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THEME:

IMPLEMENTACIÓN DE UN SOFTWARE PARA LA
PLANIFICACIÓN DE ENTRENAMIENTO EN EL ÁREA DE LA
NATACIÓN.

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IMPLEMENTACIÓN DE UN SOFTWARE PARA LA PLANIFICACIÓN DE ENTRENAMIENTO EN EL ÁREA DE LA NATACIÓN.

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Abstract: *After the failure of a system that allows you to take control and organized management of the swimming Club information concerning training and competencies UTN arises the necessity of creating this web system. Its development was methodology XP, the Java programming language with the frameworks JSF and JPA and the PostgreSQL database storage, allowing in this way the information organized and accessible at any time wish to.*

Key Words: OpenShift, XP methodology, swimming, JSF, JPA, PostgreSQL.

1. INTRODUCTION:

This work focuses on benefits having training software implementation in the swimming area, since in other works on this subject is not a program that helps coaches to improve their work as such.

Swimming is a sport that helps human beings to balance its relationship with the elements of nature as air, land and water, the same that offer multiple benefits at the time of practice it; therefore worth noting the primary role of UTN Jorge Pulles swimming club coach, has at the time of planning a

swimming training since according to Ramírez E. (2010) States that: "all planning of training is a forecast of actions to carry out in order to reach a final goal that is conditioned by many factors that we can include in the physical aspects psychic and social of the athlete".

Hernández A. (2013) States that "the training has several principles related, that must be followed to ensure correct application of the whole process". Since times back coaches have had to translate from inscriptions of swimmers, advances, time decision, styles in roles that with the passage of time deteriorate causing multiple problems at the time that was required to deliver both individual and group reports.

The objective of this research is focused on implementing a software support, control and monitoring to improve the preparation and management of training in swimming, taking a control systematized from the registration of athletes, the continuous progress and its culmination in tournaments.

Technologies constantly change and offer useful resources so that they are used by users at the time of applying them, in accordance with the needs and interests of each.

One of the creations is of Lara J. (2011) who invents a clock that is "something billet and swimming can be uncomfortable, but with this kind of thing is getting used to. As new pileup that boasts, can connect by usb to the computer and upload the data to the service web Finis, something quite comfortable having all our data from swimming training on the net and then analyzed by way of daily".

Nedalia (2013) says that "the easy generation of a training plan contributes to further streamline the management of the work of the coach", so it does need a program that will help to improve the planning of training.

Taking into account all collected previously, is widely justified the importance of the implementation of a software for training planning in the area of the swimming, which facilitate the work of teachers and provide confidence to athletes to the time you receive your reports.

2. MATERIALS AND METHODS

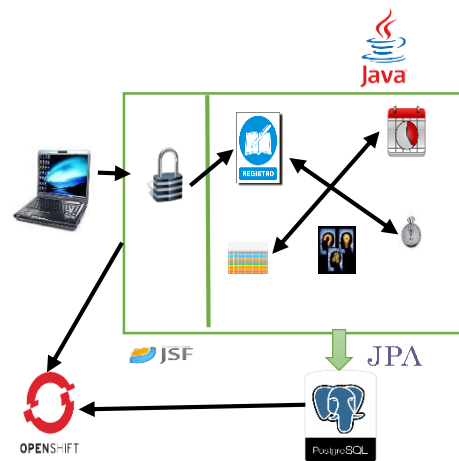
For the implementation of the system is used the following tools.

2.1. SOFTWARE

The development of the web application using the JAVA programming language, along with the PrimeFaces and JSF frameworks for their better implementation and development; also runs on the Apache Tomcat 7 server, in turn is hosted on the platform of service (PaaS) OpenShift, which facilitates their access from any computer with internet access; saving and reading its data in a PostgreSQL database.

2.2. ARCHITECTURE

Use the architecture in 3 layers, separating in the visual part, other logic and finally the storage of data, allowing to work independently to each layer.



2.3. XP METHODOLOGY

To get a quality software it makes use of an agile methodology, in this case extreme programming (XP) the development of the system which divides into 4 phases which are: planning, design, coding and testing.

Planning: In this stage is carried out meetings with the end user, in order to collect all requirements which must include the software, as well as define the iterations that have the same; one of the major parties is that this phase defines user stories that help to take control of the time which should be invested in development, moreover, allow to verify that it meets the requirements in test stage.

Design: At this point is to make the software prototypes to show an idea to the end user, this design is easy to understand and implementation for developers, also at this stage proceeds to identify risks and seek possible solutions to encode system.

Coding: At this stage is to translate into code that the final customer described in user stories, you must be aware that the presence of the client is necessary in the development of the methodology are defines deployment times and conditions that must include.

Tests: Is the final stage of the methodology, here are several test the system checks the functioning of the code according to the requirements given by the user in the first phase.

3. RESULTS

Collected once all the requirements of the user, manages to get a quality software that covers all the needs which are planned by the user such as: records of informative data, progress control, management training and management skills.

You have been to more organized control of the UTN Swimming Club information, allowing you to generate reports more quickly.





The program features a friendly interface which allows that users can navigate easily through the same.

With the system in OpenShift housing can be accessed everywhere with internet access which facilitates to training occur them anywhere, allowing a tidy control, Additionally, to the time of competition

entries may be them from internet speeding up this process.

One of the advantages of the use of the XP methodology is that it works directly with the end user, allowing that the needs that this posed to the beginning of the process met.

The main windows of the system are seen in the following table.

Window	Picture
Access to the system	
Administrator access window	
Coach Access window	
Judge Access window.	

Options for every type of user in the system.

User	System Options
Administrator	
Coach	
Judge	

4. CONCLUSIONS

- That a program meets the proposed objective is necessary to have a constant interrelation between programmer and user, sharing criteria on the scope that should have the system, knowing the handling and proper operation of the same.
- The use of different technological tools are very important at the time of the realization of different computer systems, since these are more efficient and reliable at the time of its execution.

- Application of the Primefaces, accelerate the development of the applications used by the programmer for the benefit of the user.
- The implementation of this system provides reliability of the data obtained are stored in a database, avoiding in this way which are modified or tampered by others, are also in accordance with the needs of coaches and users of swimming.
- Software offers efficiency and accuracy in results, it has greater organization and allows you to give follow-up to each of the participants at the time of the execution of a competition.
- In the testing of software which were applied in the UTN Swimming Club evidenced its effectiveness and agility when entering new swimmers and issue reports it makes you immediately.

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Mauricio Rolando CARRILLO PABON-I was born on 26 October 1992 in the city of Tena, Napo province.

My primary instruction did it in schools: Ciudad de Pimampiro Canton Pimampiro and

Teodoro Wolf Antonio Ante Canton, later joined the Mariano Suárez Veintimilla Technical College of the canton Ibarra, where I got the title of Technical Bachelor of Commerce and Administration, Specialty Computer Applications. Later, I joined the Técnica del Norte University in order to obtain the title of engineer in computer systems.