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IMPLEMENTACIÓN DEL SISTEMA DE CONTROL Y CALIFICACIÓN DE PROVEEDORES PARA COOPERATIVAS DE AHORRO Y CRÉDITO

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"IMPLEMENTACIÓN DEL SISTEMA DE CONTROL Y CALIFICACIÓN DE PROVEEDORES PARA COOPERATIVAS DE AHORRO Y CRÉDITO"

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Abstract. *This project aims to make Web application and Control System Supplier Qualification for Credit Unions.*
This document describes the design and development of front ends and back ends for both internal and external users of the system.
There have been 2 FRONT ENDS:
a) Front end for external users, in this case called suppliers, which may be registered in the system in 3 different ways according to their status with the Institution, to register on the website (www.atuntaqui.fin.ec) and approved registration by the Purchasing Department if meet all the requirements, the supplier will be considered for awards contests of goods and / or services required by the institution.
b) Front end to internal users, is accessed through the intranet page.

Keywords
Development, Providers, Software.

Resumen. *El presente proyecto tiene como objetivo realizar la aplicación web del Sistema de Control y Calificación de Proveedores para Cooperativas de Ahorro y Crédito. Se elaborará y desarrollará los FRONT ENDS y BACK ENDS tanto para los usuarios internos y externos del sistema.*
Se han realizado 2 FRONT ENDS:
a) Front end dirigido a usuarios externos, en este caso llamados proveedores, los cuales podrán registrarse en el sistema de 3 formas diferentes de acuerdo a su estatus con la Institución, al registrarse en la página web (www.atuntaqui.fin.ec) y ser aprobado su registro por el departamento de Adquisiciones si cumple con todos los requisitos, el proveedor será tomado en cuenta para participar en concursos de adjudicaciones de bienes y/o servicios que requiere la institución.
b) Front end dirigido a usuarios internos, se accede a través de la página de la intranet.

Palabras Claves
Desarrollo, Proveedores, Software.

INTRODUCTION

Financial Cooperative Atuntaqui Ltda . Has 50 years of institutional life and with more than 64 thousand members of whom 46,029 are active and 18,728 would not receive bank statements having as inactive.

As for the procurement of goods or contracting services in the institution everything is done manually according to procedure manuals without tools agiliten the process , which is why the need to design was observed and implemented a system expedite these procedures allow.

OBJECTIVES

General objective

- Implement the Control System and qualification of suppliers for credit union Atuntaqui Ltda.

Specific objectives

- Run the construction and development of software programming standards respecting the institution and guided by user requirements.

- Provide a suitable and easy to use for the departments of General Services, Legal and Treasury according to the standards established by the institution web tool.

- Expedite the administrative and operational procedures between the departments of General Services, Legal and Treasury.

- Creating a Data mart.

- Install the system and all its components in the production environment.

LIMITACIONES

- System Control and Rating of Suppliers will be implemented in the Cooperative Financial Atuntaqui as it is designed in accordance with the procedures of this institution.

- Control System and Supplier Qualification is a web application and deploy a Front End intranet for internal users and another on the website for suppliers.

- The Data Mart for now not be implemented because the institution does not have the appropriate license to do so.

- The developer components The system is fully developed with Visual Studio .NET and Xpress.

- As a web application, you can use it from any operating system, we recommend using the browser chrome.

SCOPE

They need to create and / or automate the following processes:

Qualification of Suppliers

- Web page request for qualification
- Requirements Supplier access
- Attach documents and sends Provider
- Inbox receives documents General Services
- approve or deny
- Inbox Qualified Provider receives requests
- Send contributions received inbox General Services.

Quotation and Award

- Office managers, branch managers and departmental acquisition request sent
- Inbox General Services receives the request
- Each level refers to the request for approval approval
- If approved specifications or bases made as appropriate
- System checks to qualified suppliers and refers to record allowing providers related activity.
- Suppliers receive RFQ in your inbox
- Provider's information prepare and send quotes.
- Quotations are received
- Inbox General Services
- General Services prepares comparative table of costs
- Send the level corresponding award
- Inbox receives the appropriate level of comparative table with quotes
- Receives, reviews, and awards or denies
- If you approve or deny providers are notified the decision taken.
- Depending on the value is sent to request contract.

Development of Contract

- General Services sends request processing contract Legal
- Legal elaborates contract
- Load the contract system for review
- Inbox requesting area, approves or notice
- If you make changes to the sommelier print
- Supplier Delivery Notification and requesting user
- Return the contract to General Services
- Input tray notification requesting return of the contract
- General Services Delivery 1 copy to Legal
- Legal warranty refers to simple copy and Treasury.
- Treasury receives and custody
- Treasury Inbox.

Return Guarantee

- General Services verifies the completion of the contract

- For the record amount requested delivery receipt Legal
- Legal inbox produces records.
- Legal proceedings referred
- The minutes were legalized
- Payment is made to suppliers
- Treasury is notified to the completion of the contract
- Treasury Inbox

PROJECT IMPACT

Social impact

Now providers who are members or non-members of the cooperative have the opportunity to register through the institutional website and if approved registration through the system will be notified, according to the goods and / or services they provide, different contests for the acquisition and / or contracting of goods and / or services needed by the institution, this means that any natural or legal person may, if it meets all the requirements, be the supplier of the Institution.

Economic impact

The process for approving suppliers and the purchase of goods or services to the institution was too slow and each process months lingered, even years to take place, with the new system to all current suppliers register and invite new suppliers to register, invitations to participate in various competitions reach agreement providers to profile them, the process is much faster and the institution selected requirements, quality and price the best option agreement.

Ethical impact

The system allows all competitions are transparent because it presents all proposals that meet the requirements prior review and is selected according to the criteria of responsible persons or authorizing the acquisition.

BENEFITS

The implementation of the system contributed to improve the process control and qualification of suppliers and procurement of goods and / or services to the institution, as well as decrease the time in buying or hiring them.

The Technical University of the North and owns the rights of all systems, benefits of getting a system developed in .net web platform and the DevExpress components.

As a student the benefit was gained in-depth knowledge of DevExpress components and have developed a technique to create faster and quality any .Net web application platform.

CONCLUSIONS

The methodology allows participants to get to develop the software according to their needs due to continued participation in each stage of development.

The architecture used allows generating functions can be used again in some other software related.

The use of Developer Express tools facilitates the development of each of the forms because user friendliness and improvements that have as to the grids to manipulate data.

The use of Aqua Data Studio tool helps a lot in the development of complex stored procedures with its debugger.

The software architecture and built with this tool is performing well and that accesses the database only when necessary and all query operations, insertion or modification engine running on the database but not on the front.

In a financial institution, BI systems are a great tool for the evolution and growth of the business and should be designed so that they can follow the evolution and growth.

BI systems to a large extent influence the institution, are not an easy one sector, BI systems are valid for any process on the decisions to be taken, are not a tool in the area of systems to keep users captive on the contrary, with a set of these users get more independence to be able to perform queries intuitively and flexible.

RECOMMENDATIONS

The methodology used by the institution generates a bureaucratic process and cause delay in putting the system into production, it would be good to optimize the production step by step.

Regarding the development process must be improved quickly in terms of delivery of the requirements from users.

The architecture is based on the needs of the institution but in systems development technology is advancing by leaps and bounds as you should upgrade to a newer WPF.

Due to poor documentation toolset Developer Express and complexity of these, you should make a good documentation on the use of each component by analysts or programmers Development Manager.

Using stored procedures is a good practice to have a good application performance and support the use of grids of Developer Express.

You should plan the creation of a data mart for different areas of the institution.

GLOSSARY

Data mart: store data from a particular fact, is a departmental database, which specializes in storing data for a specific business area.

RUP (Rational Unified Process): It is the most commonly used standard methodology for the analysis, design, implementation and documentation of object-oriented systems.

Refactoring: technique software engineering to restructure source code.

Bugs: It is an error or fault in a computer program or software system.

Flujograma: It is a visual display of a line of action steps involving a particular process.

Service desk: Support computer system and single point of contact for end users who need help.

Front End: It is part of the software that interacts with the user or users.

Framework: is a conceptual and technological support structure defined, usually with specific devices or software modules, which can be the basis for the organization and development of software.

XML: eXtensible Markup Language, is a markup language developed by the World Wide Web Consortium (W3C) used to store data in readable form.

Common Language Runtime: CLR is a runtime environment for program codes that run on the Microsoft .NET platform. The CLR is responsible for compiling a form of intermediate code called Common Intermediate Language (CIL, previously known as MSIL, by Microsoft Intermediate Language), the native machine code.

API: Application Programming Interface.

LINQ: Language Integrated Query is a component of the Microsoft .NET platform that adds data querying capabilities natively in the .NET languages, although there ActionScript implementations for Java, PHP, and JavaScript.

MSIL: It is the language of human readable programming lowest level in the Common Language Infrastructure and in the .NET Framework. The languages of the .NET Framework compile to CIL. CIL is an object-oriented assembly language, and is based on batteries. It is executed by a virtual machine. The main languages are C # .NET, Visual Basic .NET, C ++ / CLI, and J #.

Garbage collector elements manages the allocation and release of the application memory

WPF: Windows Presentation Foundation, allows the development of interactive interfaces in Windows taking features of Windows applications and Web applications.

Shell: programs that provide a user interface to access the operating system services.

Herencia: the most commonly used mechanism to achieve some of the most cherished goals in the development of software such as reusability and extensibility.

API: Application programming interface is a set of functions and procedures offered some library for use by other software as an abstraction layer.

SharePoint is a business collaboration platform, consisting of products and software elements.

WYSIWYG *What You See Is What You Get* . To word processors and other text editors with format (such as HTML editors) that allow you to write a document directly seeing the end result is applied.

AJAX: (Asynchronous JavaScript and XML) is a web development technique for creating interactive applications or RIA (Rich Internet Applications). These applications run on the client.

Controles data-aware: For navigation and manipulation of BDD.

Hunspell: It is a spell checker and morphological analyzer designed for languages with rich morphology, complex formation of compound words or a different character encoding of 8-bit ASCII, originally designed for the Hungarian language.

ISPell: correcting spelling in office suites and mailers.

Shaping: Attempts to control the traffic on computer networks to achieve optimize or guarantee performance, lower latency, and / or delaying certain bandwidth packages.

PKCS: (Public-Key Cryptography Standards) It refers to a set of standards designed cryptography and published by RSA laboratories public key.

COBOL(acrónimo de COmmon Business-Oriented Language, Lenguaje Común Orientado a Negocios) It was created in 1959 with the aim of creating a universal programming language that could be used on any computer.

Motif: It is a library for creating graphical environments under X Window System on Unix systems.

JAR: the jar command can generate, monitor and decompress JAR files.

BIBLIOGRAPHY

Fouche, G. (April 1, 2011). Foundations of SQL Server 2008 R2 Business Intelligence. Apress.

Haidar, B. (November 10, 2008). Professional ASP.NET 3.5 Security, Membership, and Role Management with C# and VB. Wrox.

Kimmel, P. T. (November 16, 2009). Professional DevExpress ASP.NET Controls. Wrox.

Varallo, V. (February 3, 2009). ASP.NET 3.5 Enterprise Application Development with Visual Studio 2008: Problem Design Solution. Wrox .

LINKS

[1] DevExpress. (2009). DevExpress. Obtenido de https://documentation.devexpress.com/

[2] MICROSOFT. (2008). Información general acerca del framework. Obtenido de http://msdn.microsoft.com/es-es/library/zw4w595w(v=vs.110).aspx

[3] Microsoft. (2009). Academia BI. Obtenido de http://www.microsoft.com/latam/technet/bi/default.mspx

[4] Sybase. (s.f.). Manual utilidades. Obtenido de download.sybase.com/pdfdocs/asg1250s/util.pdf

[5] Wikipedia. (s.f.). Wikipedia. Obtenido de http://es.wikipedia.org/wiki/Aqua_Data_Studio