



# **UNIVERSIDAD TÉCNICA DEL NORTE**

**FACULTAD DE INGENIERÍA EN CIENCIAS APLICADAS CARRERA DE  
INGENIERÍA EN SISTEMAS COMPUTACIONALES**

**ARTÍCULO CIENTÍFICO**

**TEMA:**

**“IMPLEMENTATION OF A MANAGEMENT SYSTEM FOR THE  
PROCESSES OF TRAINING AND CHRISTIAN EDUCATION OF THE  
“NUESTRA SEÑORA DE FATIMA” SANCTUARY IN IMBABURA  
PROVINCE ”**

**AUTOR:**

**VERONICA DEL ROCIO ANGAMARCA ANGAMARCA**

**DIRECTOR:**

**ING. CATHY GUEVARA**

**IBARRA – ECUADOR**

**2018**

# “IMPLEMENTATION OF A MANAGEMENT SYSTEM FOR THE PROCESSES OF TRAINING AND CHRISTIAN EDUCATION OF THE “NUESTRA SEÑORA DE FATIMA” SANCTUARY IN IMBABURA PROVINCE ”

Autora: Verónica del Rocío Angamarca Angamarca  
Universidad Técnica del Norte, Av. 17 de Julio, Ibarra, Imbabura  
vdangamarca@utn.edu.ec

Summary – the need to improve the documents organization and reduce costs in the use of paper have resulted to do the management system for the processes of training and Christian education. Background. Nowadays these religious institutions do the processes manually, so is difficult to organize the information and the time to answer the questions.

Objective: to implement a management system for the processes of training and Christian education in “Nuestra Señora del Cisne “ Sanctuary, to ease the work development of its members. Method: it was used the XP methodology in the four phases, planning phase ha had as principal to collect information about the actors to participate in economic processes, it has allowed to identify the actions to follow in the processes to analyze the problems during its development. Results: the results of the system implementation, to confirm the improvements in time of answers and satisfaction of final users, them have to demonstrated the 95% in the acceptance in the platform use, and it has been reduced the 40% of technological illiteracy. Conclusions: the management system processes to implemented in” Nuestra Señora del Cisne” parish produce benefits in times of answers and to reduce costs in the use of paper.

**Keywords: processes, management system, training, prime Faces, Nuestra Señora del Cisne, Christian Education, Incriptions.**

## I. INTRODUCTION

The Sanctuary Parish “Nuestra Señora del Cisne” is located in the south of Ibarra city, was created 10 years ago, when some resident missionaries of Loja participated in its creation.

Is a legal entity nonprofit, is engaged with the teaching and the spiritual well-being of catholic people, the education is based in deep moral values and Christian personality, like Jesucristo life.

The good information management is so important in the training and Christian education, is done in different dependencies of the parish, of this way is possible to order, classify and to stock the information so that it is accessible and clear in the moment to do queries and reports in real time.

The parish Sanctuary “Nuestra Señora del Cisne “ has as principal function to hurry the activities that develop in the parish, taking account that the technology is so important to improve as religious institution.

## II. PROBLEM

The Parish Sanctuary “Nuestra Señora del Cisne” comes doing the training and Christian education processes in a manual and inefficient way, causing lost of information.

## III. JUSTIFICATION

The development of management system processes of training and Christian education in the parish has a big benefit, because it will allow that the parish be updated and grow intellectually, besides a best information management.

Is determined that the direct beneficiaries will be whom do it such us: secretary, priest and catechist besides the direct beneficiaries will be the parish visitors; because it system help to get a clear information.

#### IV. GENERAL OBJECTIVE

To implement a management system to the training and Christian education processes in the Parish Sanctuary “Nuestra Señora del Cisne” in Imbabura Province

#### V. RANGE

Nuestra Señora del Cisne” parish will count with the processes, users, training and Christian education, it allow to get the information in an effective and standardized way, its include detailed reports in real time.

To the project implementation is going to do with the integration of the principal processes in the parish as we can see in the figure 1.

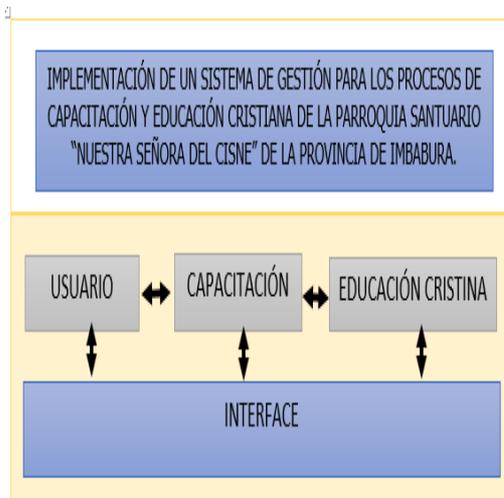


FIGURE 1. modules relation, interfaces.  
SOURCE:OWN

#### ➤ Users management .

The users management processes, the preference are the users so will be provided security in the system. Each user will have responsibilities according its role. Figure 2

#### ➤ Training Management .

In the training processes will register the course name according the sacrament, date, hour, and the instructors information.

#### ➤ Christian Education (Children catechesis inscriptions)

In this processes will take account the children inscriptions, according the age is important to know that them are older than

8 years, to assign to the corresponding level and catechist. At the end of the processes will give a certificate what demonstrate that children approve the level.

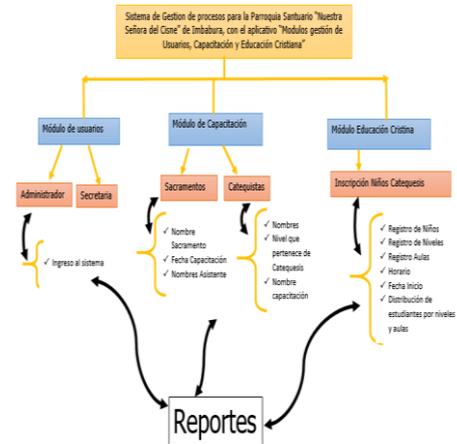


FIGURE 2. System Modules Description.

SOURCE:OWN

#### VI .APPLICATION ARCHITECTURE

The project thesis elaboration is developed under the JEE platform, it achieve an enriched application.

**Model:** this stage has as beginning the database, inn this project will use PostgreSQL, the same as through of ORM ( Eclipse Link) will get to connect and generate the ENTITIES in the JPA project, of this way is possible the communication between the database with the program. The DAO Manager handle all communication to the BDD, the EJBManager handle all business logic.

**Controlling JSF** uae beans well.trained and allows to connect the interface with application logic.

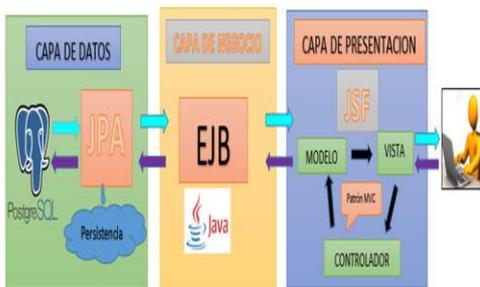
**View:** in JSF projects, the webContent folder is a resource container to the interface design. The subfolder WEB-INF is fundamental for the accommodation of libraries like framework and additional libraries.

#### VI .METHODOLOGY

To do this thesis project it has been used the XP methodology (Extreme Programming), because it propose a good set of practices

and techniques that emphasize positive effects in a software developed project. The bases of this methodology are in the communication, simplicity, feeding respect and courage. XP is based in users stories, is the description of key scenarios about the software operation, it takes place between the client and the team agent from them is generated the releases to satisfy with the objectives.

- To the implementation of the application is important to handle the adequate and updated equipment.
- To make a personal socialization of “Nuestra Señora del Cisne” parish to know the use and star with the application operation.
- After to conclude the project and manipulate the XP methodology is recommended to use the same in short and medium projects to reduce the develop time.
- To consider put the periodic changes to passwords of users with the purpose to get greater security to the information and avoid plags.



F i g u r e 3 :

System Architecture  
SOURCE:OWN

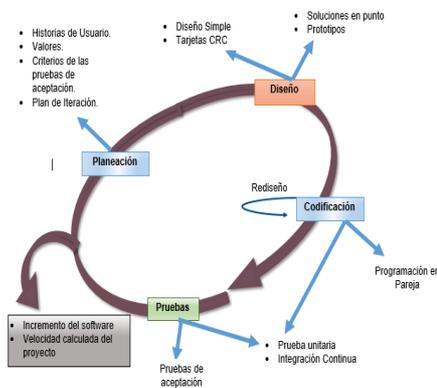


Figure 4: Phases of the XP Methodology.  
Source: Own.

### VII FINDINGS

To conclude with the System of management of training and Christian education processes, that was carried out in “Nuestra SEñora del Cisne” Parish it is recommended:

- In this thesis has been made an analysis of the training an Christian education processes in the parish “Nuestra Señora del Cisne”, that are managed in catechesis, catechist and sacraments, allowing the development of the system.
- With the different tools that increase in the development of the of the project was achieved to do an interface easy to use, in order to the users can use and manipulate in easy way the system.
- The use of methodology extreme program to allow determine, that is one of the many tools that facilitates the development of the projects to short systems in shot time.
- Through the test phase of XP methodology, we achieve to determine the faults and corrections of the system, during the implementation, allowing to increase the quality.
- The implementation of the system and the practice of it in the parish easy the work in the management the processes, getting with high fast all the information.

- We get a better administration and organization of documents in the parish processes.

## IX. REFERENCES

- [1] Bustamante Dayana, R. J. (2014). Metodología Actual: Metodología XP. Barinas. Obtenido de <http://blogs.unellez.edu.ve/dsilva/files/2014/07/Metodologia-XP.pdf>
- [2] Yolanda, B. L. (2013). Metodología Ágil de Desarrollo de Software – XP.
- [3] Fuentes, J. R. (2015). Desarrollo de Software ÁGIL: Extreme Programming y Scrum.
- [4] <http://primefaces.org/>
- [5] MAGALI, G. A. (2012). La programación extrema aplicada al desarrollo del Sistema. Repositorio Bibliografico UTN (Tesis).
- [6] BENALCAZAR CHULDE, A. A. (2013). Sistema de gestión de información institucional para el Gobierno Provincial de Imbabura. Repositorio Bibliografico UTN (Tesis).
- [7] Serna, C. N. (2014). JAVA PERSISTENCE API ( TUTORIAL). Obtenido de [http://www.tutorialspoint.com/jpa/jpa\\_tutorial.pdf](http://www.tutorialspoint.com/jpa/jpa_tutorial.pdf)
- [8] (WildFly | Documentos para desarrolladores - FacilCloud, 2015)
- [9] SGI Consulting. (s.f.). Tutorial de JavaServer Faces. Obtenido de <http://www.sgi-consulting.com/sgi2/jsf/JSF.pdf>
- [10] Jendrock, E. (2013). The Java EE 6 Tutorial. Obtenido de <https://docs.oracle.com/javaee/6/tutorial/doc/>
- [11] ANONIMO, Extreme Programming: A Gentle Introduction, <http://www.extremeprogramming.org/>, 15 de Diciembre de 2013 [8] CALDERON Amaro, Metodologías Ágiles, <http://seccperu.org/files/Metodologias%20Agiles.pdf>, 15 de Diciembre de 2013
- [12] CASTILLO Oswaldo, FIGUEROA Daniel, SEVILLA Héctor. Programación Extrema, <http://programacionextrema.tripod.com/index.htm>, 10 de diciembre 2013 [10] VALVERDE David, Introducción a la Programación Extrema (XP),
- [13] <http://www.davidvalverde.com/blog/introduccion-a-laprogramacion-extrema-xp/>, 11 de Diciembre 2013
- [14] Pech-May, F., Gomez-Rodriguez, M. A., Cruz-Diaz, L. A. de la, & Lara-Jeronimo, S. U. (2010). Desarrollo de Aplicaciones web con JPA, EJB, JSF y PrimeFaces, 9. Recuperado a partir de <http://www.tamps.cinvestav.mx/~fpech/sd/files/paper001.pdf>
- [15] PrimeFaces. (2016). PrimeFaces User Guides. Primefaces.
- [16] Uriel Hernandez. (2016). MVC (Model, View, Controller) explicado. Recuperado a partir de <https://codigofacilito.com/articulos/mvc-model-view-controller-explicado>
- [17] WildFly org. (2016). WildFly Homepage · WildFly. Recuperado a partir de <http://wildfly.org/>
- [18] Yolanda, B. L. (2013). Metodología Ágil de Desarrollo de Software – XP, 10. Recuperado a partir de [http://www.runayupay.org/publicaciones/2244\\_555\\_COD\\_18\\_290814203015.pdf](http://www.runayupay.org/publicaciones/2244_555_COD_18_290814203015.pdf)

## Sobre los Autores

Autor – Verónica del Rocío Angamarca Angamarca  
Estudiante de la Universidad Técnica del Norte, Facultad de Ingeniería en Ciencias Aplicadas, de la Carrera de Ingeniería en Sistemas Computacionales.

