/1982	0	In every loss, in every lie, in every truth that you'd de

61	15/12/2009	Ivana Frechero	36	es_ES	Good Mood	female	11/20/1989	1	
62	16/12/2009	Brant Tarigan	78	id_ID	Good Mood	male		0	abadikah persahabatan ini...??????
63	17/12/2009	William Scozzari	52	en_US	Bad Mood	male	03/26/1981	1	i liked metallica...then i heard music.
64	17/12/2009	Jacques Fricky	1	en_US	Bad Mood	male	03/22/1984	1	Aujourd'hui, je pu du cul!!!
65	17/12/2009	Jacques Fricky	1	en_US	Good Mood	male	03/22/1984	1	Aujourd'hui, je pu du cul!!!
66	18/12/2009	Tristan Bawbaw	207	es_ES	Good Mood	male		5	Poule Up
67	18/12/2009	Emilie Lecoq	119	fr_FR	Good Mood	female	03/30/1981	2	
68	18/12/2009	Julien Bott	109	es_ES	Normal Mood	male	04-dic	3	pronto llegarÃ; el momento en el que me de de baja
69	19/12/2009	Gaelle Bauer	83	fr_FR	Good Mood	female	04/21/1984	2	
70	20/12/2009	Brant Tarigan	86	id_ID	Good Mood	male		1	Hari natal yg menyenangkan hehe...
71	20/12/2009	Brant Tarigan	86	id_ID	Good Mood	male		0	Hari natal yg menyenangkan hehe...
72	20/12/2009	Brant Tarigan	86	id_ID	Good Mood	male		0	Hari natal yg menyenangkan hehe...
73	20/12/2009	Cristina Macovei	234	en_US	Normal Mood	female	03/02/1955	0	
74	20/12/2009	Linda Bergkvist Aspring	240	en_US	Good Mood	female	01/13/1983	0	Efter 6 mÃ¥naders svordommar Ã¶ver att ena plattan
75	21/12/2009	Guillaume Orgeas	130	en_GB	Good Mood	male		2	la neige est bien trop froide a Paris...
76	21/12/2009	Prince SÃ©bastien	91	fr_FR	Normal Mood	male	06/20/1988	0	
77	21/12/2009	Cedric Robin	117	en_US	Normal Mood	male	11/24/1995	3	
78	22/12/2009	Mhoz Winter	174	en_US	Bad Mood			0	ohayu!! >:D
79	23/12/2009	Amalitsou Manolaki	496	el_GR	Bad Mood		05/07/1992	1	
80	23/12/2009	Dakota Lee Carrington	207	en_US	Good Mood	male	03/22/1984	0	it's gonna snow tomorrow and on x-mas whooo blizza
81	24/12/2009	Natasa Gajic	942	en_US	Bad Mood	female	01/18/1990	0	ÐœÐ, Ð¿Ð°Ð´Ð½Ð°Ð° 2 Ð°Ð¾¼Ñ†Ð°Ð, Ð»ÐµÐ´ Ð²Ð
82	24/12/2009	Brant Tarigan	92	id_ID	Good Mood	male	ago-24	0	kali ni aku berkhianat lg.. ckckck..
83	25/12/2009	Maria de la Fuente	34	es_ES	Good Mood	female	03/22/1984	1	feliz navidad para todos..besos y abrazos!!!
84	26/12/2009	Trang Nguyen	110	en_GB	Good Mood	female	12/20/1982	1	
85	27/12/2009	Marci Costa	684	en_US	Good Mood	male		1	We Wish You a Merryâ™ªâ™ª«â€¢*Â**â€¢.Â,Â,â™ª
86	27/12/2009	Lani Poblete Arceo	239	en_US	Bad Mood		01-mar	0	
87	27/12/2009	Jordi Clemente Pascual	63	es_ES	Bad Mood	male	03/22/1984	2	
88	27/12/2009	Bonixe Clo	7	fr_FR	Good Mood		12-oct	0	Bonnes fÃªtes Ã tous !!!!!!!!!
89	28/12/2009	Prince SÃ©bastien	92	fr_FR	Normal Mood	male	05/21/1985	0	
90	28/12/2009	Roro Dian 'ian' Marlina	147	id_ID	Good Mood	female	11/19/1975	1	>Yaa Allah sinarilah hatiku dengan cahaya hidayahM
91	29/12/2009	Mohamed Hedoui	59	fr_FR	Normal Mood	male	ene-27	0	Mohamed has sent a free SMS to Xavi using http://a
92	29/12/2009	Zena Saghorchi	46	en_US	Good Mood			0	New Moon IS AWESOME!!!! iT IS A REALLY GOOD
93	29/12/2009	Halen Emerson	18	en_US	Good Mood	female	01/14/1994	0	SONG!!! sorry!

94	31/12/2009	Knox Manuel Tambunting	535	en_US	Normal Mood		01/02/1992	0	adbans hapi nyuyir.. Æœ
95	31/12/2009	Kavitha Vijayakumar	6	fr_FR	Good Mood	female	01/02/1992	0	
96	31/12/2009	Ben Schrick	14	en_US	Bad Mood	male	12-jun	0	
97	05/01/2010	Benjamin Lecoq	65	fr_FR	Good Mood	male	04/08/1978	5	
98	06/01/2010	Mona Zaheer	19	en_US	Normal Mood	female	08-sep	0	
99	06/01/2010	Dahlia Hani	169	en_US	Good Mood	female	01/02/1992	0	A goodbye isn't painful unless you're never going to s
100	07/01/2010	Rosanna Scalia	289	en_US	Normal Mood	female	01/02/1992	0	Spending the day with Nick Nack <3
101	08/01/2010	Nehal Ali Menhem	68	en_US	Normal Mood	female	01/02/1992	1	Ø\$Ø°Ø°Ø³Ù... Ø\$Ø±Ø-Ù`Ùf
102	08/01/2010	Dnyaneshwar Kakde	173	en_US	Normal Mood	male	11/09/1976	0	
103	09/01/2010	Sylvia Russ	139	en_US	Good Mood	female	05/20/1985	0	busy..... :)
104	15/01/2010	Mohamed Hedoui	54	fr_FR	Bad Mood	male	ene-27	0	Love Is When You're in love with someone, You've n
105	13/01/2010	Hannah Williams	159	en_GB	Normal Mood	female	01/02/1992	0	
106	14/01/2010	Jean Courjette	1	en_US	Good Mood	male	08/26/1982	0	
107	28/01/2010	Prince Sébastien	99	fr_FR	Good Mood	male	08/26/1982	0	
108	28/01/2010	Jacques Fricky	1	en_US	Good Mood	male	05/14/1984	0	Je suis un crack!
109	30/01/2010	Mohamed Hedoui	54	de_DE	Normal Mood	male	ene-27	0	
110	30/01/2010	Mohamed Hedoui	54	de_DE	Normal Mood	male	ene-27	1	
111	31/01/2010	Susanne Nastasijevic	347	da_DK	Normal Mood	female	12/12/1982	0	Isn't it Ironic... We ignore who adores us. Adore who
112	31/01/2010	Jacques Fricky	1	en_US	Good Mood	male	03/22/1984	0	Je suis un crack!
113	31/01/2010	Prince Sébastien	100	fr_FR	Good Mood	male	04/21/1989	0	
114	01/02/2010	Jonathan Colaluca	55	en_US	Good Mood	male	mar-18	0	GOOD NIGHT EVERYBODY!!!!!!!!!!!!!!!!!!!!
115	01/02/2010	Saqeena Khalid	60	en_US	Good Mood	female	abr-17	2	Boy u stole my heart away!!!!Please do not break it!!
116	03/02/2010	Prince Sébastien	101	fr_FR	Good Mood	male	10/13/1969	0	
117	03/02/2010	Prince Sébastien	101	fr_FR	Good Mood	male	05/12/1985	1	
118	04/02/2010	Mao Cineo	76	es_ES	Good Mood	female	11/10/1985	0	Mepa que hoy no salimos una mierda para La Plata.
119	04/02/2010	Prerna Khurana	497	en_US	Normal Mood	female	ene-13	0	Hi, I still am looking for a Flatmate(girl) for a 3+1 BH
120	04/02/2010	Karla Slaughter	76	es_ES	Good Mood	female	11/07/1986	0	Tengo hambre!!
121	05/02/2010	Zenn Dibratun	443	en_US	Bad Mood		nov-30	0	: âœSpiteful words can hurt your feelings but silenc
122	05/02/2010	Marianne Obras	422	en_US	Bad Mood	female	ene-27	0	â™¥â™¥â™¥
123	07/02/2010	Alvons Andreas	228	en_US	Bad Mood	male	10/12/1986	0	wKtu bGtu cPd bRlaLu, tApi tEtap sAja yG aQ raSak
124	07/02/2010	Willian Joyce B. Sabucohan	385	en_US	Bad Mood	female	03/22/1984	1	i tried to hide, but then you stared at me and smiled!
125	08/02/2010	Aei Ou	138	en_US	Normal Mood	female	ene-14	0	
126	08/02/2010	Faiza Farooq	45	en_US	Normal Mood	female	mar-13	1	LUV H@ppens Only Once.. Da Re\$t Iz Just LIFE!!!

4.1.8 *Index.php*

```
<?php

// include the PHP Facebook Client Library to help with the API calls
require_once('facebook-platform/client/facebook.php');

/* initialize the facebook API with the application API Key
   and Secret */
$facebook = new
Facebook('e6fd0eb4e4f4512e810dae59fa5c4aeb', 'fea0be92ff0c2379c3682de66
570b994');

$user_id = $facebook->require_login();

$profile_pic = '<fb:profile-pic uid="'. $user_id. '" size="small"
linked="true" />'; //<- show user profile pic
$profile_name = '<fb:name uid="'. $user_id. '" firstnameonly="true"
useyou="false" />'; //<- show user profile name

//User personal information

$user_details = $facebook->api_client->users_getInfo($user_id, "name,
last_name,
first_name, locale,
affiliations,
birthday_date, sex,
status");

/* Require the user to be logged into Facebook before using the
application. If he is not logged in, the user will first be directed
to a Facebook login page and then back to the application's page.
require_login() returns the user's unique ID which we will store in
user_id */

//How many friends have the user.
$i = 1;
$ii = 0;
foreach ($facebook->api_client->friends_get() as $friend_id)
{
    if ($i == 1)
    {}
    if ($i == 4)
    {
        $i = 0;
    }
    $i++;
    $ii++;
}
$friends=$ii;

//Number of visits
include('contador/countlectura.php');

//Welcome to the user
if (($_POST["enviar"]))
{
```

```

    echo "<font color='blue' face=Arial Black size=3><b> Hi
    ".$user_details[0]['first_name']."!
    ".$user_details[0]['status']['message']." Welcome to My State of
    Mood!<br/>";
    echo " You are the visitor $cTotalVisitas, and you are actually
    connected to $friends friends in Facebook.<br/>";
    echo "Let's see how is your mood these days!?!<br/>";

//Pictures of diferent moods in little
    echo '<a href="http://apps.facebook.com/mystateofmood"></a>';

    echo "<font color='blue' face=Arial Black size=3><br/>Please, answer
    to the following questions:</b>";

//"First" Mini Form
    echo '<FORM action="." method="post" >';
    echo '<font color=#000002 face=Arial size=2><b>How do you feel this
    week:</b><br/>';
    echo '<input type="radio" name="answer" value="6"> You are doing
    everything very well, and make you feeling Indestructible!! <br/>';
    echo '<input type="radio" name="answer" value="3"> You are not at
    100% of your form and you are feeling few things could work better.
    <br/>';
    echo '<input type="radio" name="answer" value="1"> You are going
    trough a really difficult patch, and you would see the end... <br/>';
    echo '<font color=#000002 face=Arial size=2><br/><strong>How many
    girl/boyfriends do you have?</strong><br/>';
    echo '<input type="radio" name="answer2" value="4"> Less than two.
    <br/>';
    echo '<input type="radio" name="answer2" value="1"> More or equal to
    two. <br/>';
    echo '<font color=#000002 face=Arial size=2><br/><strong>How much
    time did you have with your pet this week?</strong><br/>';

    echo '<input type="radio" name="answer3" value="2"> I do not have
    any pet. <br/>';
    echo '<input type="radio" name="answer3" value="1"> Less than one
    hour at day. <br/>';
    echo '<input type="radio" name="answer3" value="3"> More than one
    hour at day. <br/>';
    echo '<br/><strong>How many message, more or less, did you get from
    your friend on facebook this week:</strong><br/>';
    echo '<input type="text" name="message" size="3" <br/>';
    echo '<input type="submit" value="Show your Mood" name="enviar">';
    echo '</FORM>';
}

//"Second" Mini Form, if the user did not fill all the questions.

else if(($_POST["enviar"])&& (($_POST["answer"]==0) or
($_POST["answer2"]==0) or ($_POST["answer3"]==0) or
($_POST["message"]==0)))
{

    echo "<b><font color='red' size=2> <i>Please check the form, all
    fields are necessary.</i></font></b>";
    echo '<br/>';

//Pictures of diferent moods in little

```

```
    echo '<a img
src="http://usuarios.lycos.es/sebastien84/images/submit_p.jpg"
alt="Facebook" ></a>';

    echo '<FORM action="." method="post" >';

    echo '<font color=#000002 face=Arial size=2><br/><strong>How do you
feel this week:</strong><br/>';

    if($_POST["answer"]==0)
    {
        echo "<b><font color='red' size=1> <i>Don't forget this
field.<i/></font></b><br/>";
        echo '<input type="radio" name="answer" value="6"> You are doing
everything very well, and make you feeling Indestructible!! <br/>';
        echo '<input type="radio" name="answer" value="3"> You are not at
100% of your form and you are feeling few things could work better.
<br/>';
        echo '<input type="radio" name="answer" value="1"> You are going
through a really difficult patch, and you would see the end... <br/>';
    }
    else
    {
        if($_POST["answer"]==6) { echo '<input type="radio" name="answer"
value="6" checked="checked">';}
        else{echo '<input type="radio" name="answer" value="6"/>';}
        echo 'You are doing everything very well, and make you feeling
Indestructible!! <br/>';

        if($_POST["answer"]==3) { echo '<input type="radio" name="answer"
value="3" checked="checked">';}
        else{echo '<input type="radio" name="answer" value="3"/>';}
        echo 'You are not at 100% of your form and you are feeling few
things could work better. <br/>';

        if($_POST["answer"]==1) { echo '<input type="radio" name="answer"
value="1" checked="checked">';}
        else{echo '<input type="radio" name="answer" value="1"/>';}
        echo 'You are going through a really difficult patch, and you would
see the end... <br/>';
    }

    echo '<font color=#000002 face=Arial size=2><br/><strong>How many
girl/boyfriends do you have?</strong><br/>';

    if($_POST["answer2"]==0)
    {
        echo '<input type="radio" name="answer2" value="4"> Less than two.
<br/>';
        echo '<input type="radio" name="answer2" value="1"> More or equal
to two. <br/>';

        echo "<b><font color='red' size=1> <i>Don't forget this
field.<i/></font></b><br/>";
    }
    else
    {
        if($_POST["answer2"]==4) { echo '<input type="radio"
name="answer2" value="4" checked="checked">';}
        else { echo '<input type="radio" name="answer2" value="4"/>';}
    }
}
```

```

    echo 'Less than two. <br/>';

    if($_POST["answer2"]==1) { echo '<input type="radio"
name="answer2" value="1" checked="checked">';}
    else { echo '<input type="radio" name="answer2" value="1"/>';}
    echo 'More or equal to two. <br/>';
}

    echo '<font color=#000002 face=Arial size=2><br/><strong>How much
time did you have with your pet this week?</strong><br/>';

    if($_POST["answer3"]==0)
    {
        echo '<input type="radio" name="answer3" value="2"> I do not
have any pet. <br/>';
        echo '<input type="radio" name="answer3" value="1"> Less than
one hour at day. <br/>';
        echo '<input type="radio" name="answer3" value="3"> More than
one hour at day. <br/>';
        echo "<b><font color='red' size='1px'>Don't forget this field
cause is required.</font></b><br/>";
    }
    else
    {
        if($_POST["answer3"]==2) { echo '<input type="radio"
name="answer3" value="2" checked="checked">';}
        else { echo '<input type="radio" name="answer3" value="2"/>';}
        echo 'I do not have any pet. <br/>';

        if($_POST["answer3"]==1) { echo '<input type="radio"
name="answer3" value="1" checked="checked">';}
        else { echo '<input type="radio" name="answer3" value="1"/>';}
        echo 'Less than one hour at day. <br/>';

        if($_POST["answer3"]==3) { echo '<input type="radio"
name="answer3" value="3" checked="checked">';}
        else { echo '<input type="radio" name="answer3" value="3"/>';}
        echo 'More than one hour at day. <br/>';
    }

    echo '<br/><strong>How many message, more or less, did you get
from your friend on facebook this week:</strong><br/>';

    if($_POST["message"]==0)
    {
        echo "<b><font color='red' size=1> <i>Don't forget this field.
You can not enter 0. If you get any message, lie and fill by a
1...</i></font></b><br/>";
        echo '<input type="text" name="message" size="3" <br/>';
    }

    else
    {
        echo '<input type="text" name="message" size="3"
value="",$_POST["message"],' /> <br/>';
    }

    echo '<input type="submit" value="Show your Mood" name="enviar">';

    echo '</FORM>';
}

```

```
//The "3rd part" of the application is the result of the test.

else
{

//The results of each of the 4 questions
$answer=$_POST["answer"];
$answer2=$_POST["answer2"];
$answer3=$_POST["answer3"];
$message=$_POST["message"];

if($message==0) { $message=1; }

$media_co=$friends/$message;

if($media_co>30)
{
$answer4=1;
}
elseif($media_co<15)
{
$answer4=3;
}
else
{
$answer4=2;
}

//Total result of the test divides by 14 (max point of the test)

$result=((($answer+$answer2+$answer3+$answer4)/16)*100;

//Show the result of the user

if ($result<=50)
{
echo "<font color='blue' face='Arial Black' size=4> Wow
".$profile_name."! Take it easy and be patient! Better times will
come. When you can, don't forget to have some fun...<br/>";

if ($media_co>25)
{
echo " Don't forget to share your feeling with your friends";
}
elseif ($media_co<12.5)
{
echo " No doubt, your friends can improve your state of mood!";
}
else
{
echo " Sure your friends know how you are!";
}

echo '<br/><br/><a
href="http://www.facebook.com/apps/application.php?id=58573329986"><im
g src="http://usuarios.lycos.es/sebastien84/images/3.jpg" border="1"
alt="Facebook" ></a>';
echo "<br/><font color=#000002 face=Arial Black size=2>Click on
the picture to go to the application profile and interact with
users.";
```

```

    $mood="Bad Mood";
}

else if ($result<66.66)
{
    echo "<font color='blue' face='Arial Black' size=4>
    ".$profile_name.", don't worry. Thrust in you, you are on the good way
    to enjoy your life as you deserv!<br/>";
    if ($media_co>25)
    {
        echo " Don't forget to share your feeling with your friends";
    }
    elseif ($media_co<12.5)
    {
        echo " No doubt, your friends can improve your state of mood!";
    }
    else
    {
        echo " Sure your friends know how you are!";
    }

    echo ' <br/><br/><a
href="http://www.facebook.com/apps/application.php?id=58573329986"><im
g src="http://usuarios.lycos.es/sebastien84/images/2.jpg" border="1"
alt="Facebook" ></a>';
    echo "<br/><font color=#000002 face=Arial Black size=2>Click on
the picture to go to the application profile and interact with
users.";
    $mood="Normal Mood";

}
else
{
    echo "<font color='blue' face='Arial Black' size=4> Carpe Diem
    ".$profile_name."! This is your moment, just enjoy this nice periode-
    time!<br/>";
    if ($media_co>25)
    {
        echo " Don't forget to share your feeling with your friends";
    }
    elseif ($media_co<12.5)
    {
        echo " No doubt, your friends have something to do with your
    mood!";
    }
    else
    {
        echo " Sure your friends know how you are feeling!";
    }

    echo ' <br/><br/><a
href="http://www.facebook.com/apps/application.php?id=58573329986"><im
g src="http://usuarios.lycos.es/sebastien84/images/1.jpg" border="1"
alt="Facebook" ></a>';
    echo "<br/><font color=#000002 face=Arial Black size=2>Click on
the picture to go to the application profile and interact with
users.";
    $mood="Good Mood";
}

//Incrementing numbre of visits (only when the user did the test)

```

```

include('contador/count.php');

//Using FBJS (Facebook Javascript) to create the various objects on
the template to publish on the user wall

echo <<<EOT
<script>

var template_id = 71670394986; // This is the identification of the
template

//Commentary of the user
var user_message_prompt = "What'on your mind?..";
var user_message = {value: ""};
var result=""
EOT;
echo $result;
echo <<<EOT
";
if (result<=50){
var
template_data={"images":[{"src":"http://usuarios.lycos.es/sebastien84/
images/3p.jpg",
"href":"http://www.facebook.com/apps/application.php?id=58573329986"}]
};
var body_general="<b>My State of Mood<br/><br/>Better times will come.
Be patient! Take it easy and when you can, don't forget to have some
fun with your friends!</b><br/><br/>Click on the picture to share your
Mood as well.";
}
else if (result<66.66){
var
template_data={"images":[{"src":"http://usuarios.lycos.es/sebastien84/
images/2p.jpg",
"href":"http://www.facebook.com/apps/application.php?id=58573329986"}]
};
var body_general="<b>My State of Mood<br/><br/>Don't worry, you are on
the good way to be really happy! Thrust in you and in your good
friends. </b><br/><br/>Click on the picture to share your Mood as
well.";
}
else{
var
template_data={"images":[{"src":"http://usuarios.lycos.es/sebastien84/
images/1p.jpg",
"href":"http://www.facebook.com/apps/application.php?id=58573329986"}]
};
var body_general="<b>My State of Mood<br/><br/>Carpe Diem! This is
your moment, just enjoy this nice periode-time!</b><br/><br/>Click on
the picture to share your Mood as well.";
}
var continuation = function(){
// Podemos dejarlo en blanco si lo deseamos
};
Facebook.showFeedDialog( template_id, template_data, body_general, '',
continuation, user_message_prompt, user_message );
</script>
EOT;}

```

4.1.9 Count.php

```

<?
//This file give the number of vite at the actual date and the last
IPaddress
//connected to the application

$cabrir = fopen ("contador/count.txt","r");
while (!feof($cabrir)) { $ccont = fgets($cabrir, 256); }
fclose($cabrir);
$ccontador = explode(";", $ccont);
$cTotalVisitas = $ccontador[0];
$cfecha = $ccontador[1];
$cultimaip = $ccontador[3];
if (getenv("HTTP_X_FORWARDED_FOR")) {
    $cip = getenv("HTTP_X_FORWARDED_FOR");
} else {
    $cip = getenv("REMOTE_ADDR");
}
$cfecha = date ("d/m/Y");

$cTotalVisitas++;

$cGuardar =
$cTotalVisitas."; ".$cfecha."; ".$user_details[0]['name'].";"
    . $friends."; ".$user_details[0]['locale']."; ".$mood."; "
    . $user_details[0]['sex']."; "
    . $user_details[0]['birthday_date']."; "
    . $user_details[0]['status']['message']."; ";
$filename = "contador/count.txt";
$fp = fopen( $filename,"r");
$OldData = fread($fp, 800000);
fclose( $fp );

$file = fopen("contador/count.txt", "a");
$NewInput = "Name: <b>$Name</b>";

$New = "$OldData\n$cGuardar";
$fd = fopen( $filename,"w");

fwrite($fd, "$New", 80000000);
fclose( $fd );

?>

```

4.1.10 CountLectura.php

```

<?
//This file read the number of visits at the actual date and the last
IPaddress connected to the application
$cabrir = fopen ("contador/count.txt","r");
while (!feof($cabrir)) { $ccont = fgets($cabrir, 256); }
fclose($cabrir);

$ccontador = explode(";", $ccont);

/* Give each position of the array to a variable */
$cTotalVisitas = $ccontador[0]; /* Visitas totales */
$cVisitasDiarias = $ccontador[1]; /* Visitas diarias */
$cfecha = $ccontador[2]; /* Ultima dia guardado */
$cultimaip = $ccontador[3]; /* Ultima dirección IP */
?>

```

