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TOPIC:

"DEVELOPMENT OF A WEB PORTAL USING THE FRAMEWORK LARAVEL AND BOOTSTRAP FOR THE TOURISM DISSEMINATION OF THE FABRICIO'S HOSTERY IN THE PARISH OF AMBUQUÍ"

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DEVELOPMENT OF A WEB PORTAL USING THE FRAMEWORK LARAVEL AND BOOTSTRAP FOR THE TOURISM DISSEMINATION OF THE FABRICIO'S HOSTERY IN THE PARISH OF AMBUQUÍ

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Abstract. *New technologies, together with the Internet and information, created a new possibility to advertise and disseminate to companies or institutions through websites. In reality, the Internet is changing the way companies function, as well as how people work because of the fundamental role that information plays.*

One of the problems in tourist sites is the lack of a means of tourist diffusion, which makes it difficult for it to be recognized and therefore does not allow it to excel economically; As well as the way in which the information is handled that is received and is issued, giving a regular service to the clients.

The purpose of this research is to develop a web portal that allows the Inn Fabricio's to spread tourism, as well as to help in the processing of the information of the services that they provide, making use of the Laravel framework that is written in PHP language and Bootstrap that serves to couple To any device.

Keywords

Diffusion, Laravel, Bootstrap, Technologies, Internet, Website, Inn.

1. Introduction

At present, tourism is part of the "first economic sector at a global level, with 12 percent of the world's Gross National Product estimated to be generated by tourist activities" (Antoni, 2013, p.27).

In Ecuador, Imbabura province, Ibarra canton, Ambuquí parish, is the Fabricio's Hosteria, legally constituted tourist site, meets all the norms and requirements necessary for its operation, is affiliated with the Chamber of Tourism of Imbabura (Zabala Arteaga, 2012).

With the perspective that the tourist activity constitutes an alternative of development, the hostel taking advantage of as opportunity the specialization or segmentation of tourism, offering new services among others. In this context the tourist sites are opting in the promotion and tourist diffusion for which it has adapted to the changes of the society of the knowledge betting by the new technologies of the communication and the information and, more specifically, by the digital communication As the most suitable platforms to present their tourism products to the world. Being also the main task of the software its tourist diffusion, automation in the manual processes and streamlining in the decision making on the part of its administration.

The massive use of intelligent devices to know and perform daily tasks (INEC, 2013) is a fundamental point for the realization of solutions that counteract the problem of tourist diffusion and process automation of the inn. It is also necessary to highlight the increase of people who access the internet and its tourism offers.

The continuous advancement of technology has allowed any website to be able to adapt to a device of low or high cost that are available to most low-middle-level people, speaking economically and making it vital for the education process (Alcázar Ponce, 2012)

The Laravel framework is written in PHP language and is open source, is oriented to the development of web applications, which in addition its components are based on other frameworks such as; Symfony, codeigniter. And due to its modularity, scalability, and robustness characteristics, it is among the main frameworks used by developers and requested by companies (Murthy, 2015).

The Bootstrap responsive desing framework is designed to quickly and easily build dynamic web sites and dynamic web applications, making the website adaptable to all mobile devices. Due to its system characteristics, HTML5 and CSS3 support, Bootstrap license and documentation, is one of the best layout frameworks used by developers and companies (Solis, 2014).

The integration of the frameworks Laravel and Bootstrap, is a combination that allows to develop projects of robustness, clean, intuitive and adaptable,

picks the best of each one and among the great advantages of this type of applications we can emncionar that they are developed with languages web; PHP, HTML5, CSS3 and Javascript, and can be distributed on web platforms; XAMPP (Surguy, 2013).

This research is based on the development of a web portal that is the starting point where a user can access any type of information; As well as the entrance to the different processes carried out by the inn. This would improve the increase of people visiting the hostel and the efficiency in the use of the services offered by this tourist site, would also achieve savings in resources of time, money and help improve in appearance with competition from other places Tourism that exists in the area, positioning the hostel among one of the first of excellence in service.

2. Materials and Methods

For the project development we used the NetBeans development environment with extensions for PHP support, and in parallel the Atom text processor with plugins for JavaScript language support, for the Bootstrap framework view and a base management system PostgreSQL data, each for coding the web system and adapting to the size of any device.

With these tools, the web portal has five modules, together with authentication, taking into account that in the area of content management can not create and delete their information (Colimba, 2016).
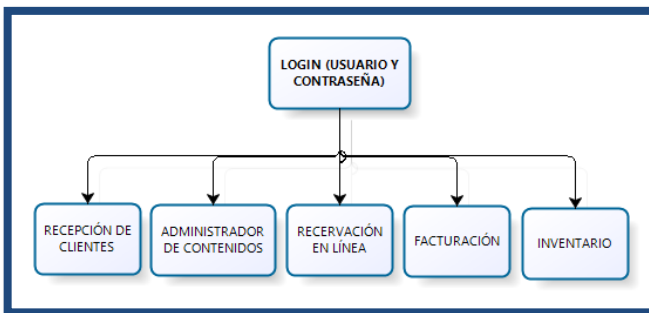

Figure 1: Fabricio's Hosteria Modules.
Source: (Colimba, 2016)

So it was developed with the integration of the Laravel and Bootstrap frameworks, which allowed the Fabricio's inn: increased visits by people, economic improvement, excellent services and accounting management. With this information the administration can make the best decisions for the inn.

The features of the tools used are: PHP 5.6.15, Laravel 5.1, PHP MCrypt Extension, PostgreSQL 9.5 Database, Apache Web Server 2.4.17, Composer and Bootstrap v3.3.6.

For the development of this system was used the development methodology XP. In the analysis phase of the methodology, the requirements were conceptualized

through user histories the following information was obtained:

The online reservations module was developed according to the receptionist's instructions, allows the user from anywhere in the world to book one or more services that the hotel provides, once the reservation has been sent, the customer must deposit and send a copy of the deposit That made, and the administrator confirmed that reservation.

The module of reception of clients, serves to carry an ordered information of the people who obtain services of the inn.

The content management module was made according to the request of the owner, with images and relevant information of the hostel.

The Billing module was made with the advice of the receptionist, according to the rules of the SRI, who issues the authorization to obtain the invoice and its parameters.

The inventory module was developed according to the data issued by the administrator, which describes the entry and exit of the articles of the hostel by means of a kárdex with the weighted average method.

(Colimba, 2016)

Historia de Usuario	
Número: 8	Usuario: Administrador, Recepcionista
Nombre historia: Control de entrada de productos en cualquier despensa de la hosteria.	
Prioridad en negocio: Media	Riesgo en desarrollo: Media
Puntos estimados: 1	Iteración asignada: 2
Programados responsable: Patricia Colimba	
Descripción: Dar de alta, y modificaciones a los registros de alimentos y materiales, existentes en una base de datos. Los datos sobre el manejo de Inventarios deben ser actualizada y disponible desde el sitio web de la empresa; según los privilegios de acceso respectivo que tenga el personal.	
Observaciones: El inventario se lo realizara para los servicios de restaurante y discoteca	

Figure 2: Example of user history for the inventory module.
Source: (Colimba, 2016)

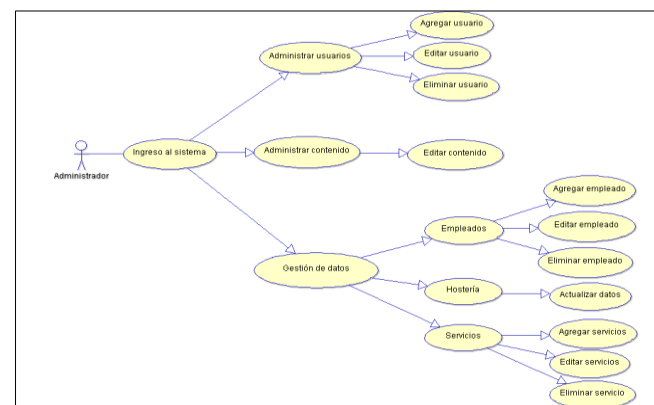After the analysis, the design phase included UML usage and artifacts such as use cases.

Figure 3: Example use case history for the admin user.
Source: (Colimba, 2016)

The coding phase allowed the client to know the iterations for the encoding of the user stories.

Nro.	Nombre	Estimación	Prioridad	Riesgo	Iteración asignada
H1	Acceso al portal web	2	Media	Media	I1
H2	Acceso y control al sistema	1	Alta	Media	I1
H3	Administración de usuarios	1	Alta	Media	I1
H4	Recepción de usuarios	1	Media	Alta	I2
H5	Reservación de servicios	1	Media	Media	I2
H6	Elaboración de facturas	1	Alta	Alta	I2
H7	Elaboración de informes	1	Media	Alta	I2
H8	Control de entrada de productos en cualquier despensa de la hosteria.	1	Media	Media	I2
H9	Control de salida de productos en cualquier despensa de la hosteria.	1	Media	Media	I2
H10	Publicación de información(datos, fotos y videos) de la empresa	1	Media	Alta	I2
H11	Envio y recepción de reservaciones	1	Media	Media	I2

Figure 4: Delivery plan of Fabricio's inn.
Source: (Colimba, 2016)

According to XP each iteration will have a deliverable in which the client will be able to interact with the system and if there is any inconvenience then correct it, for that it must take out the pertinent information, this is how the acceptance tests are used.

2.1 System Architecture

For the development of the web portal, it has been established to follow the architecture model MVC (Model Vista Controller), since it treats separately the data, the business logic, and the user interfaces; Thus achieving quality software.

To explain a little more about the MVC architecture pattern, we will explain each of its layers:

• Model. - It is that layer where all the data corresponding to the application work. It also manages all access and modification of information.

• Controller. - It has all the necessary code to respond to the requested actions of the application.

• View. - It presents the different user interfaces that will be used in the application. These are presented using Bootstrap using HTML5, CSS3, JavaScript / JQuery, in conjunction with Laravel PHP.
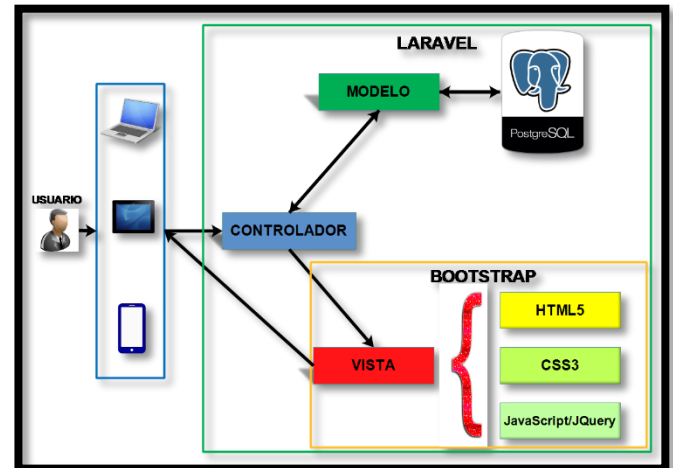

Figure 5: General architecture of the system ..
Source: (Colimba, 2016)

It is used as a XAMPP platform and PostgreSQL database, to run the Laravel model view controller framework, where Bootstrap enters the view and allows to display the web interface automatically adapted to the size of the computer, Tablet, cell phone or any device.

3. Results

It was successfully developed a web portal that serves as a gateway to know the information of the inn Fabricio's, manage and manage the services that this tourist site provides in a fast, orderly and extensible.

The Database tools is PostgreSQL, the PHP programming language, Laravel and Bootstrap frameworks; was hosted on the local Apache server.

With the implementation of colors and bootstrap style design, the system is able to adapt to any size of screen, allowing greater acceptance and usability.
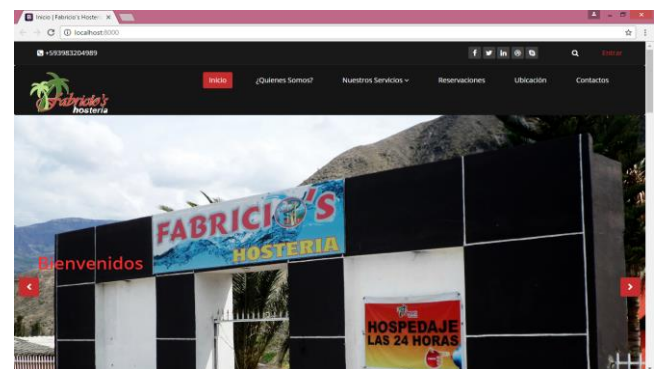
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Figure 6: Main Page Fabricio's Hosteria.
Source: (Colimba, 2016)

The codification of the project with web technologies allows it to be disseminated touristy inside and outside the country, through the internet; As well as the optimization of the processes that take place in the inn, can also be used in a common web browser.
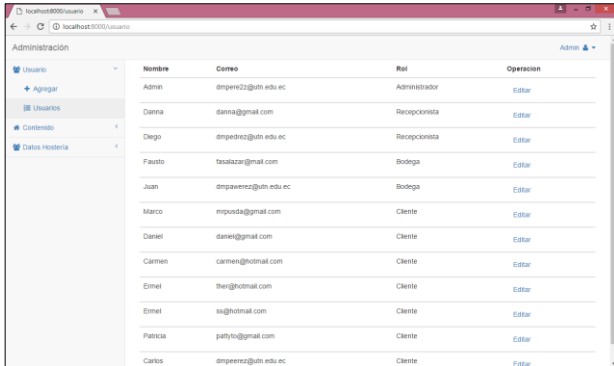

Figure 7: Administrator access page.
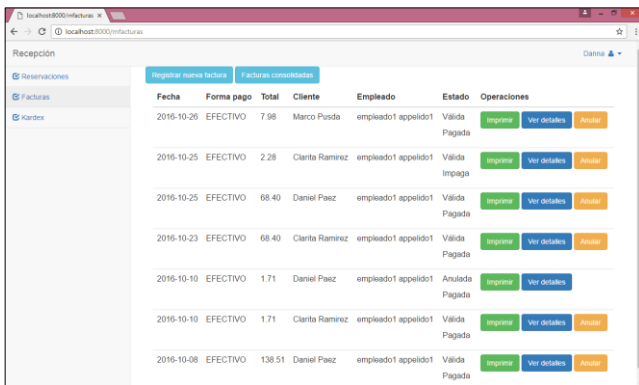*Source: (Colimba, 2016)*

Figure 8: Receptionist access page.
Source: (Colimba, 2016)

Figure 9: Access page of the Bodeguero.
Source: (Colimba, 2016)

4. Conclusions

With the use of components based on web technologies; HTML5, CSS3, jQuery, JavaScript, Ajax and the bootstrap framework, the system interface was 100% accepted in the manipulation of functionalities and visual adaptation from any device.

Laravel allows to build business applications for the web because it meets the structural and technological requirements that the Fabricio's Hosteria needs to function properly.

The integration of the Laravel and Bootstrap frameworks are highly extensible and flexible since no major delays could be applied to the system.

The use of Bootstrap allowed a better view in the interface, as it manages to adapt to the size of any device, without distorting the information.

The agile XP software development methodology, which when broken down into short work cycles, was well adapted to the full scope of this application.

5. Thanks

I am grateful to the Technical University of the North that opened its doors to me to carry out my studies superiors; Fausto Salazar, for his valuable help in the accomplishment of this work, to Mr. Fabricio Cajamarca, owner of the Fabricio's Inn, who opened the doors of this tourist site in order to develop the project.

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