TECHNICAL UNIVERSITY OF THE NORTH

FACULTY OF APPLIED SCIENCE ENGINEERING

CAREER IN COMPUTING ENGINEERING SYSTEMS

SCIENTIFIC ARTICLE (ENGLISH)

TOPIC:

"STUDY OF MAIN MODELS OF MOBILE BANKING AND DEVELOPMENT OF AN APPLICATION"

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IBARRA – ECUADOR

2016

Estudio de los principales modelos de Banca Móvil y desarrollo de un aplicativo.

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Abstract. The mobile banking at present offers facilities to the user to the moment to administer your money of electronic form, across your mobile device. In Ecuador already this type of service has been implemented, on the part of the bank companies.

The present thesis has as aim study the principal models of mobile banking, joining concepts and experiences of applicative necessary others to achieve a suitable level of knowledge brings over of the topic; of which an applicative mobile will develop.

This thesis aims to it is defined the theoretical framework for mobile banking in which it is described, the methodologies to the development of the application and the most important concepts for understanding this document.

There are described the principal models of mobile banking at present, like also the services of mobile banking that the bank companies offer in the country.

The application is developed and documented the steps which use the methodology agile of the development of software which was elected for this project, in this case XP.

Keywords

Mobile Application, Mobile Banking, Mobile Device, Banking Entities, Methodology XP.

1.Introduction

Traditional banking opened the way for mobile banking as it is of great importance in the minds of customers and regulators.

There are markets and part of the population where traditional banking has no presence, these mobile banking gives them the opportunity to access financial services for the first time. Although in Ecuador is already implementing mobile payments by the Central Bank, there is distrust of citizens to adopt such systems, adding the lack of knowledge on the subject due to lack of information and little diffusion has had so far.

The mobile banking service represents a revolution not only in the aspect of processing transactions but also in customer service.

"Mobile banking has achieved worldwide importance because of the facilities provided by the user when managing your money in an electronic form, through the use of mobile devices"[1]

With these features the mobile banking service you can attract new customers, then the banking industry will have new consumers to what may market other products for profit.

The lack of information on mobile banking service from banks to their customers is limited. Although they are kept informed of promotions, give its customers understood or is a paid service or that there is lack of security in applications. Therefore customers are suspicious and do not opt for such services.

This project aims to make mobile banking models, have a mobile application, to make known the handling and features about this new form of banking. At present banks, provide facilities to the user to manage their money.

It is important to mention all the frameworks and plugins that will be implemented in the mobile application, java support system which will give a better presentation, allow you to have a friendly user interface.

2.Materials and Methods

2.1. ¿What is mobile banking?

"Using a cell phone to access financial services and conduct financial transactions. This includes both transactional and non transactional services, such as displaying financial information on the cell phone of a user. "[2]

The author provides a well-defined what a mobile banking structure. As it is structured and what information is displayed on a device.

The mobile device for this type of banking is of great importance in which the user can have control of your money in your bank through various types of access that is provided by the mobile device.

2.2. Mobile application.

A mobile application is a program that can be downloaded and can also be accessed directly from your phone or from any other mobile device.

Mobile applications are specially designed for portable devices. These can be free or paid. Initially, applications had a purely recreational function. However, they have evolved into more useful applications, such as use for recording expenses, sports information, restaurant guides, street. Currently the most innovative new applications are called augmented reality elements that combine real and virtual. [3]

2.3. Instruments

2.3.1. Database

A database is a data set where all the important information of a company or institution registered in a structured way, in tables is. These tables contain records, and the records are composed of well identified fields.[4]

2.3.2. PostgreSQL

It is a management system databases, was a pioneer in many existing concepts in object-relational current system, including, later in other business management systems. It includes features of object orientation, such as inheritance, data types, functions, constraints, triggers, rules and transactional integrity.

2.2.3. JavaServer Faces (JSF).

It is a framework, including within the J2EE specification, whose mission is to facilitate the construction and maintenance of Web applications in Java, following the Model View Controller architecture.

2.2.4. Jquery.

It is considered a JavaScript framework. It has a set of utilities that were already programmed, tested and can use them in a very simplified manner.

Jquery effects and allows us to add complex functionality to our website, as an example we have: dynamic and elegant galleries photos, form validation, calendars, to appear and disappear elements in our page and many other options.

2.2.5. Architecture.

To develop the management system of the mobile application is set to follow the MVC (Model View Controller) architecture, as this is separately data, business logic, and user interfaces; thus achieving software quality.

To detail a little more about the MVC architectural pattern explain each of its components (layers):

• Model.- that layer is where all data associated with the application work. Also it manages all access and modification of information.

• Controlador.- has all equipment necessary to respond to the actions requested of the application code.

• Vista.- presents the different user interfaces that will be used in the application. These are usually presented in HTML, XHTML, PHP, among others.

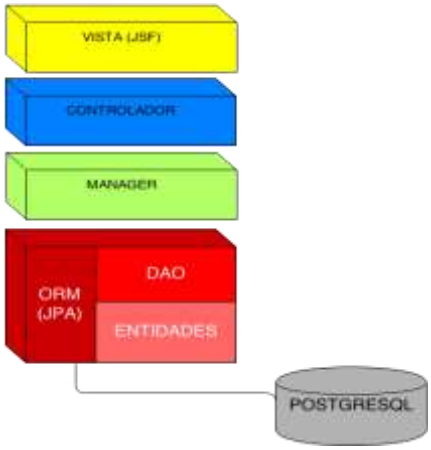

Illustration 1: Architecture Aplicativo

2.2.6. ¿What is the XP methodology?

Extreme Programming is a methodology used to develop high quality software as quickly as possible and with the greatest customer benefit. It is characterized by extremely short development cycles, continuous integration, continuous feedback from the customer, automated testing and regular team approach. [5]

3.Results

Once a descriptive study of the major models of mobile banking made you begin to develop an application based on the features and functions of model applications used in banks.

• Tools is Postgresql Database, the programming language Java, some of their frameworks; and it was also hosted on a free server OpenShift.

• For the development of the banking system that simulated a real bank in the same way a web banking

taking features and functions of a real web banking, finally proceeded to the development of applicative mobile banking.

As a final result a banking system, web banking must access the following web address in an updated browser and Google Chrome or Firefox preference, and a mobile application for phones with Android operating system was obtained.

http://bancawm-utnedu.rhcloud.com/BancaWM/

http://bancawm-utnedu.rhcloud.com/BancaWM/bancaWeb/#/

3.1 System

Here are some screenshots of Web Banking and Mobile Banking system are shown:

Illustration 2: Homepage web banking.

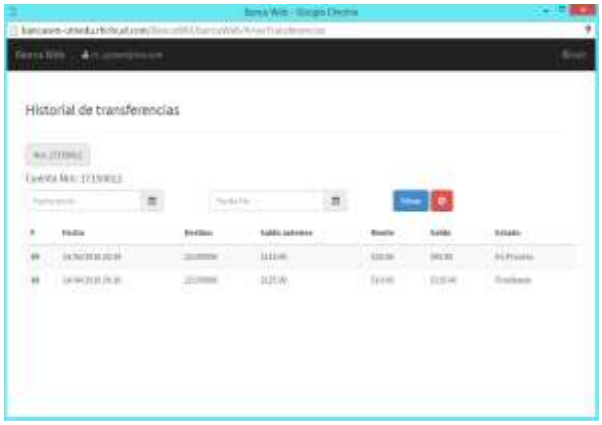

Illustration 3: Transfer History

Illustration 4: Mobile Registry Account

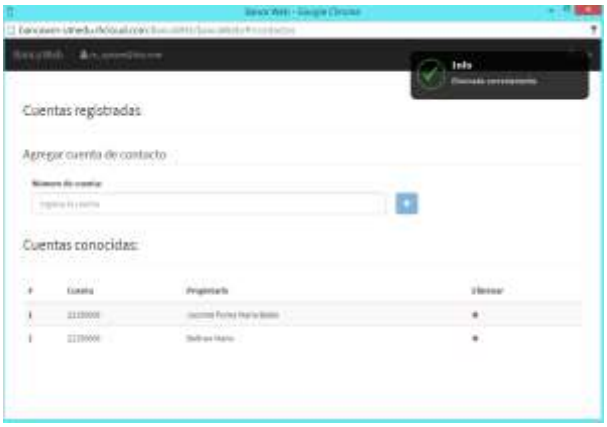

Illustration 5: Registered accounts.

Illustration 6: Android Device.

Illustration 7: Mobile Banking Interface.

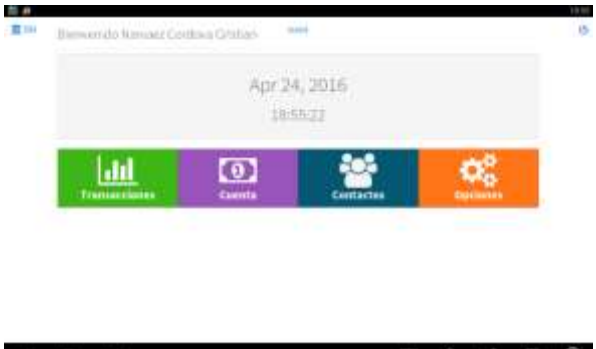

Illustration 8: Main Interface Mobile Banking.

Illustration 9: Transfer Interface Mobile Banking.

4.Conclusions

• The descriptive study of this degree work was done with the sole purpose of putting into context the main features, functionality and the advantages and disadvantages it has, with reference to several examples of models of mobile banking as they were chosen correctly.

• Using the platform was achieved OpenShfit simulate a real and fast environment which provides data on the user experience.

• It was possible to develop the "Mobile Banking" app for smartphones with Android operating system with features that was made in the scope of this project.

• The use of engine PostgreSQL database for the creation and maintenance of information helped to reduce the development costs of the system; because the costs for licenses decreased significantly.

• The use of open platforms allows us to create good quality software without worrying about licenses, updates are constant since it is free software, in addition to reducing the budget for a project it makes Android a very attractive platform for application development mobile.

• We conclude that mobile applications offer new and interesting ways to access information and services quickly and all the time which is no longer a constraint for the user in addition to visually appealing components, have obvious functional advantages.

5.Acknowledgements

It is an eternal gratitude for North Technical University Faculty of Engineering and Applied Science, for giving me the opportunity to grow intellectually values and rights and social responsibility.

A very special and sincere thanks to Magister Diego Trejo España, Director of Labor Grade for giving me their unconditional support in the research guide me knew environment and contribute with ideas for my final project.

To my parents, I have no words to thank you so much support they have given me during the race and the culmination of it this victory is also yours.

My colleagues at the University who were and are of great support in good and bad times we had as students.

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7.About the Author

Cristian Giovanny NARVÁEZ CÓRDOVA, I was born on March 7 in the city of Ibarra. Student career Computer Systems Engineering from the Technical University of North for the title of Computer Systems Engineer.