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DISEÑO E IMPLEMENTACIÓN DE LA ARQUITECTURA DE SOFTWARE EMPRESARIAL PARA LA EMPRESA PÚBLICA LA UEMPRENDE CON EL FIN DE MEJORAR EL RENDIMIENTO ORGANIZACIONAL A TRAVÉS DE LA TECNOLOGÍA.

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DESIGN AND IMPLEMENTATION OF SOFTWARE ARCHITECTURE OF BUSINESS FOR LA UEMPENDE PUBLIC COMPANY IN ORDER TO IMPROVE THE ORGANIZATIONAL PERFORMANCE THROUGH TECHNOLOGY

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Abstract. Within the context of a technological infrastructure in any company always arise the question: How can I beginning to automate processes of my enterprise?, as it is clear that if a company moves away from the technological level, departs not only of new opportunities of the market, it also minimized to a small business without goals or objectives.

From here arises the need for every company should have its own technology platform, with the one purpose of generating a higher performance on it, it can be in different specific and different fields for each one, for all of these reasons having a software architecture it's fundamental.

A AS¹, is the essence of technological branch that assemble all existing processes, because if we do not know what we will do, then our projects are going to fail and the company will be affected, this is why to keep up in a globalized world, our AS should be designed very well, developed and executed, with priority, operational and strategic processes that lead to technological harmony between business logic and a computer system developed with each one of guidelines, as a programming language, databases

management systems , development frameworks, should be used, and as a priority the end user who will determine the functionality of the system implemented and developed.

Investments can be somewhat high, but we should see them like that, as investments, and not as an expense that does not involve any profit for the institution.

Keywords

Architecture, Software, Process

1. Introduction

The public company's La Uemprende EP is a company attached to the Tecnica del Norte University, from its inception is immersed in macro projects generating profits for the UTN.- The company was legally established on Tuesday, September 10, 2013, by the office nro. 185-HCU-UTN (Directorio La Uemprende EP, 2014), where all relevant considerations are made.

Mission

"Contribute to national development through the provision of services, project design, consulting,

¹ Arquitectura de Software

construction and infrastructure and provision of goods to the productive social and cultural, economic, environmental and political-institutional and contribution to the welfare of Ecuadorians". (Directorio La Uemprende EP, 2014)

View

"In 2016, La Uemprende EP will be competitive nationally successful company that contributes to the development of the country, with quality services and generate social economic and environmental well-being to their customers." (Directorio La Uemprende EP, 2014)

Services offered by La Empresa Pública La Uemprende EP.

Training

Aimed at increasing individual and institutional capacities of the public and / or private sectors in the various areas of knowledge.

Consulting.

Design and Implementation.

Construction and infrastructure.

University store.

It offers the service store selling books, supplies, stationery, bazaar, to offer to teachers, staff, students and the general public that are related to the different study programs of Faculties of the University.

Current situation.

Currently, the Public Enterprise "La Uemprende EP" is challenged to become the pioneer in the field of provision of services in the region one country, which generates uncertainty to be a relatively new entity that does not have the technological infrastructure to

meet that demand for services, which is why you do not already have a technology platform properly studied and proven that contributes to meet the challenges it has.

I will mention some cases; at this time the implementation of computer systems do not have a specific architecture for our company, so its development is unreliable, but there is not a registration system for training that day are performed in the different courses offered, obtaining an inefficient outcome with the information of the participants and teachers short and long term could be again part of our courses.

Currently among the primary objectives of the public company's Uemprende EP is the need to systematize the processes that are generated daily in different areas such as procurement, contracts, courses, workshops, seminars, studies and examples given above.

Then using the analysis of current situation can know that by not having an architecture of agile software in the creation and development of applications that optimize their processes, leading to a loss of time, customers and information of great importance to their authorities, generating delay in commitments made to its customers.

Company Organization

Currently has two main departments, they are:

- Administrative and Financial Department
- Department of Information Technology and Communication

Within which the following units are derived:

- Human resources
- Financial

- Administrative

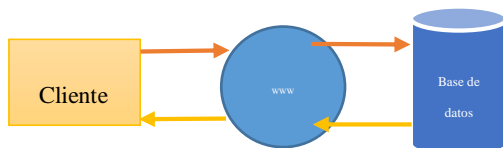
2. Materials and methods

For this work the characterization of processes were used, where it was found by investigating information that key are used:

- User management, online registration.
- Vehicle Control
- Accounting management
- Financial management
- Management of human resources

2.1. Tools

The server where the application is hosted will be that currently owns the company, It is a web hosting, development platform PHP 5.x, and as PostgreSQL or MySQL database manager, being practically an apache application server.



Fuente: El Autor

Ilustración 1 Patrón Arquitectónico de la aplicación

Yii Framework

It is a powerful application development framework that enables large scale IT systems, object-oriented, using as programming language PHP, which also has compatibility with many databases, from Oracle, until MARIA DB. (Yii Framework, 2015).

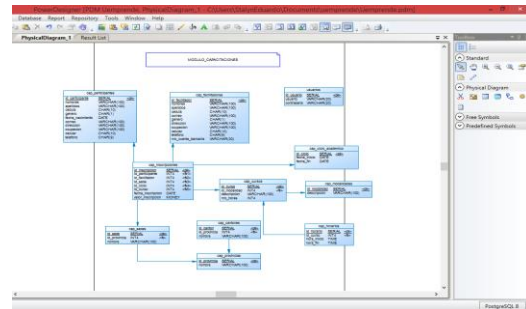
3. Results

Applying the agile development methodology XP could make the prototype system training, which has the components of the entire software architecture and the different layers in

which you must break a system, not once, but over 4 layers is an ideal way.

To use the prototype, the end user only needs, an Internet connection, a computer, pc, mobile and tablet, and can perform all types of transactions from anywhere in the world with your user and password.

3.1 Conceptual model



User interfaz login



4. Conclusions

At the end of this investigation project can conclude the following:

- Using the right collection of information of La Uemprende EP or any company, we can design a software architecture, robust with standards defined.
- To define properly an AS, there must be information for each process that is handled internally, and a process map is ideal for starters.
- A company that does not have a defined AS as the La Uemprende EP, will be difficult to start the implementation of computer

systems based on their needs in the short term, since for each system should do all the steps that you can define an AS for all systems to be developed.

- The use of technologies defined in the AS like programming language determines the scalability to be obtained in future developments.
- The development frameworks not only allow rapid development of robust systems, but also engage the raised AS, as Yii V 2.xx.

Acknowledgements

To my teachers, administrative staff of La Uemprende EP, who learned in my college life to teach me to do things in the best way possible.

5. Recomendations

- Inform to the companies that the TIC area is not only a programming center, but one in which the needs of the company can be automated and generate income, using the map or process itself, and automate processes.
- Perform issues consequent to implement each module presented in this thesis software architecture, taking into account the various observations and data included in the document.
- Using this project as a guide for students of careers related to the development of AS, since often a programmer cannot always be a Software Architect.

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