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TECNICA DEL NORTE UNIVERSITY



FACULTY OF APPLIED SCIENCE ENGINEERING

RACE COMPUTER SYSTEMS ENGINEERING

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**MANAGEMENT AND CONTROL OF
FIXED ASSETS**

"MANAGEMENT AND CONTROL MODULE OF FIXED ASSETS - ERP - UTN"

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Summary: The rapid growth that has taken North Technical University in recent years has caused the volume of fixed assets of the institution is extremely large, creating an urgent need to own a computer application that allows art proper handling of them. By virtue of the university has made great efforts to develop a corporate ERP to better manage and control all information that the institution has, in the academic, administrative and financial, to develop several modules that help achieve these objectives, which are aligned to the policies of the institution and for being a state institution also must be aligned with the various government policies for better accountability process.

I. INTRODUCTION

The Fixed Assets module, tool that allows the institution to maintain control over those assets, to accurately determine the current status of each of them, specifying the amount found in the institution, so that issuing the stocks can be obtained complete lists of goods with their values.

The fixed assets module of ERP to manage institutional assets with tasks such as: incorporation of either the Fixed Asset Register, Generation of Coding Labels with barcodes, or Low Expenses, Record of the change of custody and/or cost center Movement of components, improvements or adjustments, depreciation calculations, Record of Contract of Insurance and Accounting for Depreciation.

So, the institution will have a computer tool to facilitate such art work on the management and control of the assets of the institution. Develop and implement an institutional computer application that solves the problems of management and administration of Fixed

Assets of the University attached to the standards¹ and guidelines for university management.



Figure 1: Outline of Project

The Management and Asset Control is a fully integrated solution that provides the ability to record, track, and to perform effectively low assets with minimal effort and maximum flexibility.

It is a tool designed in response to the need to visualize and analyze information for decision-making.

It was developed so that the Section Store / Warehouse can have a simple, intuitive and "friendly".

II. POSITIONING

This system allows the UTN automate the management and control of activities related to managing fixed assets, which will be a quick and easy access to data through user-friendly graphical interfaces. In addition, data accessed will always be updated, which is a very important factor to obtain real time information and control to carry central property of the University.

¹ **Standards:** It serves as a type, model, standard or reference standard.

The system is providing a solution to the following drawbacks of the Bodega Store section of the Técnica del Norte University:

- The existing system works with which interfaces currently lacks both revenue and control.
- The lack of an integrated system that efficiently performs management and control processes of Fixed Assets.
- There are still processes to be done manually with the possibility of making mistakes and letting transactions without registration.

III. DIAGNOSIS OF FIXED ASSETS MODULE

Module Management and Asset Control System Enterprise Resource Planning - ERP, is a specially designed system to manage information of Fixed Assets easily, quickly and efficiently and is intended to make systematic inventory of fixed assets in an orderly and quick.

This tool allows you to archive all the movements of fixed assets from acquisition, control locations, responsible, safe, maintenance, automatic calculation of depreciation and print reports.

The information stored in the management process and control of assets management enable us to compile statistics and modules will be integrated with Budget, Inventory, Accounting and Procurement Technical College managed in the North.

This system will allow the UTN automate the management and control of activities related to managing fixed assets, which will be a quick and easy access to data through user-friendly graphical interfaces. In addition, data accessed will always be updated, which is a very important factor to obtain real time information and lead to centralized control of the assets of the University.

The system also allows access to utilities across the Web, quickly and easily and without intermediaries.

The project is developed using Oracle Developer Tools Suite 10g (Oracle Forms and Oracle Reports), a database server Standard One and Oracle Reports will be generated in PDF format.

The process of registration and control of fixed assets consist of the following activities:

- a. Admission and Registration
 - Incorporation of either the Fixed Asset Register
- b. Generate Coding Labels with Barcodes
- c. Low expenditures or
- d. Transfers
 - Registration of change of custody and / or cost center
- e. Movement Components
- f. Additions or improvements
 - Record Maintenance, Repair of Personal Property
 - Registration of Real Property Maintenance
- g. Depreciation calculation
- h. Registration of Contract of Insurance
- i. Accounting for Depreciation
- j. General Reports

The Management and Asset Control is a fully integrated solution that provides the ability to record, track, and to perform effectively low assets with minimal effort and maximum flexibility.

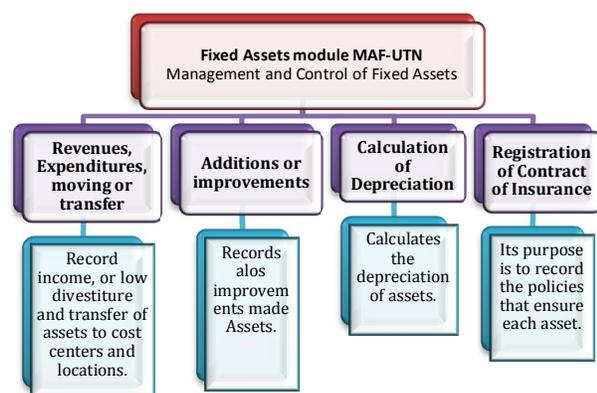


Figure 2: Outline of Project

It is a tool designed in response to the need to visualize and analyze information for decision-making.

It was developed so that the Section Store / Warehouse can have a simple, intuitive and "friendly".

IV. ANALYSIS SYSTEM DESIGN

The Technical University of Northern public body being core mission is to contribute to economic development, scientific, educational and cultural development of the northern region and the country through the creation and transmission of scientific knowledge, training professionals critical, creative, skilled, humanistic, ethical, committed to preserving the environment. In the coming years will be an accredited institution of higher education, strengthening the comprehensive training, scientific research and technology oriented towards sustainable development through university quality management, diversifying the links with the environment and contributing to human development in the society. This implies an expected adaptation to new information systems and technological developments.

As part of the automation process, it is considered necessary in the institutional areas of the UTN implementation of an integrated system as an Enterprise Resource Management (ERP). One component of this project is the Management and Control of Fixed Assets.

Based on the process automation plan encouraged by the Department of Computer Science Technical University North and reengineering of processes performed to Section Store / Warehouse building is determined by the Management and Control of Fixed Assets for the proper management of activities related to the university community.

The users of the Fixed Assets System within the front-end² are Deans, School Directors, Career Coordinators, Heads of Departmental amount depends on the cost centers are defined in the institution and in the back-

end³ are the officers of the Section Storage / Warehouse, the latter with the ability to interact on both sides.

Based on information collected from the various meetings with stakeholders identified the main activities which are detailed below separating the part that interacts with users (front-end) and the part where it meets the requests of users (back -end):

FRONT-END

It is the software that interacts with the user or users.

- a. Asset Transfer: Movement of assets between custodians and / or cost centers.
 - Registration of change of custodian
 - Registration of change Cost Center
- b. Component Movement: Movement of parts and / or components between assets.
- c. Statistics for Management (computers for faculty, number of laptops that have the UTN, custodians of the assets) reports are generated, resulting from the combination of search criteria.

BACK-END

It is the part that processes input from front-end.

- a. Income to the Inventory: Entering goods to the general inventory.
- b. Asset Register: Registration of goods with all their information, features, parts and accessories thereof.
- c. Generate Coding Tags: generated code labels for assets, parts and accessories, which shows the most important information that helps us identify the property.
- d. Low: Register or expenses low inventory of goods.
- e. Asset Transfer: Movement of assets between custodians and / or cost centers.
 - Registration of change of custodian
 - Registration of change Cost Center
- f. Component Movement: Movement of parts and / or components between assets.
- g. Additions or improvements, maintenance records, repair or adjustment made for fixed assets.
- h. Depreciation Calculation: Perform the calculation of depreciation of assets. Is done by December 31 of each year.

² **Front-End:** Es la parte del software que interactúa con el o los usuarios.

³ **Back-End:** Es la parte que procesa la entrada desde el front-end.

- i. Depreciation accounting: accounting entries are generated by the depreciation calculated.
- j. Registration of Contract of Insurance: We recorded insurance policies for assets.

Statistics for Management (computers for faculty, number of laptops that have the UTN, custodians of the assets) reports are generated, resulting from the combination of search criteria.

V. SUMMARY OF THE USERS

Users are all those people directly involved in the use of the system. Below is a list of users:

System Administrator.- Person of the data center that manages the Fixed Asset System. It administers the system functionally (manage user access, maintain the system against new requirements).

Functional Manager Personnel System.- Section Store / Warehouse Technical University Northern functional administrative system: new accounts, input-specific parameters, define and enter property.

Personnel system user.- responsible for each cost center's different departments that will use the UTN Fixed Asset System. Enter and update information concerning the movements of fixed assets in your area.

User management system.- Section Staff Warehouse / Warehouse validating the information from different departments, information and record consolidated revenues, expenditures (low), transfers, insurance contracting. In addition to generating depreciation, asset assessment, reporting, etc.

VI. ENVIRONMENT DEVELOPMENT OF FIXED ASSETS

Management System and Asset Control is developed using Web technology and the advantages Developer Tool Suite Release Oracle ® 10g, easy deployment, access and use. Each of which have been acquired by the UTN, investment potentiates the Academy towards

advanced technological paths, helping to automate their processes in the management of their resources.

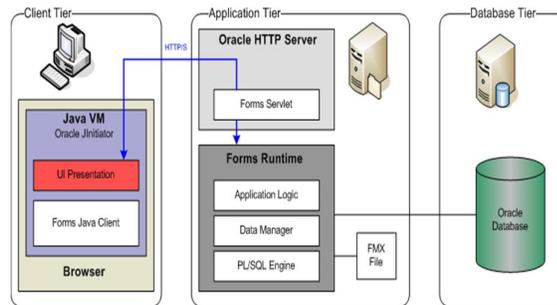


Figure 3: Forms-based architecture - Services

Section Store / Warehouse Cost Center and the University must have TCP / IP access to the database server and application server of the UTN. This with the aim that each user can access the application, and allows you to manage multiple options according to the privileges set for the role it plays within the system.

RESTRICTIONS

Due to limitations with the licensing of Oracle ® Developer Suite Release 10g, you should see a small number of end users, up to 12 concurrent users or so.

This is a system designed specifically according to the needs of the section Store / Warehouse.

The operation is only for Intranet.

QUALITY RANGES

Development of Management and Asset Control is set to Software Development Methodology RUP, looking at the quality parameters defined methodology.

VII. CONCLUSIONS

- By having the management and control system of fixed assets, improve the productivity of activities concerning the management of these assets, by providing an automated tool that provides enhancements to the traditional method of management. This is expected to decrease the time that income is inventory and eliminate data transcription process performed by the staff.

- Also improve the management by the warehouse personnel, to provide a more efficient information flow, which is achieved by allowing queries and perform data searches automatically, we have information that is organized, centralized, easy access and available in real time.
- The uses of Oracle ® database is advantageous for mass storage of information, and provide easy handling of data handled as files such as images, Microsoft Word, Excel and PDF.
- The development of a project through Oracle ® enables rapid development and code reuse through the use of templates, using a third-generation language such as PLSQL provides a quick and easy interface between the front and base of data.
- The management of RUP software development implemented in the university has been very helpful, allowing a clear idea at all stages of a project, its structure forces the developer to document the entire process from the beginning, development , testing and commissioning to production, with a detailed record of all changes made in the course to completion.
- The module management and control of fixed assets as part of the ERP of the university is a complex tool that was difficult to implement because it requires custom development based on the initial parameterization of the application that is common. Specific customizations and developments require a great effort in time to model all business processes in real life application.

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