UNIVERSIDAD TÉCNICA DEL NORTE

FACULTAD DE INGENIERÍA EN CIENCIAS APLICADAS

CARRERA DE INGENIERÍA EN SISTEMAS COMPUTACIONALES

TRABAJO DE GRADO PREVIO A LA OBTENCIÓN DEL TÍTULO

DE INGENIERO EN SISTEMAS COMPUTACIONALES

ARTÍCULO CIENTÍFICO (INGLES)

TEMA:

SISTEMATIZACIÓN DEL CENTRO DE ENTRENAMIENTO PARA EL ALTO RENDIMIENTO DE CARPUELA USANDO HERRAMIENTAS DE SOFTWARE LIBRE CON LOS MÓDULOS (ADMINISTRATIVO Y CONTROL DE HOSPEDAJE).

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Ibarra – Ecuador

2015

SYSTEMATIC TRAINING CENTER FOR HIGH PERFORMANCE CARPUELA USING FREE SOFTWARE TOOLS WITH MODULE (ADMINISTRATIVE AND CONTROL OF HOSTING).

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Summary. *Training center for High Performance Carpuela is constantly innovating for the necessary improvements to the attention of athletes by the Sports Ministry so it has launched the process of systematization of processes to improve quality aid to the athlete within the two modules has been developed which are: Administrative and hosting Control that help decision making for the administrative part .*

1. Introduction.

At present the training center located in the High Performance Carpuela has many challenges that have become limiting for the proper development of activities within the institution in this talk about what is the administrative and attention the athlete within the same we can cite as an example the following processes: monitoring of athletes and visitors to the institution as well as is the control of goods and other assets that are within the institution and therefore the optimization of these processes is urgently needed to optimize and streamline them.

Training Center currently does not have any system to allow for the development guided by what we have chosen as tools using free software tools for the realization of all the processes systematized our new system.

Something we should take into account is that today all processes takes them manually so it gets a bit harmful to the environment and what processes are a bit slower and more deficient in what is the organization of the company.

For decision-making by the administrative part it is very important to improve it is to keep the athlete in a relaxed atmosphere and a good performance in practice and development of sport point.

This project aims to improve the management and speed up the processes that exist within the institution and we have remained fixed point range the following processes: Track Athlete and Lodging Athlete thus will proceed to the elaboration of the thereof.

With all this said the beneficiaries will be the athletes of the country and turn the administrative staff of the Training Center for High Performance Carpuela as personnel will be involved in what is the systematization of information.

You must also take into account that when we systematize the immediate information such processes can access the information of any athlete in seconds you will have.

The tools we use to develop the system will be free software in our case we use tools such as:

• ECLIPSE

• JSF

• POSTGRES

• PrimeFaces

• CSS

• JAVASCRIPT

• ITEXTPDF

Which will help us to what is development of the system and which will help us as they are robust tools capable

of supporting a large amount of information without collapsing.

2. Materials and methods

The method which was developed this development project was to use a web system processes and procedures which will detail below:

3. Process:

The process is the set of activities or tasks, mutually interrelated that supports inputs during development either at the beginning or along the same, which are administered, regulated or self-regulated under models of private management for elements output or expected results.

3.1. Procedures:

Procedures can be defined as the homogeneous modules that are able to specify and elaborate a process, which form an ordered set of specific activities or operations sequentially and are directly related to those responsible for the implementation, as a fundamental part of the procedures is to be met with policies established norms, the duration of the procedure and document workflow to follow for proper development.

A very important feature of the proceedings is to be documented throughout the development of these step by step to control execution.

The primary objective of the procedures is to identify and point to what ?, why ?, who ?, where ?, how ?, and when each of the activities under the procedures of the different processes and procedures TRAINING CENTER Carpuela for high performance in terms of the administrative process.

This system will focus on the following processes:

Track athlete. Within this take track athlete within the institution and take into account the information that is entered by the different areas of the departments such as:

• Medical Area.

• Security Area.

• Corporate Services.

• Administrative Area.

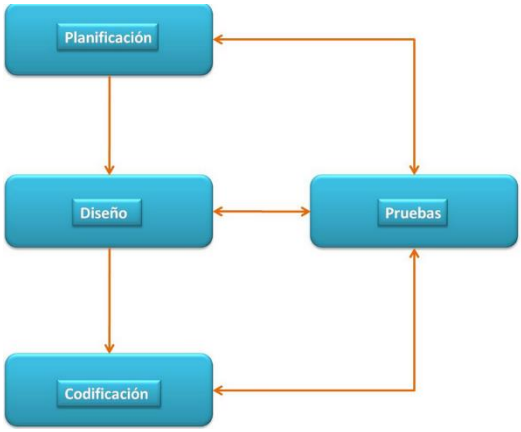
• kitchen area.

Through all these departments you can obtain accurate and immediate information which may take decisions by the administrative adjustments for improvement or requiring each of each department within the institution.

3.2. Accommodation athlete.

Within what is hosting the athlete will proceed to use this process only by the service sector which is responsible for knowing and assign a room to a new athlete to enter the institution to occupy the spaces provided by the training center.

Software development is used XP Xtreme programation which guide us in the process . Using the XP system methodology and documentation for use and future modifications to the Training Center for High Performance will be held .



SOURCE

https://xpgestionestadisticas.files.wordpress.com/

Stages of XP are:

• Phase: Project planning.

Within it we will make user stories, iterations, speed project, Daily meetings.

• Stage: Design. In the design phase we will proceed to: Simple Designs,

Glossaries, Risks, Extra functionality.

• Phase: Coding.

It will be conducting coding system for commissioning and their corrections.

4. Phase: Tests.

Tests for the proper functioning of the system be conducted in compliance with all necessary standards to be running.

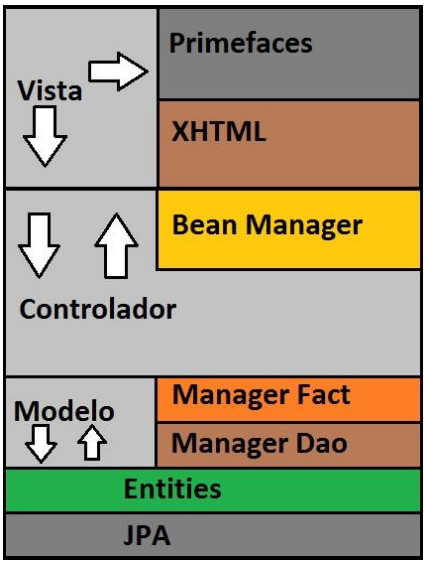
Tools.

The Apache Tomcat application server is compatible with the tools that we use to operate our system which will use the version 7.0.52.

Eclipse. It is a computer program composed of a set of programming tools to develop open source platform so the project called "rich client applications" as opposed to "Client-light" browser-based applications. This platform has typically been used to develop integrated development environments (IDE) such as Java IDE "

JSF. With these technologies and frameworks that are based on Web that help facilitate the development of user interfaces corresponding in Java EE applications such technologies occupy JSP (Java Server Pages) that is what allows us to accommodate the deployment pages.

Por medio de la misma podremos realizar la siguiente arquitectura de nuestro sistema a desarrollar para el centro de entrenamiento el cual tiene un patrón de arquitectura que es MVC:



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MVC. Model View Controller (MVC) is a standard software architecture that separates data from an application, the user interface and business logic into three distinct components. The pattern of call and return MVC is often seen in web applications, where the view is the HTML page and the code that provides dynamic data to the page. The model is the management system database and business logic, and the driver is responsible for receiving input events from the view.

5. Results

By applying a development methodology, in this case XP, allows an orderly work and above all as a result get quality software.

As all web applications, will enable all users to access the various modules 24 hours a day, 365 days a year from any browser within the institution, without having to install or configure special components.

For access to a computer system that is on the network from the institution and a browser for displays screens of information provided for each department and is difficult to access it is only necessary because the installation of components is not necessary extras for system operation.

Some benefits that were obtained in implementing the system within the institution are described.

• Considering that a new system is administrative processes were automated and integrated processes allowing athletes such as track hosting athletes and sportsmen to improve the management and control of information of athletes.

• procedures that deal with management were improved

• related procedures were changed: The head of supplies in stock can check stocks of products kitchen area and the area of nursing for their purchases in a quick manner.

• The monitoring system assign a sportsman and sportswoman to a room will improve the access time to information and updated in real time, allowing officials to perform reports.

• With date information is reduced response times of decision making.

• When using the system performance tasks ommended to responsible decision-making because the system will help to process the information faster is better.

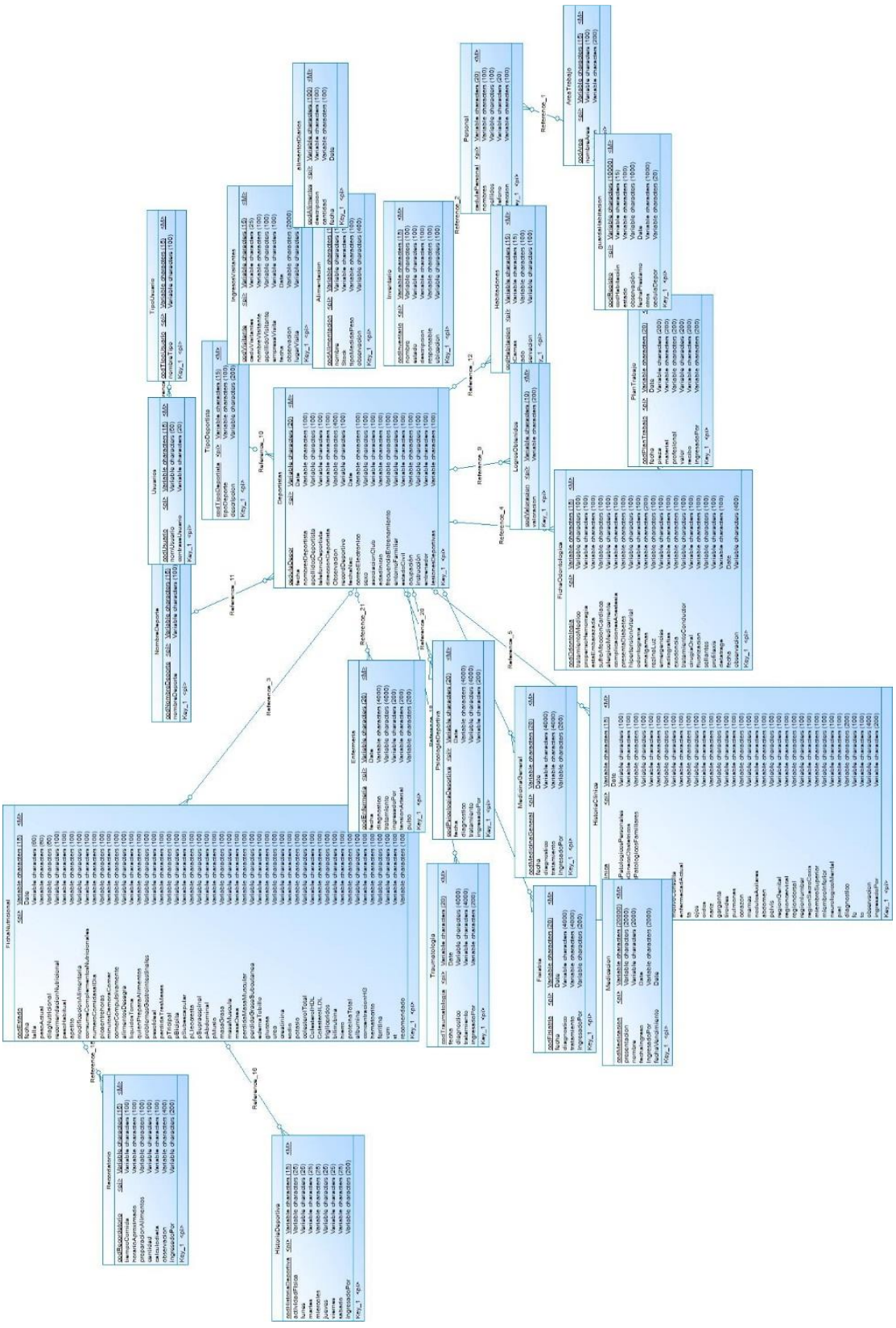
• It can generate reports immediately

• Ease of access to information at any time.

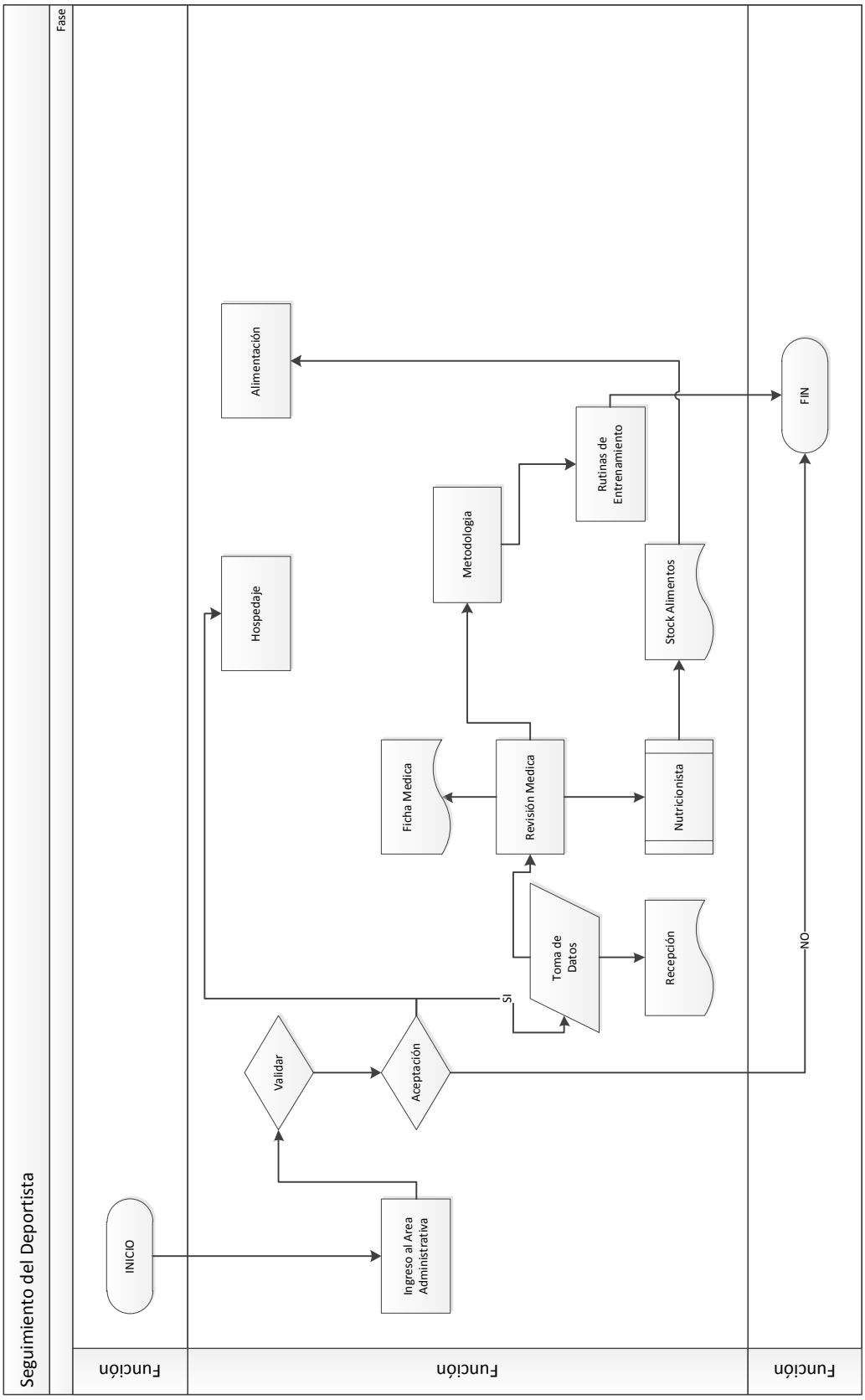
• Reliable and Secure.

Conceptual Model

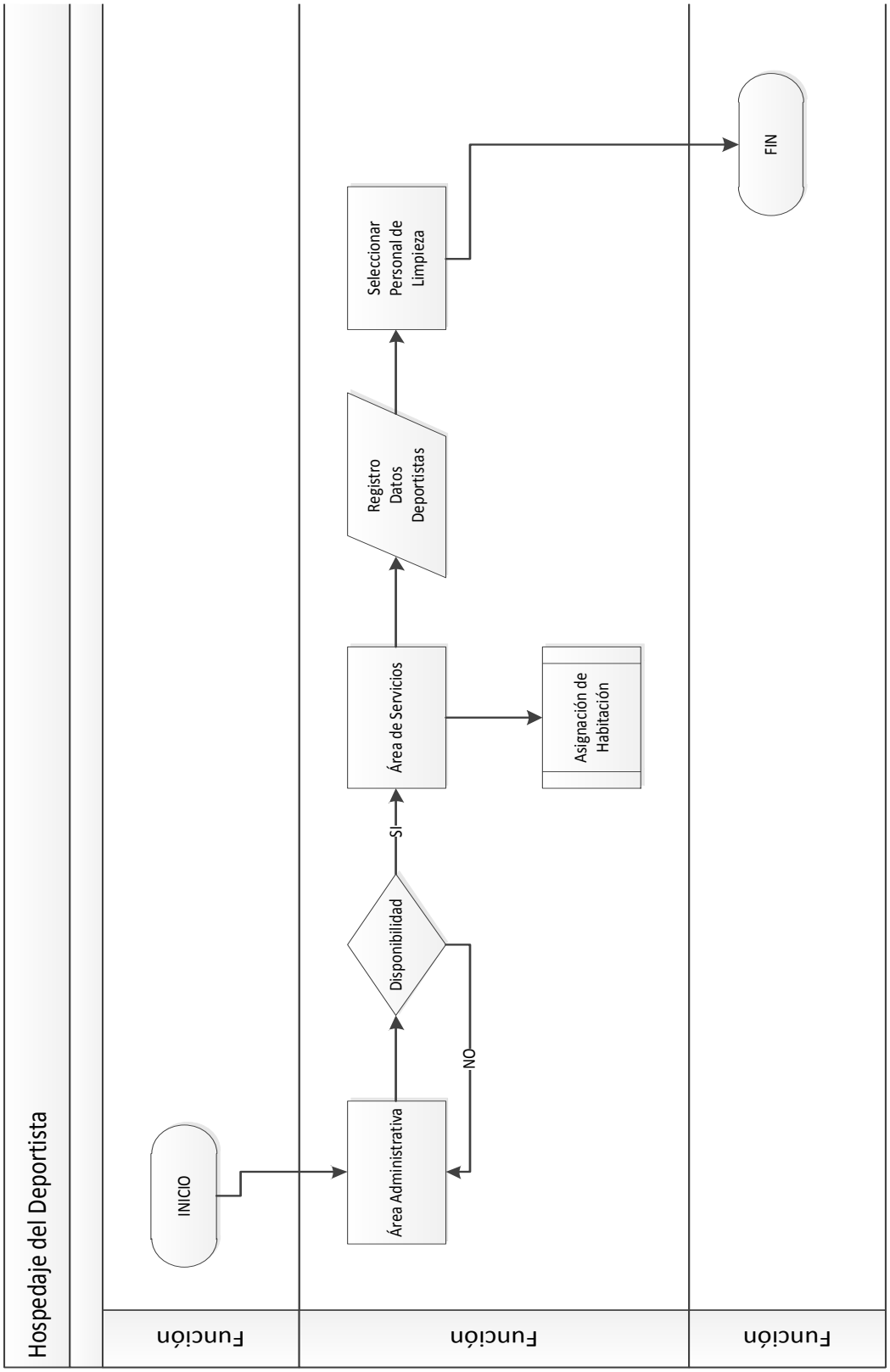
BASE (CENTRO DE ENTRENAMIENTO PARA EL ALTO RENDIMIENTO)



PROCESS MONITORING OF SPORTS



LODGING PROCESS OF SPORTS



Conclusions

• With the implementation of computer system you will see immediate improvements in data management of all athletes, and they can have a much more automated control of reports and other information that are vital to managing information.

• With the implementation of these manual processes is removed and so you can get to eliminate the use of paper in most offices of the Training Center for High Performance Carpuela.

• Acquired knowledge within the University and revealing all the tools and capabilities that have been handled in the period have been acquiring knowledge within the university house was applied.

Recommendations.

• You should test if developed is desired, performing a thorough customer feedback, which is who will use the system and who best knows your business processes.

• Develop scalable applications, and robust architectures that allow easy integration with new technologies, and that this integration does not require a lot of resources.

• Using agile methodology XP depend on the type of system that has to be developed.

• Proper operation of this methodology will enable both the customer and the developer to improve the product in each prototype and adapt better to changes that occur in the system development.

• When you set graphical interfaces is necessary to follow a standard that serves as a guide to facilitate the development of these and which are easy to handle for the user.

Dissect all the tools to use in developing a system, especially if they are free software, since when customize, may represent a high learning curve, so it is advisable to have basic tools to use.

REFERENCES

Letelie, P. (2008) Metodología agiles para el desarrollo de software XP. Valencia: Editorial: Camino de Vera46022 Valencia-España.

Group, T. P. (2010). PostgreSQL 9.0.4 Documentation. PostgreSQL Copyright, 2224

Elmasri, Ramez; Navathe, Shamkant B. (2010). Fundamentos de bases de datos. Pearson.

Díaz, Ma. Paloma; Montero, Susana; Aedo, Ignacio. (2005). Ingeniería de la Web y patrones de diseño. Pearson Educación.

Pressman, Roger S. (2010). Ingeniería de Software: Un enfoque práctico. McGraw-Hill.

Roldán Martínez, David; Valderas Aranda, Pedro J. (2010). Aplicaciones web: Un enfoque práctico. Alfaomega/ 2010.

Sabana Mendoza, Maribel. (2006). PhP con postgreSQL 8. Lima/ Megabyte/ 2006

Sznajdleder, Pablo Augusto. (2013). Java a fondo: estudio del lenguaje y desarrollo de aplicaciones. Alfaomega/ 2013

Escobar Atiaga & Cynthia Paola (2014). Análisis comparativo de Frameworks JSF 2.0. Icefaces, Primefaces y Richfaces; para la implementación en el desarrollo del sistema de gestión de proyectos ambientales de la empresa KAYMANTA, 1(1), 8 pag. Recuperado de: http://repositorio.espe.edu.ec/handle/21000/8162

Rosero, Raúl; Galarza, Chacón; Maira, Janeth; Tapia, Cevallos, Paulina, Salomé. (2005). Desarrollo de aplicaciones distribuidas utilizando patrones de

diseño modelo/ vista / controlador (MVC) bajo J2EE.1(1),(38-41) Recuperado de http://repositorio.espe.edu.ec/handle/21000/3458

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