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FACULTY OF APPLIED SCIENCE ENGINEERING

SCHOOL OF COMPUTER SYSTEMS ENGINEERING

SCIENTIFIC ARTICLE ENGLISH

Topic:

DESIGN AND DEVELOPMENT OF A WEB PORTAL FOR THE PROMOTION OF GOODS AND TOURIST SITES FOR THE COMPANY IMBABURA "INFORSOFT".

Application:

IMPLEMENTATION OF WEB PORTAL "ibarraestodo.com" INFORSOFT BY COMPANY FOR PLATFORM "LAMP" And Jommla.

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Summary: This project involves the implementation of a web portal on the company INFORSOFT using LAMP technology development and JOOMLA, through which to organize information, expedite communication and data transfer in order to integrate site within a set of services that provides a web portal, such as email, instant messaging, data transfer, forums, discussions, deals, business, shopping, sales and list of meetings between user groups; thus integrating all information into a manageable Web Portal and Personal Websites.

indexed terms*: LAMP, JOOMLA.*

I.   INTRODUCTION

The study and implementation of this project allows to develop a new alternative to manage the information of the company "Inforsoft" of the city of Ibarra, since that today with the great growth that have had systems, technologies of information and communications technology (ICT) as well as the Internet, is extremely important to find viable solution alternatives to the myriad of problems that arise every day regarding the integration and management of information.

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The objective of this project is the implementation of a web site in-house INFORSOFT using the technology of LAMP and JOOMLA development, through which you can organize information, expedite the communication and data transfer in order to integrate within the same place the set of services that provides a web portal, such as: e-mail, instant messaging, transfer of data, forums, discussions, best, business, shopping, sales and list of meetings between groups of users; integrating in this way all the information in a Web Portal and Web sites personal manageable.

An important part within the web portals is the management and administration of users, databases etc, which keep the information fresh and always at the disposal of the users who require it, in addition to networking with all the global network and be connected from anywhere in the world, only to enter our site, according to the privileges assigned to each user typeto manipulate the information contained in this website.

II.   CONCEPTS BASIC

A. Joomla

Is a content management system or CMS (for its acronym in English, Content Management System) that allows you to develop dynamic and interactive websites. It allows you to create, modify, or remove content from a web site through an Administration Panel. It is a software of open code developed in PHP and released under GPL license. This content manager can be used on a local computer (Localhost), on an Intranet or over the Internet and for its operation requires a database created by a database management system (MySQL is the most common), as well as an Apache HTTP server.His name is a phonetic pronunciation for English-speaking the word swahili *jumla*, which means "all together" or "as a whole". It was chosen as a reflection of

the commitment of the Group of developers and the community of the project.

A.   LAMP

- **LAMP is an acronym used to describe a system of internet infrastructure that uses the following tools:**

- Linux , the operating system; In some cases also referred to LDAP
- Apache, the Web server; MySQL / MariaDB, the database manager;
- Perl, PHP, or Python programming languages

The combination of these technologies is used primarily to define to web server infrastructure, using a programming paradigm for development. Although the origin of these open source programs not specifically designed to work together, the combination became popular because of their low cost and Ubiquity of its components (pre- come as they installed on most linux distributions). When combined, represent a set of solutions that support application servers.

B.   WEB

In computers, the World Wide Web (WWW) or global computer network commonly known as the Web, is a system of distribution of hypertext or hypermedia documents interconnected and accessible via Internet.With Web browser, a user views Web sites made up of web pages that can contain text, images, video or other multimedia content, and browse through the pages by using hyperlinks.

C.   HTML

HTML, Hyper Text Mark-up Language (Hypertext Markup Language) is the markup language of text normally used on the www

(World Wide Web). It was created in 1986 by the nuclear physicist Tim Berners-Lee; which took two pre-existing tools: the concept of hypertext (also known as link or anchor), which allows you to connect two elements between if and the SGML (standard General marking language) which serves to place labels or markings on a text that indicates how it should be. It is a system for defining language for formatting documents (markup languages).

D.   Computer security

Computer security generally is to ensure that the resources of the information system (hardware or software) of an organization so that they are used in the way that it was decided and that the information which is considered important is not easy to access by anyone who is not accredited.

We can understand as security a State of any system (computer or otherwise) that indicates that the system is free of danger, harm or risk. He is understood as danger or damage everything that may affect its direct operation, or the results obtained from the same. For the majority of the experts the concept of security in computing is utopian because there is not a 100% secure system. So that a system can be defined as a safe we must equip four characteristics to it.

E.   Banner

It is most commonly used in Internet advertising action. It has a great potential as a branding tool. In addition to promoting a product or a company, they serve as a gateway to the Web site of the advertiser. It tends to appear on the web pages as an ad that links to another Web Site, so click on the link to the website of the advertiser. This usually take between 10 and 15 KBbs established Gif.

Fig. 2 Banner

F.   Pop up Windows

(Floating Windows):Increase the notoriety by appearing in a new browser. Access to the web, a microsite or window is opened unless it is requested by the user and can be closed at any time, you can include a link to the page of the   advertiser. The problem lies in the slow navigation. Its main drawback is that it is very annoying, but on the other hand has the advantage that draws attention and is discharged faster than the page. It can be or not animated.

Fig. 2 Pop up windows

G.   *Intersticial*

They are windows that open when a user is downloading a web site. It is a type of ads on the web that appear on the page, especially between "content" pages. Normally, the interstitial are not conceived so that clicking on them can be (or are not linked to the page that you would expect to find), but incorporated, on the subsequent page, another similar, smaller ad that allows you to get more information about the product of the advertiser. It attempts to recreate the TV spot on the Internet. faced with the problem of slowness. They can be seen by the user as too intrusive**.**

Fig. 3 Intersticial

H.   *Shop Windows*

Set of image and text, where one of the two or both are clickable. They are located in the shopping sections of the sites that have them, such as portals. They receive the impressions of the site where they are. They serve for sales offers

Fig. 4 Shop windows

I.   Newsletter

Possibility of newsletters that subscribing will receive an email with advertising. In this way you are aware of the advertising you receive so that it is not intrusive.

Fig. 5 newsletter

J. *Advertising via e-mail*

There are several types of advertising via e-mail, some very similar to what is the direct marketing (with the difference that is done via e-mail). They offer the option to receive the newsletter of the site that has signed up.
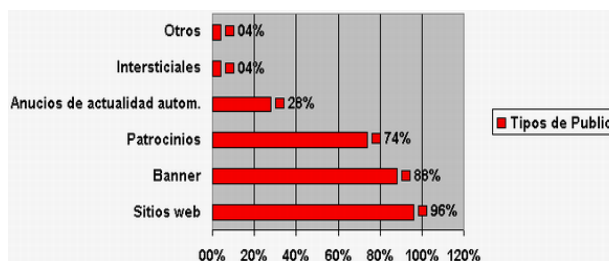

Fig. 6 Advertisingvia email

K. e-commerce

In general refers to "e-commerce" or "e-commerce" any form of commercial transaction where the interacting parties making use of the network instead of the Exchange or physical contact direct. "e-commerce" integrates the entire trade process: consultation, quotation, demonstration, proposals, sales, the Serbs (inside including academics) and a number of operations that are executed in real time.

Transparency, speed, reducing the costs of transactions and "online" communication with participants from the commercial circuit of the company, are some of the advantages that companies can be found in e-commerce.

L. *CMS*

Creation of unlimited pages using the Administration Panel. Fully editable and changeable in news, products, FAQ and service sections, links. Editable navigation (can create the menu or navigation bar on taste). Image Explorer to upload them to the server and use them throughout the site. Fully editable visual interfaces: the position of modules may be set as preferred. Surveys / polls dynamic

News (***RSS*** feeds)

Iclusion of advertising on the site using the banner Manager *Statistics of visits* site with information about browsers, operating systems, news and most viewed articles

N. *Phishing*
- This is an example of an attempt at phishing, posing as an official email, try to trick customers of the Bank to give information about your account with a link to the page of the phisher.
- Phishing is a computer term called a type of crime that are framed within the scope of the fraud, and that is committed through the use of a type of social engineering, characterized by trying to acquire confidential information in a fraudulent manner (such as a password or detailed information on credit cards or other banking information). The scammer, known as phishers, pretends to be a person or company's confidence in an apparent electronic official communication, usually via email, or any instant messaging system or even using phone calls also.

M. *Encriptación*

Is the set of techniques that attempt to make information inaccessible to unauthorized persons. Encryption is usually based on a key, without which the information can not be decoded. Internet is practically an open door, over which no entity has a control on what publish or not, but if it is possible to monitor from the place the users connect to the network, how often do, even achieve seize some information. Naturally, as users are afraid because of the danger by sending your personal data, falling into the hands of a stranger or so-called hackers, however, a secure server ensures that information protected reach its destination, through a process of encryption.

Our information is encrypted from the moment when you press the "send" button, fill out a purchase form, and our computer is responsible for encrypting and "hide" data. All data that you scan is encoded in binary, i.e. in zeros and ones.

N. *Criptografía*

Is the science which is the masking of the communication so that is only intelligible to the person who has the key, or method to find out the hidden meaning, using the Cryptanalysis of a seemingly incoherent text. In its broadest sense, cryptography includes the use of covert messages, codes and numbers. The word Cryptography is sometimes limited to the use of figures, i.e. methods to transpose the letters of messages (not encrypted) normal or methods that involve the substitution of other letters or symbols by the original letters of the message, as well as different combinations of such methods, all of them in accordance with predetermined systems. There are different types of figures, but all of them can fit into one of the two following categories: transposition and substitution.

O. *Los Hackers*

They are very advanced users that are able to overcome certain protective measures for its high level of technical knowledge. Their motivation ranges from industrial espionage to mere personal challenge.

Internet, with its great facilities of connectivity, enables expert users trying to remote access to any connected machine, anonymously. Corporate networks or computers with sensitive data are usually not connected to the Internet; in the event that this connection is essential, so-called firewalls, used a computer located between computers in a corporate network and the Internet. The firewall prevents unauthorized users access to computers on a network, and guarantees that the information received from an external source does not contain virus.

P. *Architecture LAMP*

A LAMP architecture elements will then be detailed:

· Web/DNS client: Web browser.

· DNS server: Converter names to IP's.

· Web server: Storage and processor of Web information. Apache in our case.

· PHP module: module for apache which allows to process files written in the PHP language. For example: PHP5

· Application LAMP: A set of PHP files that comprise a Web application. For example: PhpMyAdmin

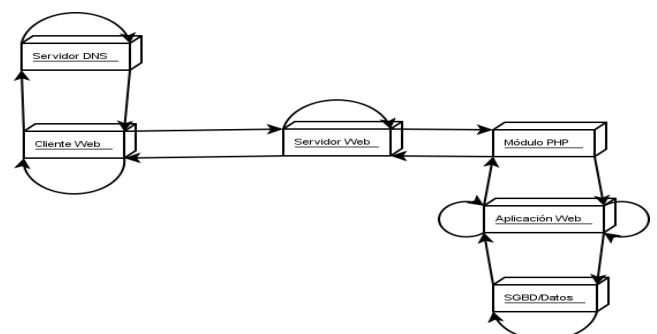DBMS: Management system database that will store the information dynamically. In our case Mysql.

Fig. 7 Request LAMP

Q. *PHP*

PHP (an acronym for "PHP: Hypertext Preprocessor") is a language interpreted high-level embedded in HTML pages and executed on the server, which is oriented to the development of web applications. The characteristics of this language are:

·   Simple and comfortable, similar to C, C++, and Java syntax language.

·   Object-oriented.

·   It is interpreted, although it is very fast to be integrated with Apache.

·   It uses its own resource management system and offers a sophisticated method of management of variables, forming a robust and stable system.

·   Multiplatform since version 4.0.

·   You can create vector graphics and animations with very little expenditure of server bandwidth.

·   It provides different levels of security, control of sessions, users, etc. Access to lots of database management: MySQL, ODBC, Oracle, DB2, dbm, adabas, Informix, Microsoft SQL Server, dBase, MS Access, etc.

·   Support IMAP, SMTP, FTP, SNMP, XML, NNTP, Macromedia Flash interfaces and dynamic generation of PDF documents and graphics.
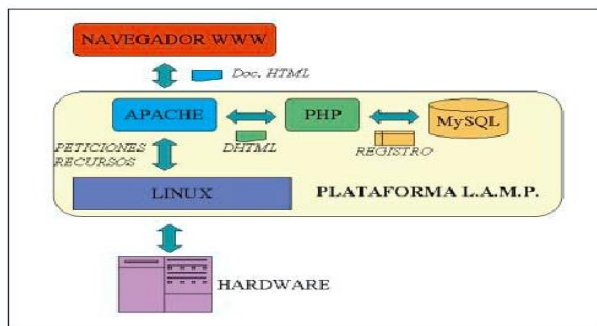

Fig. 8 Architecture LAMP

I.   ARHITECTURE HARDWARE

The implementation of the portal requires the following elements

1. data server: located on the premises of the Town Hall network. It is responsible for collecting information from existing databases and management applications. This selection of data is done in a MySQL database, which will be which is published through the portal.

Web server: This server are installed all the components necessary to provide the information via the Internet: Linux, Apache, and PHP. This server can be found both at City Hall and in a company that provides the service of hosting, in which case it would need database access through the medium that has the entity for Internet access: ADSL, ISDN or PSTN.
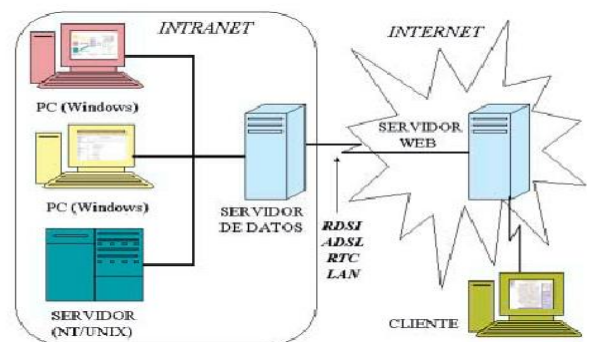

Fig. 9 Architecture Hardware

II.   ARCHITECTURE SOFTWARE

The software architecture consists of the elements that appear in Fig.

1 proprietary databases: are the databases that have the applications already installed. Information that will be posted on the portal will be extracted from them. By the structure of the system, to these databases they will not access any of the users of the portal, thus guaranteeing the security of the data.

These databases are located on different servers or personal computers on the Intranet.

2 data collector: is the part of the system responsible for collecting, filtering and update

information from proprietary databases and bring them to the public database.

3 public database: is the database which concentrates the information of different departments and negotiated, and citizens will have access to it. It is a MySQL database and is located in the Linux server on the Intranet.

4. Web portal: Handles the presentation of information from the public database, thanks to Apache and PHP. Your code is located on the Linux server, which acts as a web server.

Fig. 10 Architecure Software

III.   EXTENSIONS DE JOOMLA

Joomla! It does a great job managing the content needed to run a web site. But for many people, the true potential of Joomla! It lies in the architecture of the application, enabling thousands of developers in the world to create powerful Add-ons and extensions. Below are some examples of the hundreds of available extensions:

· Dynamic forms generators
· Directories of companies or organizations
· Document managers
· Multimedia image galleries
· Engines of Commerce and electronic sale
· Forums and chat software
· Calendars
· Software for Blogs
· Directory services
· Newsletters
· Data logging tools

· Publication of ads systems
· Subscription services

.. .and many, many more

IV.   JOOMLA

Extensions

Joomla content management system! allows you to create web pages of various types using extensions. There are five basic types of extensions: components, modules, templates, languages and plugins. His web site includes the extensions you need to create a basic website in English, but thousands of additional extensions of all types are available. The Joomla extensions directory! is the largest of extensions for Joomla!.

Components

The components are larger extensions that produce the main content of your site. Each component has one or more "views" that control how the content is displayed.In the administrator of Joomla! There are no additional extensions such as menus, redirects and the managers of extensions.

Modules

Modules are small blocks of content that can be displayed on a web page positions. Sitemap menus are shown in the modules. The core of Joomla! includes 17 independent modules ranging from access to the search of random images. Each module has a name that begins mod_ but when shown has a title. In the descriptions in this section, the titles are the same as names.
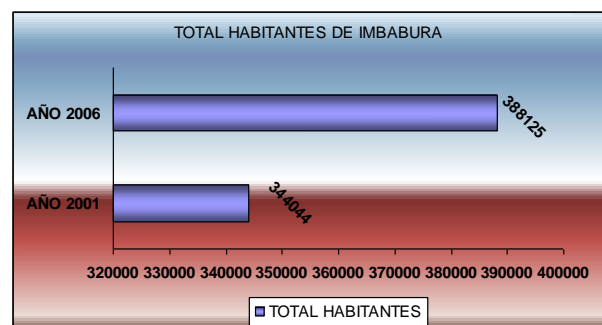

Fig. 11 total inhabitants of Imbabura

Content modules

Content modules show the article and other information of the component's content.

User modules

Modules user interacting with the system of the user, allowing users to access, show who is connected, and show the most recently registered users.

Show modules

These modules are other components of content and user information. These include links, news sources, and the multimedia Manager.

Utility modules

The utility of modules provides a good functionality, such as search, syndication and statistics.

Templates

Templates give a look to your website. These determine the design, colors, fonts, graphics, and other aspects of the design that make your website unique. The installation of Joomla! it comes with four templates previously packaged.

Plugins

Plugins are small extensions oriented improve tasks in the framework of Joomla!. Some are associated with extensions in particular and others, such as editors, are used in all of Joomla!. Most novice users do not need to change none of the plugins that are installed with Joomla!.
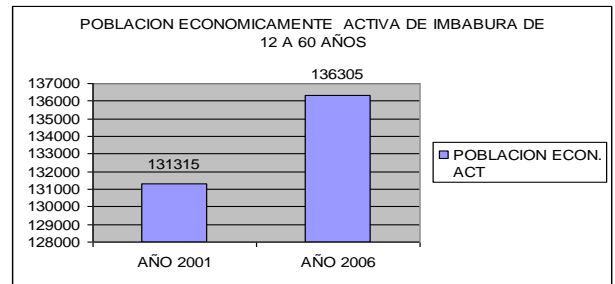
V.   *Total inhabitants of Imbabura in years 2001 and 2006.*

VI.   *POPULATION ECONOMICALLY ACTIVE OF IMBABAURA FROM 12 TO 60 YEARS AÑOS*

Fig. 12 Population economically Active

VII.   *Population from cantons of Imbabura in year 2001 (actuals) and 2006 (projections)*

CANTONES	AÑO 2001	AÑO 2006
Ibarra	155852	174165
Otavalo	90140	109069
Cotacachi	36469	38292
Atuntaqui	35092	39304
Urcuqui	14106	14388
Pimampiro	12386	13376
Total Imbabura	**344044**	**388593**

Fig. 13 Population cantons of Imbabura

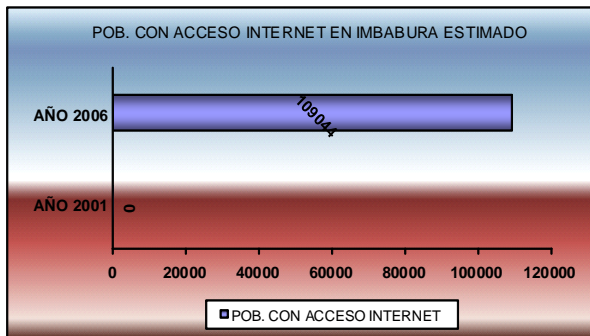## VIII. *Population with access to internet in Imbabura total year 2006*

Fig. 15 Population with internet access

IX. *WEB PORTAL design*

In the design of the Web Portal is intended to have contents that generate attention in 5 groups called City, news, entertainment, events and directory, whereas all phases that are required for the execution and implementation of the software.
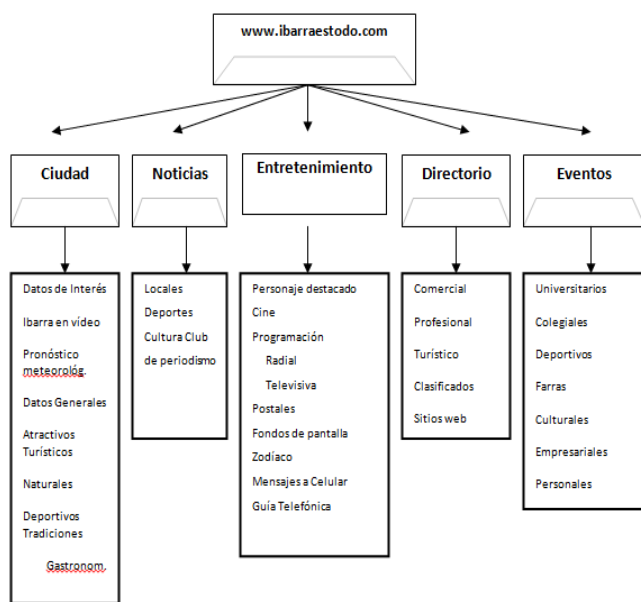

Fig. 16 The site diagram

X. CONCLUSIONS

The creation of the business Web page for the company "Inforsoft" is of great importance that through the same allows users such as browsers on the network know offers, sales, customers, and other services that the company has.

Through this Web site company may be known worldwide at the gran via of communication around the world as it is the Internet getting significant and important benefits for the same.

Through the process of design and development of the Web portal has learned how to use different programs and tools that had great demand to consider a modest work but with much visual information and satisfy the user.

It is concluded that the study in the field of media on the Internet is fundamental to understanding the development of the network of networks and as users interact with it. Together with this, it is vital to recognize the place that they occupy the media within the Internet, both in its role as Communicator at the company linked to the Web.

XI. RECOMENDATIONS

Once we have built the Web site have to do that this is known by all the means that are at our disposal, to attract visitors to the site and, when less, be proud that this is popular on the network.

To achieve this, we must promote the site properly, so that your address listed in the largest number of sites.

To make our website success within the network we should follow some recommendations such as the following:

Can send emails announcing the implementation of our website the network.

Register Web site in the search engines like Google, Altavista. Yahoo, etc.

Include the address in the letterhead of the role of the company.

Announce the site's electronic address on television, several examples.

After a website has already been time online we can make visitors return to it using additional techniques such as lists mail which inform users of the latest news and offers.

Our work to promote the site won't be the only thing that will attract visitors, we must also keep the site with a good presence, be fast and have good content. In other words, with the same promotion, a good Web site attracts more visits, something very logical.

XII.   AWARDS

Expressed a special recognition to the College of engineering in applied sciences (FICA) University technique of the North, its authorities; through the opening provided to develop this project.

REFERENCES

(1) **ARENS, William.** Advertising. Mc Graw Hill, seventh edition. Edition 2002.

2) **ARESE, Hector happy.** Trade and International marketing Editorial Norma, Colombia , 1999.

3) **ASPATORE, Jonathan R.** A day in e-commerce, Editorial Mc Graw Hill, Mexico, 2001.

4) **BELTRAN, Joseph.** International marketing Advanced, Editorial Mc Graw Hill, Spain , 1997.

5) **Margo KOMENAR,.** E-marketing, John Wiley and Sons, Inc, New York, 1997

6)   **KOTLER,   Philip.** Marketing Management.Pearson Education, Millennium Edition, 2001.

7) **LAMBIN, Jean Jacques.** Strategic Marketing, Second Edition, Publisher McGraw Hill, Mexico District Federal 1992.

8) **RODRIGUEZ, immaculate.** Marketing.Com and electronic commerce within the information society. 1st Edition. 2002

9) **STAPLETON, J.** How to prepare a Marketing Plan, Editorial Deusto, Bilbao, 1992.

10) **TAPSCOTT, Don.** The age of the Business Electronic, Editorial Mc Graw Hill, Colombia, 2000.

11) Concepts Basic of web pages.

http://www.informaticamilenium.com.mx/paginas/espanol/preguntas/concepto.htm

http://manuales.dgsca.unam.mx/webdina/concepto.htm

http://www.gestiopolis.com/canales5/comerciohispano/73.htm.

12) Benefits of the Internet

http://www.entraenlared.com/estadisticas/estadisticas_noticias6.asp

http://es.wikipedia.org/wiki/Publicidad_online

13) Strategies marketing

http://www.marketing-en-linea.com/

http://www.mercadeo-en-linea.com/noticias.htm

http://www.mercadeo-en-linea.com/noticias.htm

14) E-commerce

http://www.e-global.es/

http://www.iec.csic.es/CRIPTonOMICon/comercio/

http://www.corpece.org.ec/

http://es.wikipedia.org/wiki/E-business

15) Security portals

http://internetng.dit.upm.es/ponencias-jing/2004/seguridad-en-web.pdf

http://www.wikilearning.com/seguridad_en_paginas_web-wkccp-3443-18.htm

http://webmasters.navegalis.com/articulos/mostrar/18/

16) JOOMLA "Discover the most powerful generator of Online content that will allow you to expose your ideas, information, or products on the Internet, in a matter of hours".

Author: Juan Antonio Trevejo Alonso. www.joomlaparatodos.net Contribution of texts (co-author): Gonzalo. J. Reynoso www.joomlaos.net

17) LAMP architecture elements

http://www.ibiblio.org/pub/linux/docs/LuCaS/Manuales-LuCAS/doc-curso-salamanca-LAMP/lamp-teoria-html/ch02s04.html

http://www.ibiblio.org/pub/linux/docs/LuCaS/Manuales-LuCAS/doc-curso-salamanca-LAMP/lamp-teoria-html/ch02s04.html

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ING. PEDRO GRANDA

In its 23 years, has consistently been linked with the social and productive environment in the province, region and country, more than 70% of small, medium-sized and large enterprises; public and private, of the province, have received our graduates as elements of advice and support to the management of the same. Companies of national and international coverage, both hardware, software and communications, have put special interest in professional and humanistic training that includes our curriculum project, observations and recommendations that have significantly influenced its content, which changes and is renewed periodically.

José E. Vargas V.

He was born in Quito-Pichincha-Ecuador, on February 15, 1975. Did his primary studies at school Manuel Villavicencio and his secondary studies at the Vicente Fierro "tulcan" technical college, he obtained the degree of Bachelor of technician Industrial mechanic currently is a graduate in information networks at the Pontificia Universidad Católica of the Ecuador headquarters Ibarra, and graduated at the Faculty of engineering in systems computing of the University technical North.