Fast Innovation for Commerce Unified Systems

System Design Document

Version 0.1

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Revision History

Date	Version	Description	Author
10/10/2009	0.1	First draft of SDD	José Humberto Torres III
10/14/2009	0.2	Second draft section 1	José Humberto Torres III
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1.   Introduction

JJFN Group is a company compromised with the society, finding new and advance ways to improve communications and interaction between customers and business. Information technologies have become part of the daily life. JJFN Group combines the elements of simplistic designs and advance technology to bring your business to the future of communications. A superior customer experience defines the quality of your business. On JJFN Group, we define customer experience.

1.1 Purpose

The main purpose of this software Design Document (SDD) is to make the application understandable, it gives an overall guidance of the architecture of the software project in order to avoid misconceptions of any kind from the gym's owner, managers, employees and customers, to the developer's team. It contains an architecture diagram with pointers to detailed feature specifications of smaller pieces of the design. It also helps the developer understand the user's needs. In addition, the SDD specifies the necessities for a Web Application (WebApp) and the methods to be used to ensure that each prerequisite has been met. The SDD it's a stable reference, outlining all parts of the software and how they will work.

1.2 Scope

This WebApp will provide the customers of the enterprise L.O. Classic Gym the ability to access their accounts through the World Wide Web (WWW). It will allow the gym's customers to manage their personal account, gym's subscription, and browse the personal and physical training courses that the gym provides, for example Yoga classes, Aerobics, and other related courses. Gym customers will be able to add, remove or reserve these courses on their gym subscription scheduled, and pay or void their subscription. This would be particularly useful for L.O. Classic Gym, because there is an increasing amount of customers expected on the next five years and not enough staff to satisfy the customer needs of being oriented on the gym's or courses status, and being able to register the courses they are most interested on. Customers will interact with other customers through profiles and message board on the gym's social network. It will allow the gym's customer to get a faster, innovative and secure way to manage their gym accounts and at the same time get a quality customer experience.

On behalf of the gym's staff, they will be able to maintain informed the customers with updates of new and events of the gym. The staff can also have a confident accountability of the gym's incomes through the WebApp, and view the registrations lists. Registrations lists and databases are crucial for the making of decisions on the enterprise. They can determine to cancel any course for low tuition or open

more sections of the offered course. They also will be able to read customers comments or posts on the message board or forum that will be provided, and moderate the information provide on it.

1.3 References

Information of topics and application mentioned on the SDD could be found on the following:

- FICUS: http://ficus.xtilos.com/
- IEEE: http://www.ieee.org/
- LINUX: http://www.linux.org
- Apache Server: http://www.apache.org/
- MySQL: http://www.mysql.com/
- PHP: http://www.php.net/
- Joomla: http://www.joomla.org/
- Wikipedia: http://www.wikipedia.org/
- Ace-Host: http://www.ace-host.net/

1.4 Overview

On section 2, there is description for the interfaces and the constraints of the WebApp development. It will also describe the potential user characteristics and the product functions and operations that the user will take advantage. In addition, this section describes the general factors that affect the product and its requirements.

Section 3, the architecture design uses information flowing characteristics, and maps them into the program structure. Designers will find the idea behind the external interfaces and which functions are going to be used. The mapping method is applied to exhibit distinct boundaries between incoming and outgoing data. The Data Flow diagrams allocate control input, processing and output along three separate modules. Also it explains the evaluation that involves different architecture design alternatives against multiple quality-attributes. These attributes typically have basic conflicts and must be considered all together in order to reach a final design alternative.

Section 4, it describes the database which is part of the system and any data structures that are a major part of this system. It contains all the needed logical and physical design choices, and physical storage parameters needed to generate a design in a Data Definition Language, which can then be used to create a database.

1.5   Constrains

The designing of this product is made by the consideration of different limitations or constraints that affect or limit the creativity or path FICUS would take to its realization. The following table (**Table 1.0**) describes the limitations and constraints considerate by JJFN Group:

Constraint	Description	Influence
Internet Connection	• User doesn't have an ISP • ISP server is down or on maintenance • Low bandwidth	FICUS depends completely of an Internet connection. If the user doesn't have a proper connection, the application wouldn't work as efficient as expected.
Administration	• No constant maintenance of the site • Improper supervision • Improper use of privileges	There are some functions or tasks FICUS can't execute by it. Administrators should be constant on the site management. Administrators have to maintain a high ethical manifestation on public content.
System Resources	Hardware requirements for the web browser Inefficient web browser design	FICUS depends of a reliable web browser. If the computer hardware doesn't fulfill the web browser specify requirements, it could malfunction and not work properly. If the web browser design is inefficient, some web pages resources wouldn't be available.
E-Business Legal Issues	Copywriting and publishing is a reflection of how the business is viewed to the rest of the world	It could have long lasting negative business consequences for the that cannot be easily repaired

Constraint	Description	Influence
Intellectual Property	There are potential areas for revealing trade secrets or intellectual property if proper B2B ethical behavior is not followed	It will become more difficult to figure out who you can trust online; with all the unethical, illegal, and Internet marketing and online advertising frauds and E-business email scams
Web Application Security (WAS)	Avoid inadvertent release of confidential or sensitive information, comply with regulatory mandates, minimize risks to users and the institution and ensure the availability of critical applications.	Hacking techniques such as hidden field manipulation, parameter tampering, and cookie poisoning can be easily deployed, resulting in stolen customer data, denial of services, and the complete shut-down of the site.
Interface to Web Browsers	FICUS depends of a Web Browser for its execution	Without a Web Browser the Web Application will not start

Table 1.0 Description of the constraints that can limit FICUS and how they affect.

2. System Overview

Fast Innovation for Commerce Unified Systems (FICUS) is an application that provides business owners the ability to manage the availability of enrollment to their services, have up-to-date information of their customers, and provide relevant information of their customers. On the following sections, you'll find useful information to visualize and understand the concepts to be use on this software. Concepts like how the users, Administrators and Customers will interact with the product. The following figure, show the general features of the product.
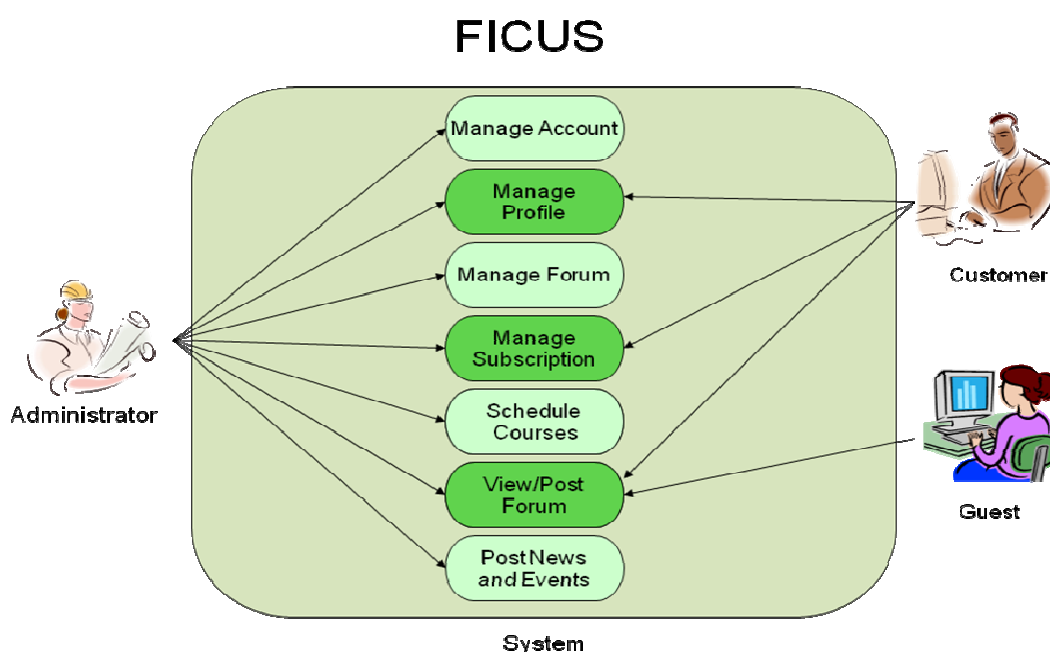

Figure 2.1 Describes the use-cases of the mayor functional areas and interactions

The product, FICUS, is a Web Application (WebApp) solution for any business that needs an interactive class enrollment application. This WebApp is intended for customers that want to interact with the business services. This software will allow members to login to the business website. After login, the system allows customers to manage subscriptions by browsing courses, add, and remove them. Customers will also be able to pay their subscriptions tuition, post questions on a discussion forum. These questions can be answered by other members or administrators. In this world, where time is treasured, customers can manage their subscriptions and payments, without living the comforted of their houses.

The system also allows administrators to post news feeds, which will maintain customers informed of

special offers and events. The forum and the news feed will provide the business a unified community or social network and a better customer service. The business manager will keep an up-to-date registry of its customers. This WebApp fulfills the necessity of business administrators to have a technology based business, and maintain effective communication with their customers. Also it allows the opportunity to expand their business to new communities.

3.   System Architecture

3.1. Architectural Description

FICUS is a Web application that can be accessed from any browser on a computer that have access to the internet. On the backend the application runs on a Linux server which serves as the operating system for the database which is MySQL, the content manager Joomla and web server service which is Apache. The FICUS system high level architecture can be observed on the Figure 3.1.
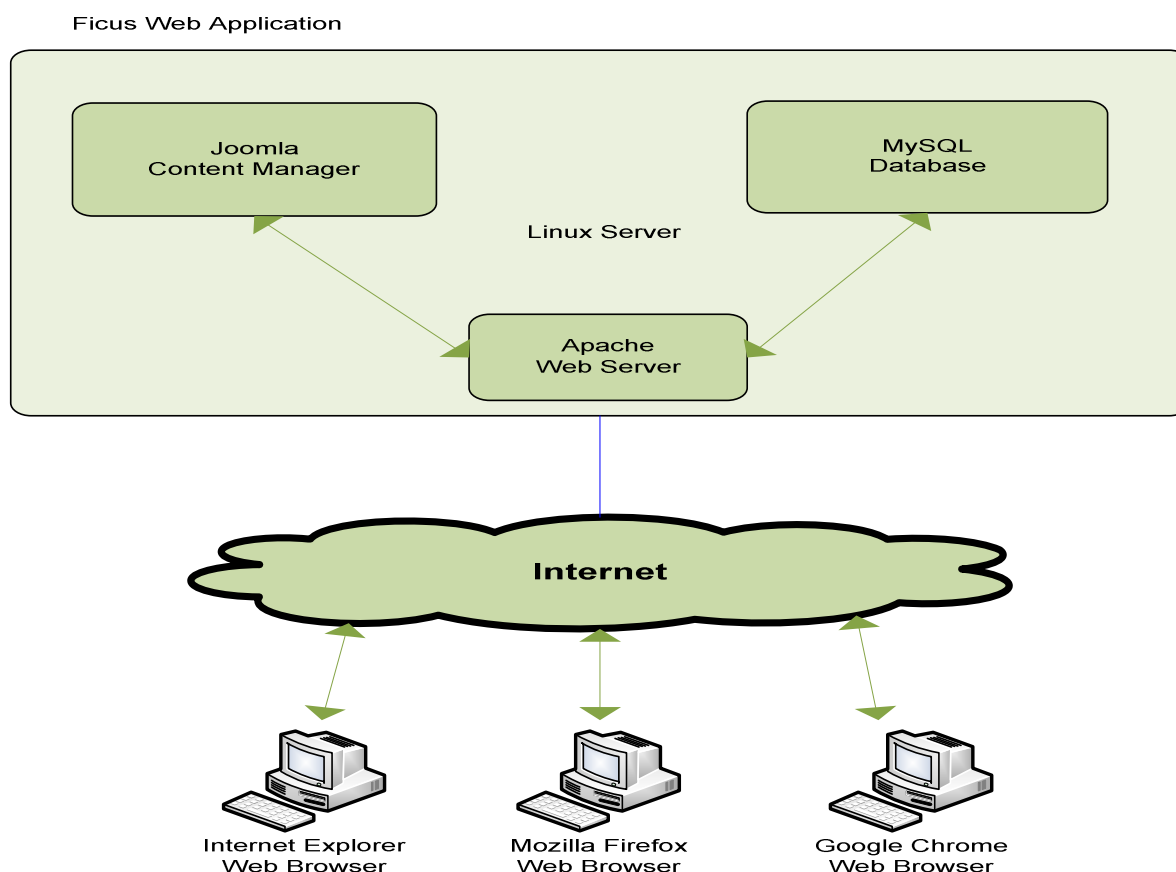

Figure 3.1. FICUS Architecture

3.2. Component Decomposition Description

Each of the components of the architecture is widely accepted and used by the industry. Below you will find some extra details of each one of the components. There is an overview of the architecture components on the Table 3.1.2

Word	Definition
Apache Server	Apache is primarily used to serve both static content and dynamic Web pages on the World Wide Web. Many web applications are designed expecting the environment and features that Apache provides.
Linux	A generic term referring to Unix-like computer operating systems based on the Linux kernel.
MySQL	A relational database management system (RDBMS) which has more than 6 million installations.
Joomla	A content management system platform for publishing content on the World Wide Web and intranets as well as a Model–view–controller (MVC) Web Application Development framework.

Table 3.1.2 Ficus Architecture Components

Apache Server - Apache is primarily used to serve both static content and dynamic Web pages on the World Wide Web. Many web applications are designed expecting the environment and features that Apache provides. Apache is used for many other tasks where content needs to be made available in a secure and reliable way. One example is sharing files from a personal computer over the Internet. A user who has Apache installed on their desktop can put arbitrary files in Apache's document root which can then be shared. Programmers developing web applications often use a locally installed version of Apache in order to preview and test code as it is being developed.

Linux – Linux is a modular Unix-like operating system. It derives much of its basic design from principles established in Unix during the 1970s and 1980s. Such a system uses a monolithic kernel, the Linux kernel, which handles process control, networking, and peripheral and file system access. Device drivers are integrated directly with the kernel.

MySQL – MySQL is a relational database management system (RDBMS). Many web applications use MySQL as the database component of a LAMP software stack. Its popularity for use with web applications is closely tied to the popularity of PHP, which is often combined with MySQL. MySQL delivers the ease of use, scalability, and performance. It is also designed to scale DBA resources to include MySQL expertise by providing a unified, informed view into the health, security, performance and availability of the entire MySQL server environment.

Joomla – Joomla is a content management system which keeps track of every piece of content on your Web site, much like your local public library keeps track of books and stores them. Content can be simple text, photos, music, video, documents, or just about anything you can think of. A major advantage of using a CMS is that it requires almost no technical skill or knowledge to manage.

The Joomla package consists of many different parts, which allow modular extensions and integrations to be made easily. An example of such are extensions called plugins. Plugins are background extensions that extend Joomla with new functionality.

3.3. Architectural Alternatives

FICUS can be implemented using a wide range of architecture designs. There are multiple versions of Linux that can be used and will provide the performance and compatibility required.

There are also many content management software in the market. The application can also be developed and implemented without any content management software. On the design rationales we will discuss deeper the options. On the web server side MS web servers can be an alternative to the Apache server. Oracle, MS SQL server and MySQL are possible alternative to be used as the databases.

There are also different configurations when using the components that were chosen for the development. It can be all installed on a single server, it can be distributed on different servers. For example the web server can be on one server and the database on another server. It can also be clustered and fail over configurations can be also built. The specific configuration will depend on the load and traffic that the application will have.

3.4. Design Rationale

JJFN Group has researched all the different options and configurations for the development of the FICUS application. The design that was chosen was based on the size of the businesses that will be using the

application. The designed load and capacity of the application will be the one used for small and medium business. Scalability was another factor that was a priority for the team. Once the application is installed we want it to be scalable so it can grow with the business clients. Reliability and security played also important roles when choosing the architecture. Apache is one of the most robust and secure web servers in the industry. The integrity of the customers' data is one of the priorities of the JJFN group. A content manager was used to facilitate the management of the website. It was also chosen because its integration with LAMP and because it is easy to use and fast to deploy. The timeframe for the project was a critical factor and also help to determine the architecture that was used for this project.

4.   Data Design

4.1   Database Description

For the database we are using, MySQL, compatible 100% with the CMS FICUS it is using. Every extension installed on Joomla will create tables and will read/write on them information. The database contains tables for user information/contents, extensions, modules and all that is in need of the database. Every extension has capabilities to read from the database and has the rights to modify if necessary. The database will be constantly in use, because it will store every configuration and content of the site. L.O. Classic Gym requirements and FICUS infrastructure helps describes and design FICUS database.

L.O. Classic Gym management requires designated information for their documentations. The government requires them to provide name, sex, address, birthdates and telephones, for communications purpose. For account creation FICUS requires for each user a username, password, and email, the system will relate the FICUS accounts with customers memberships through customer's ID. FICUS also store information of the courses the customers are subscribed. Forum providers require us an account number for authentication with the message board service. FICUS will also maintain a list for courses. The following Entity Relation Diagram (ERD), sections 3.4.1 through 3.4.9 describes critical phases on the database design, and how this requirements helps create a fully functional database.

4.2   Global Data Structures

FICUS doesn't require any global data structure.

6. Human Interface Design

FICUS will run on a standard computer web browser (e.g. Internet Explorer, and Mozilla Firefox). Web browsers are software applications for retrieving, presenting, and decoding information resources on WWW. The user will be able to browse easily thanks to an interactive graphic interface, provide by our software. The following is a description of the three types of users that can access the application and the operations they can manage.

6.1 Overview of the User Design

Administrators will be able to manage users' accounts, the forum and also post news and events on the website. When managing the user accounts, the administrator can remove a member, pull reports on member information and reset passwords. At the forum the Administrator can remove posts and add new topics. Also manages the information provided to the customers, like course schedule and availability. Figures 2.2 - 2.11 shows how administrators' interfaces will be.

Customers will register through the site providing a username, password, e-mail and other personal info required for security options. If any user forgot the password, there is an option to reset the password by submitting the username and email then the password will be sent to the registered e-mail. When logged they can browse, add and/or remove courses from the subscription. They will be able to access the forum and view, comment on published posts and post new messages at the forum. Figures 2.12 - 2.17 show examples of how customers' interfaces will look like.

Guests are visitors that will browse the courses but cannot reserve or subscribe to them; view the forum and the news. A guest doesn't provide any information, but has restricted access to WebApp. Figures 2.18 - 2.22 show examples of how administrators' interfaces will look like.

6.2 Screen Images

Figure 6.1 shows the login user interface for the main homepage. Administrators will provide their login information which is a name used to gain access the system, the username, and a secret word to prove identity, the password. If the "Remember Me" option is checked, administrators don't have to provide the login information the next time the WebApp is executed. Also it is displayed the basic information of L.O. Classic Gym, and other content provided and uploaded to the graphical interface.
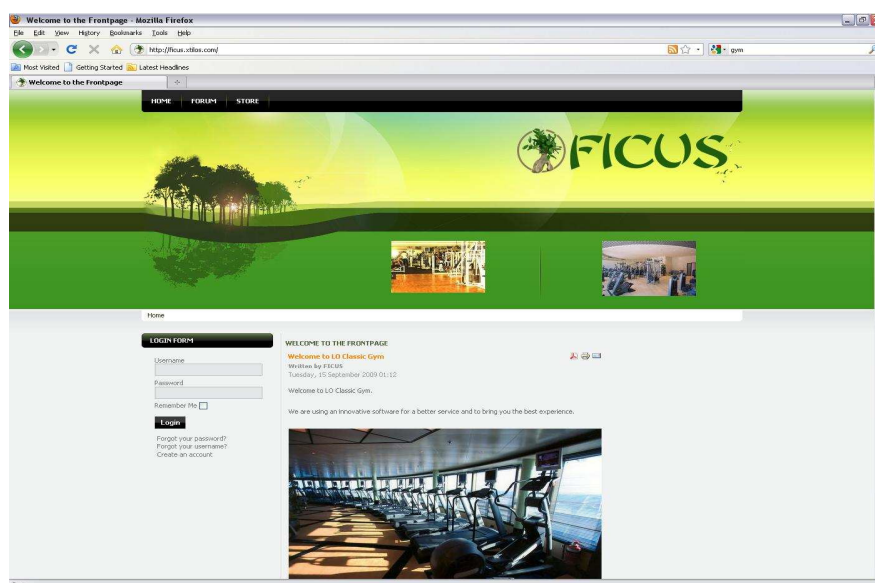
Figure 6.1 Administrators homepage login interface, for a live preview visit http://ficus.xtilos.com

Figure 6.2 shows the login accounts managing and creation interface Administrators will have access to. There users must provide the required information, for authentication purpose, that is going to be safely added to FICUS database. The required information for registration includes name, username, e-mail, and password. Password must be eight (8) characters or more, including numbers (0-9) and letters (A-Z). Password must be entered twice for verification. Administrators can edit any of this information for every user.

Figure 6.1 Administrators Create Account interface

Figure 6.3 shows the course available subscriptions interfaces. Administrators can view, add, delete or edit course information. Also they will be prompted to print class subscription lists.

Figure 6.2 Administrators Courses interface

Figure 6.4 shows the current gym subscriptions options interface. Administrators can view, add, delete or edit subscriptions' details or information. There will be specified details of each subscription and can browse through any product offered.
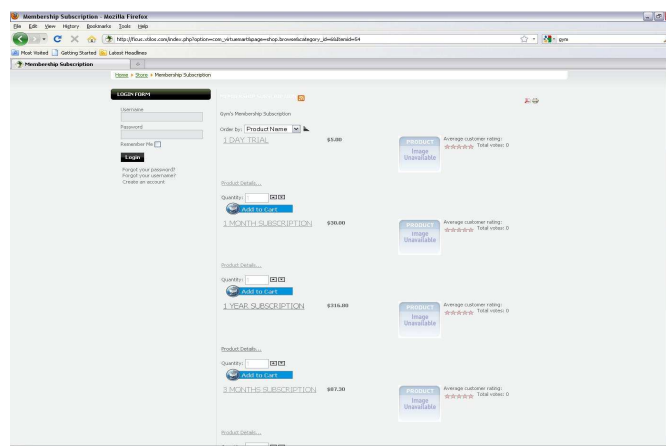
Figure 6.3 Administrators Subscriptions interface

Figure 6.5 shows the create profile interface. Administrators can view, add, delete or edit profiles detail or information of any user not meeting the terms of policy and conduct required by gym's managers. A profile contains gender, pictures, and other personal information provided by users.
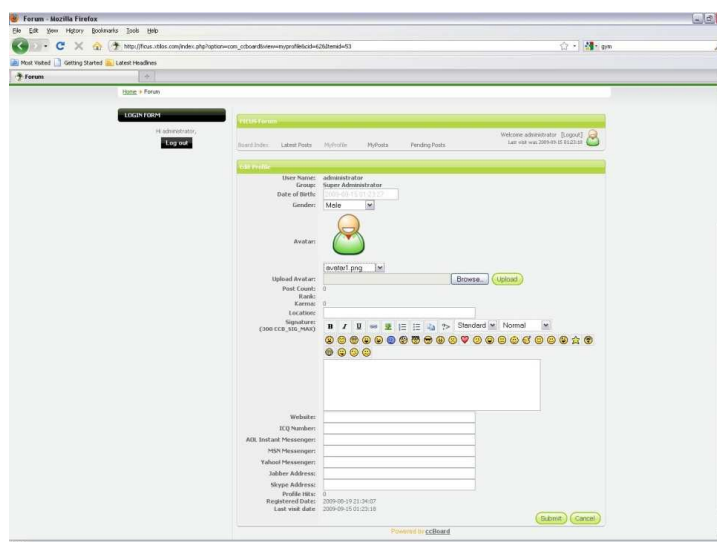
Figure 6.4 Administrators Create Profile interface

Figure 6.6 shows the forum interface. Administrators can view, add, delete or edit forum posts or information of any user not meeting the terms of policy and conduct required by gym's managers for the forum. Also they will assist any customer that needs information or guide on any page of the WebApp. Finally, they will ban any user violating the forum policy of conduct, temporary or permanent.
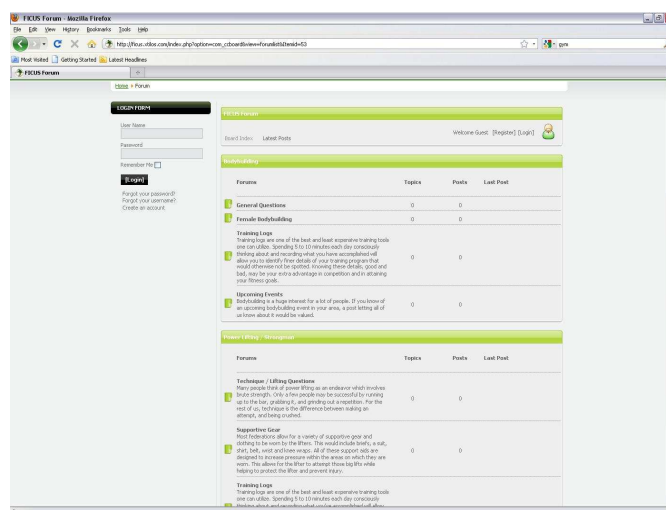
Figure 6.5 Administrators Forum interface

Figure 6.7 shows the administrators management menu interface. From here Administrators can go directly to the section of the webpage they will edit. They will be the only users with access to this interface. They will encounter detailed information on each section they can manage or edit.
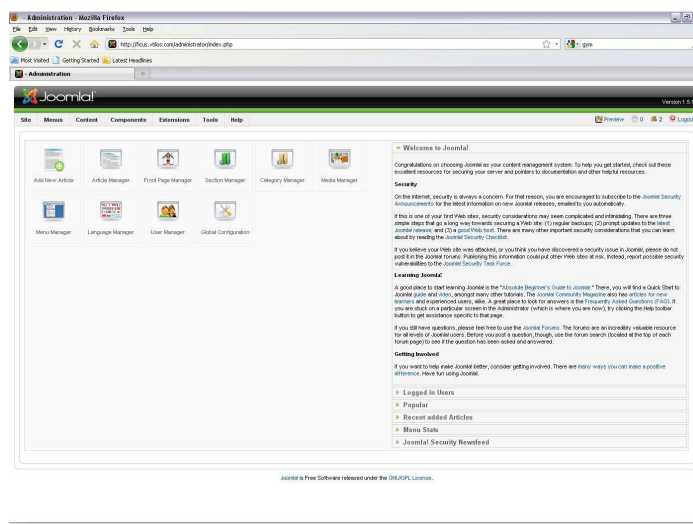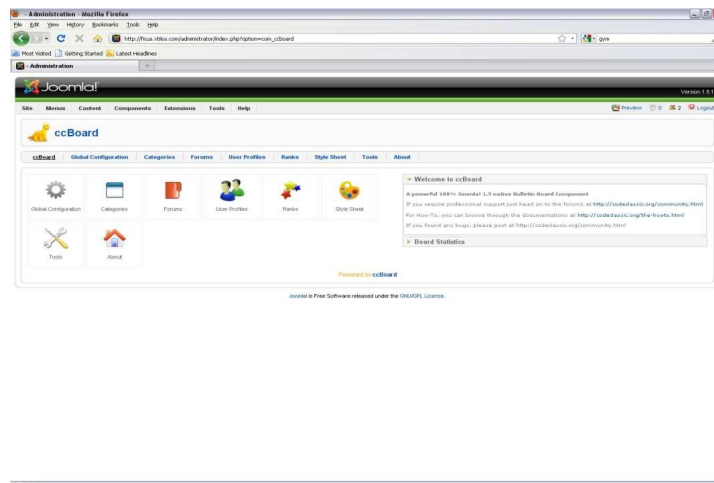

Figure 6.6 Administrators Management Menu interface

Figure 6.8 shows the administrators forum manager interface. From here Administrators can go directly to the section of the forum they will edit. They will be the only users with access to this interface. They will encounter detailed information on each forum section they can manage or edit.

Figure 6.7 Administrators Forum Manager interface

Figure 6.9 shows the administrators user manager interface. From here Administrators can add users or go directly to the user they will edit or delete. They will encounter detailed information on each user they can manage or edit and a password reset option.
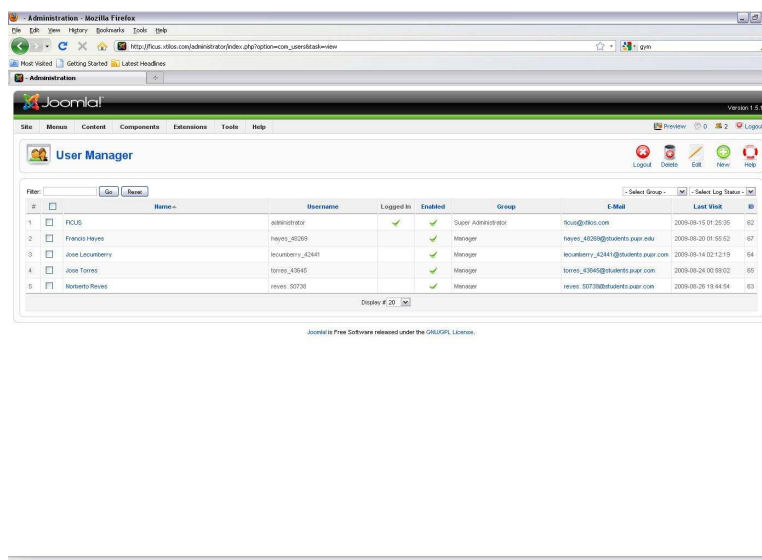
Figure 6.8 Administrator User Manager Interface

Figure 6.10 shows the administrators file manager interface. From here Administrators can upload, download, edit or delete files and content they use on the website. They will encounter detailed information on each filer they can manage or edit.

Figure 6.9 Administrator File Manager interface

Figure 6.11 shows the login user interface for the main homepage. Customers will provide their login information which is the username, the password. If the "Remember Me" option is checked, customers do not have to provide the login information the next time the WebApp is executed.

Figure 6.10 Customers homepage login interface, for a live preview visit http://ficus.xtilos.com
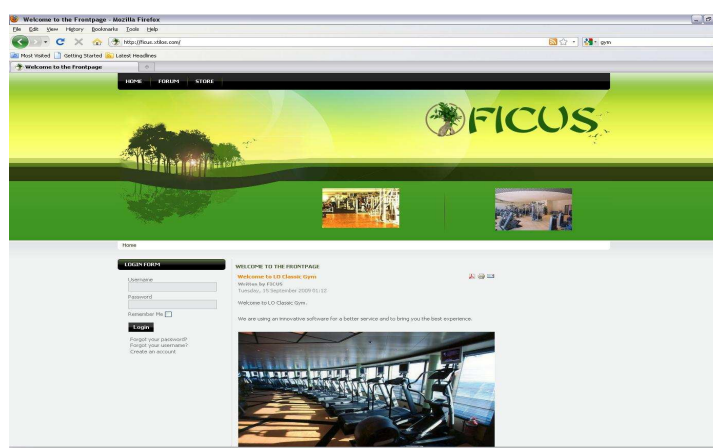
Figure 6.12 shows the create accounts interface Customers, will have access to. There users must provide the required information, for authentication purpose, that is going to be safely added to FICUS database. Registration information includes name, username, e-mail, and password. Password must be eight (8) characters or more, including numbers (0-9) and letters (A-Z). Password must be entered twice for verification.

Figure 6.11 Customer Create Account interface

Figure 6.13 shows the courses available subscriptions interfaces. Customers can view, add, or remove courses from their subscriptions. The can print a course curriculum, and a gym equipment list, if any, they will use on the course. Customers can access from here a Checkout to pay for their tuition.

Figure 6.12 Customers Courses interface

Figure 6.14 shows the current gym subscriptions options interface. Customers can view, add, or delete their subscriptions. There will be specified details of each subscription and can browse through any product offered. Customers can access from here a Checkout to pay for their tuition.
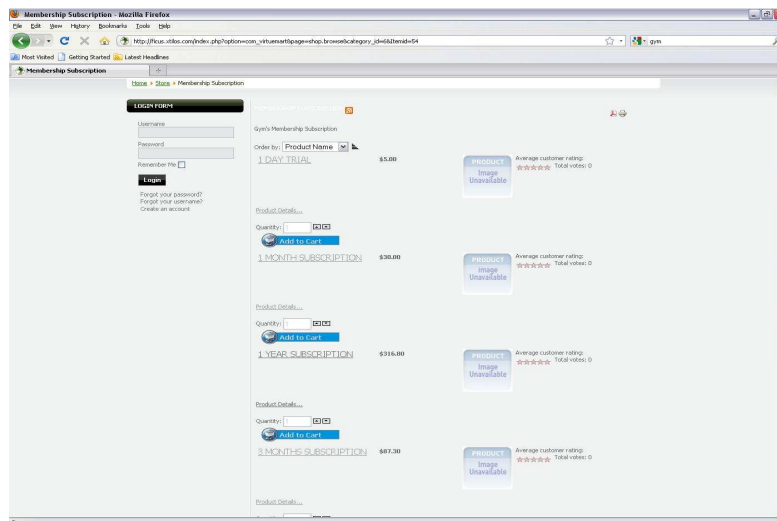

Figure 6.13 Customers Subscriptions interface

Figure 6.15, shows the create profile interface. Customers can view, add, delete or edit profiles detail or information. A profile contains gender, pictures, and other personal information provided by users. Customers can browse other users' profiles and interact with them through the social network.
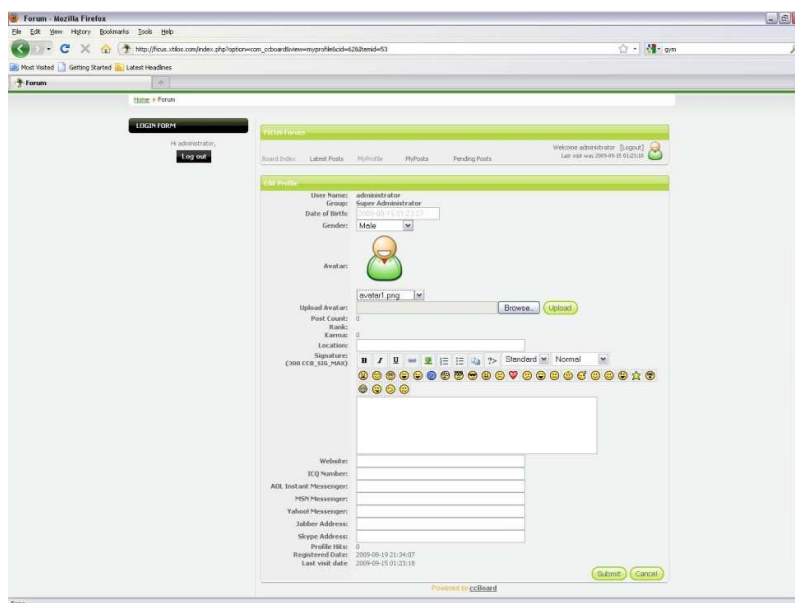

Figure 6.15 Customers Create /View Profile interface

Figure 6.16 shows the forum interface. Customers can view, add, delete or edit their own forum posts or information. Also they will be assisted by any administrator if they need information or guide on any page of the WebApp. Finally, they will be banned, they violated the forum policy of conduct, temporary or permanent.

Figure 6.14 Customers Forum interface

Figure 6.17 shows the main homepage. Guests can view and read limited webpage content. They can request a registration account to become Customers. Guests can interact with some links.

Figure 6.15 Guest homepage login interface, for a live preview visit http://ficus.xtilos.com

Figure 6.18 shows the request registration accounts interface Guest, will have access to. There users must provide the required information, for authentication purpose, that is going to be safely added to FICUS database. Registration information includes name, username, e-mail, and password. Password must be eight (8) characters or more, including numbers (0-9) and letters (A-Z). Password must be entered twice for verification.

Figure 6.16 Guest Request Registration Account interface

Figure 6.19 shows the courses available subscriptions interfaces. Guests can only view the course information. They can print the course information.

Figure 6.17 Guest Courses interface

Figure 6.20 shows the current gym subscriptions options interface. Guests can only view the different subscription information. They can print the subscription information.
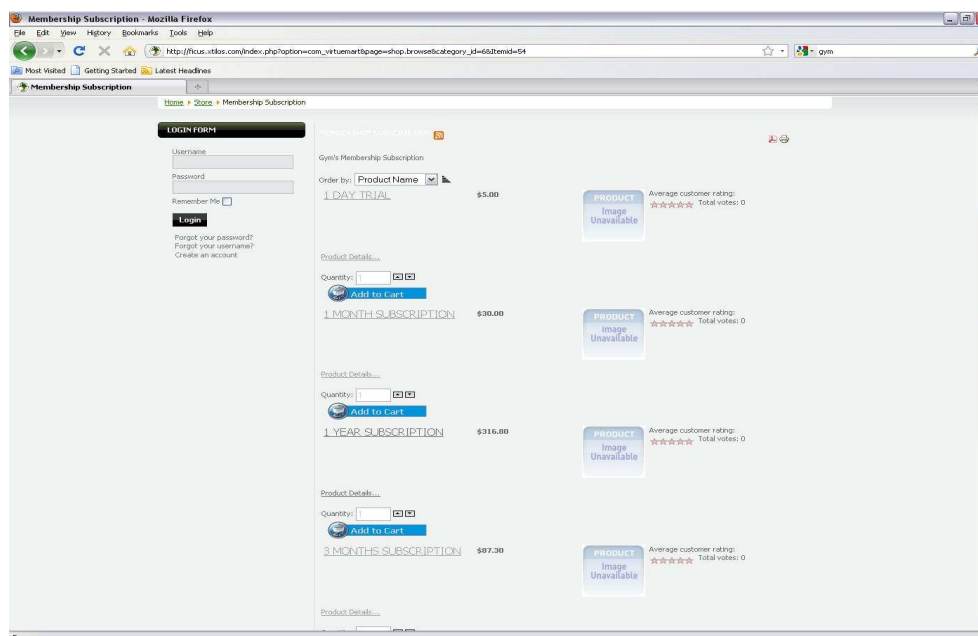
Figure 6.18 Guest Subscriptions interface

Figure 6.21 shows the forum interface. Guests can only view forum posts or information. They can print forum posts or information.
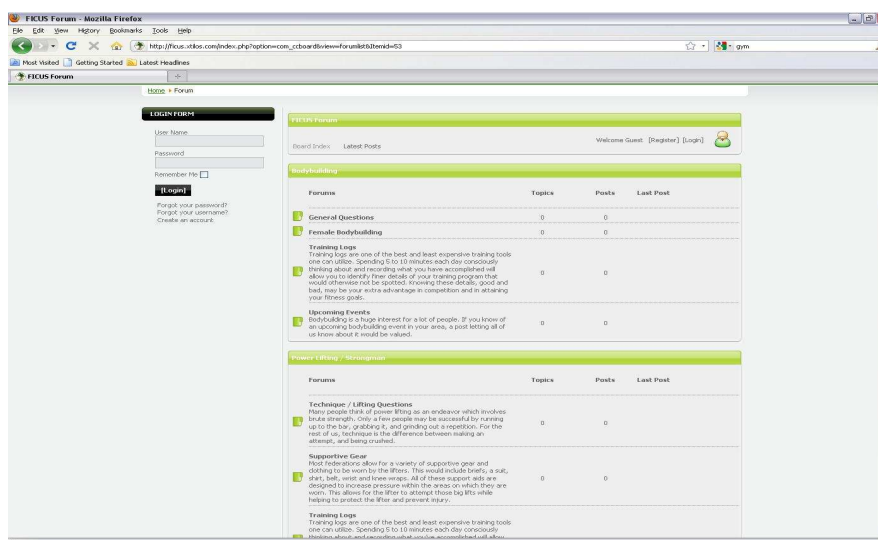
Figure 6.19 Guest Forum interface

6.3   Report Formats

Hardware Interfaces

For customers, FICUS doesn't require any hardware interface other than the standard computer components (keyboard, mouse and monitor) and a connection to the internet. For L.O. Classic Gym, initially FICUS will run from an external web server. On the future, the gym will need a server installed on-site and media equipment as computers, for customers browsing from the gym, and audio/video capture device for Live Streaming options on the future. This will also require network hardware as switches and network cables, depending on the structure.

Software Interfaces

FICUS requires that the user have installed on his computer a Web Browser. Web Browsers let users browse Internet pages, such as FICUS. It decodes the programming language for Web Application and show the content on it. There exist many web browsers. The following table (**Table 6.1**) describes the most used web browsers and where to download them:

Table 6.1 Software Interfaces based on the most frequently used web browsers

Name	Mnemonic	Latest Version	Source
Windows Internet Explorer	IE	8.0 (2009)	Microsoft Corporation http://www.microsoft.com/windows/internet-explorer/default.aspx
Mozilla Firefox	FFOX	3.5.3 (2009)	Mozilla Corporation http://www.mozilla.com/en-US/firefox/personal.html
Camino	CAM	1.6.9 (2009)	The Camino Project http://www.caminobrowser.org/
Google Chrome	CHR	3.0.195.20	Google http://www.google.com/chrome

Name	Mnemonic	Latest Version	Source
		(2009)	
Safari	SAF	4.0.3 (2009)	Apple Inc. http://www.apple.com/safari/
Opera	OPE	10.00 (2009)	Opera Software ASA http://www.opera.com/

Communications Interfaces

The application will use the user's computer communication interface to connect to the Internet. It can communicate with the system through their Wireless Area Network (WLAN), Local Area Network (LAN), Dial-Up or any other Internet Service Provider (ISP). FICUS users will need Internet connection.

FICUS will be working and depending on Open Source software; Joomla, MySQL, APACHE and Linux. Joomla will run additional software called extensions that are also Open Source running on the GNU General Public License (GPL). As we are working on open sourced software most of them aren't as developed as proprietary software. If client requires a specific function that the software in used doesn't have, it might have to be program from scratch or ordered to proprietary software.

4.1 Software System Attributes

4.1.1 Reliability

At the time of delivery the software will be completed. It will provide a powerful tool for any gym. The gym will provide a new kind of experience to its present and future clients. By the time of delivery it will be tested in various ways to test its reliability. It will be tested on bandwidth, user capabilities, user content, speed, and the amount of information it can handle.

4.1.2 Availability

The system will be available twenty four hours, the seven days of the week (24/7). Gym managers will need to host its site on a very reliable server. We will recommend before the time of delivery very different choices and decide with the client which one is the best for the business. Most of these hosting companies have support 24/7 therefore the site will be running always, except on scheduled maintenance. The support for the gym's site will be available only in the gym's working hours.

4.1.3 Security

The software will handle some delicate information; therefore, its security is one the biggest priority. All delicate information of the user is encrypted in the database. By delicate information we mean user password, credit card, etc. Joomla is tested every day for every security hole and on the system maintenance the software will be contently updated as necessary. Also the server where the system is hosted might need to be secured, at this moment most of the hosting companies provide a very good security for its clients. Guests will require registering to access most of the site; we require registration for the site security and surveillance.

4.1.4 Maintainability

The client might need to contract a person to manage the website, when the five (5) years support contract finish, JJFN Group will provide constant support and maintenance as needed. The back-end interface is user friendly and documentation will be provided to the client at the time of delivery.

4.1.5 Portability

FICUS will be running 24/7 on the web, and can be accessed by any operating system that has a web browser and internet connection. Users will only need their username, and password to access, from any computer, the application. Therefore, portability of this WebApp is worldwide, through the Internet.

4.2 Performance

On this software is highly efficient. With a fast internet connection and a modern computer, the page will display in, approximately, three (3) seconds. The page can be seen by as many

users as the server support at a time, from hundred and fifty (150) through two-hundred and fifty (250).

7.   Requirements Matrix

Entity tables create relations which unify the database on a complete systems. Dut to L.O. Classic Gym and FICUS specifics requirement, it is understand that Customer relates to Account, Account relates to Forum, while Courses are related to Account though Subscriptions. The following table, **Table 7.1**, describes relations between FICUS database entities.

Table 7.1 Describe Database Entity Relations

	Customer	Account	Subscriptions	Courses	Forum
Customer		Specify by			
Account	Specifies		Subscriber		Login
Subscriptions		Subscriber		Subscribe to	
Courses			Subscribe to	Subscribes	
Forum		**Login**			

4.2.1 Phase 3 (ERD First Draft)
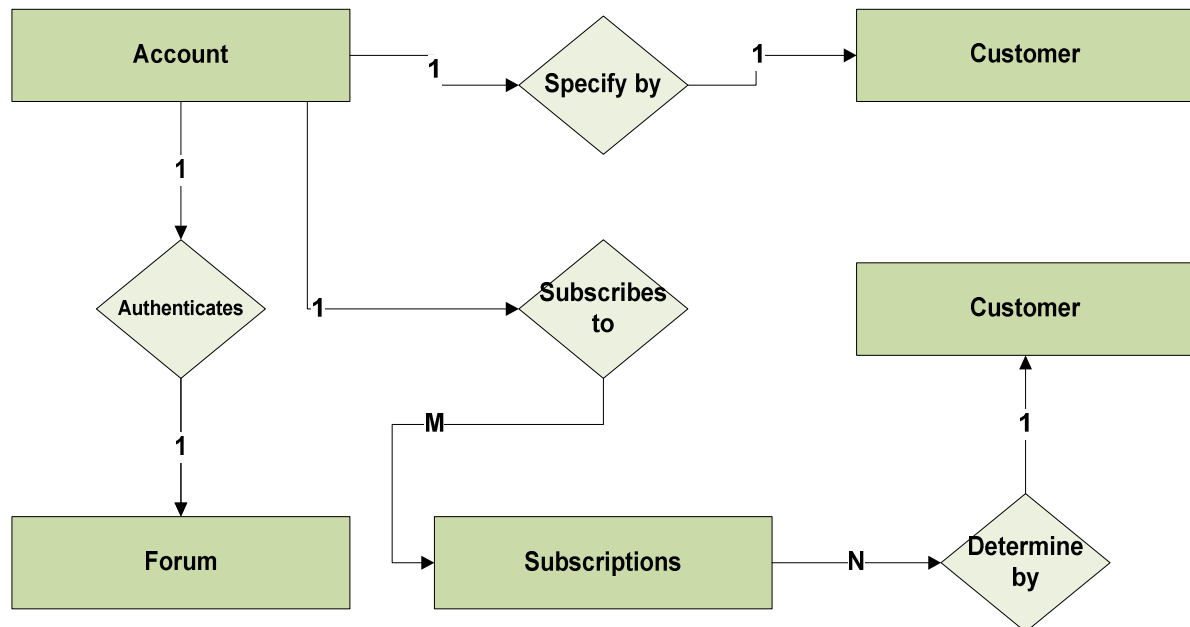
Figure 3.0.200 ERD First Draft, which shows relations between entities

9. Definitions, Acronyms, and Abbreviations

The following tables define present different definitions (**Table 9.1**), acronyms (**Table 9.2**), and abbreviations (**Table 9.3**) used in this SRS. **Table 9.1** describes the definition of words that can be confusing or new. **Table 9.2** describes the acronyms and what it stands for. Finally, **Table 9.3** describes the abbreviations and what do they mean.

Table 9.1 Definitions

Word	Definition
System	Any software and peripheral devices that are necessary to make the computer function.
Web Application (WebApp)	An application accessed via a web browser over a network such as the Internet. It is also a computer software application that is coded in a browser-supported language (such as HTML, JavaScript, etc.) and reliant on a common web browser to render the application executable.
Use Case	Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases.
User Account	Identifies the WebApp users, such as gym's customers, and WebApp administrators, by a username. It is required to authenticate the user with a password for security logging access to its account.
Interface	Separates the methods of external communication from internal operation, and allows it to be internally modified without affecting

Word	Definition
	the way outside entities interact with it.
Constraint	Impose conditions that the variables must satisfy.
Function	A programming paradigm that treats computation as the evaluation of mathematical functions and avoids state and mutable data.
Operation	Data processing in which the result is completely specified by a rule.
Software	A general term used to describe the role that computer programs, procedures and documentation play in a computer system.
Database	An integrated collection of logically related records or files which consolidates records into a common pool of data records that provides data for many applications.
Hardware	The physical components of a computer system.
Attribute	Define key properties of the application.
Solution	Synonym of application or software.
Forum	An online discussion site.
Login	The process used in a system to control the individual access to the resources in a system.
Website	A collection of related web pages, images, videos or other digital assets that are addressed with a common domain name or IP address in an Internet Protocol-based network.
Browse	Navigation of objects.
ccBoard	Joomla forum service.

Word	Definition
Internet	A global system of interconnected computer networks that use the standardized Internet Protocol Suite, serving billions of users worldwide.
News Feed	A data format used for providing users with frequently updated content.
Registry	Manages the registration of top-level internet domain names.
Web Browser	A software application for retrieving, presenting, and traversing information resources on the World Wide Web.
Server	Any combination of hardware or software designed to provide services to clients.
Username	A name used to gain access to a computer system.
Password	A secret word or string of characters that is used for authentication, to prove identity or gain access to a resource.
E-business	The utilization of information and communication technologies (ICT) in support of all the activities of business.
E-mail	A method of exchanging digital messages.
Decode	The reverse of encoding, which is the process of transforming information from one format into another.
Programming Language	An artificial language designed to express computations that can be performed by a machine, particularly a computer.
Wireless Area Network	That links two or more computers or devices using spread-spectrum or OFDM modulation technology based to enable communication between devices in a limited area.

Word	Definition
Local Area Network	A computer network covering a small physical area, like a home, office, or small group of buildings, such as a school, or an airport.
Dial-Up	Form of Internet access via telephone lines.
Access Level	Permissions and the use of certain features given to certain users.
Upload	To send data as being copied and compiled to create a complete file.
Profile	A collection of personal data associated to a specific user.
Ban	Decree that prohibits the registered user for accessing the web content.
Bandwidth	A measure of available or consumed data communication resources expressed in bit/s or multiples of it (kbit/s, Mbit/s etc).
Hack	Modification of a program or device to give the user access to features that was otherwise unavailable.
Hidden Field Manipulation	One of the most common hacking practices occurring against several e-commerce websites today.
Parameter Tempering	Attack based on the manipulation of parameters exchanged between client and server in order to modify application data, such as user credentials and permissions, price and quantity of products, etc.
Cookie Poisoning	Modifying the value of cookies before sending them back to the server.
Module	A software design technique that increases the extent to which software is composed from separate parts.

Word	Definition
Video Feed	A regularly updated summary of videos as web content, along with links to full versions of that content.
Plug-in	A computer program that interacts with a host application (a web browser) to provide a certain, usually very specific, function "on demand".
Apache Server	A web server notable for playing a key role in the initial growth of the World Wide Web.
Linux	A generic term referring to Unix-like computer operating systems based on the Linux kernel.
MySQL	A relational database management system (RDBMS) which has more than 6 million installations.
Joomla	A content management system platform for publishing content on the World Wide Web and intranets as well as a Model–view–controller (MVC) Web Application Development framework.
Security Certificate	Creates a secure connection between a client and a server, over which any amount of data can be sent securely.
Social Network	A social structure made of individuals who are connected by one or more specific types of interdependency, such as friendship, kinship, financial exchange, dislike, sexual relationships, or relationships of beliefs, knowledge or prestige.
Add-On	An optional computer software component that significantly enhances the functionality of the original unit

Table 9.2 Acronyms

Acronym	Definition
FICUS	Fast Innovation for Commerce Unified Systems
JJFN Group	Name of company founders and CEO: José Lecumberry, José Torres, Francis Hayes, Norberto Reyes
SRS	Software Requirement Specifications
WWW	World Wide Web
ISP	Internet Service Provider
URL	Uniform Resource Locator
WLAN	Wireless Local Area Network
LAN	Local Area Network
B2B	Business-to-Business
WAS	Web Application Security
LAMP	Linux, Apache, MySQL, PHP
HTTP	Hypertext Transfer Protocol
SQL	Structured Query Language
CMS	Content Management System

Table 9.3 Abbreviations

Abbreviations	Word
WebApp	Web Application
E-Business	Electronic Business
E-Mail	Electronic Mail