Career: Software Engineering

NRC: 7179

Subject: Advanced Web Development

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Group #7

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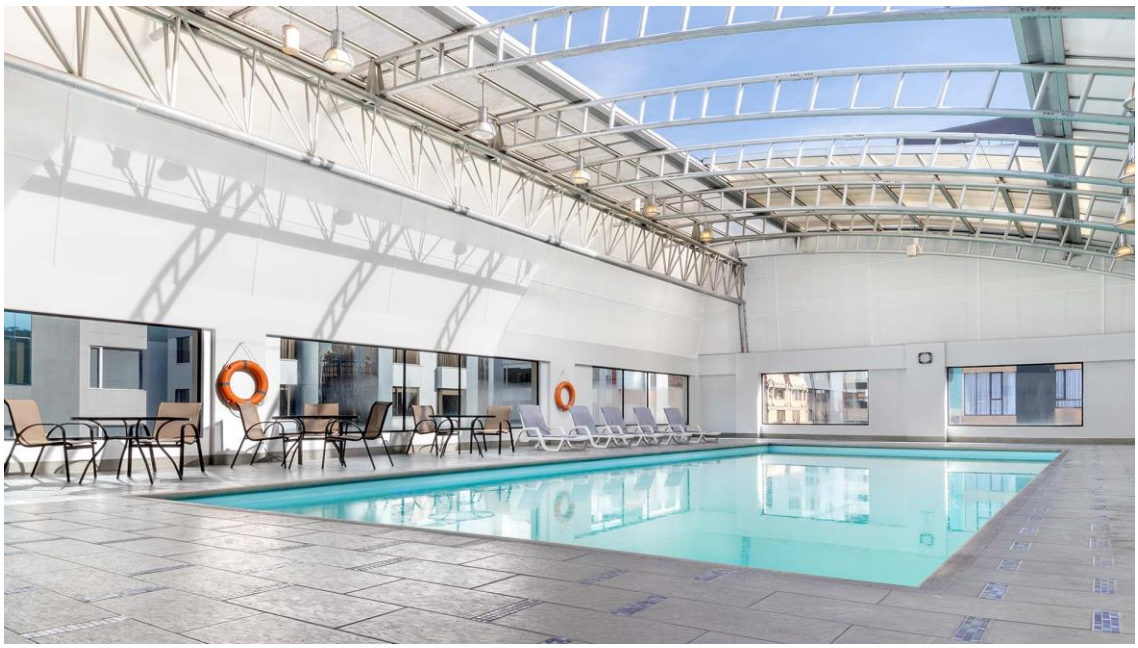
Theme: Maintenance control system of a chain of gyms.



Problem

We need a system (web application) that receives requests for repair and maintenance of technological equipment and machines of a gym, it is necessary to differentiate the actors involved in the application, as is the case of the user in charge of entering the requests, also must take into account the place from which comes the request for repair (considering that it is a chain of gyms), such data should be contained in a database that allows viewing the

arrangements that have been made continuously, thus allowing to obtain a history of work, which will be controlled by the systems manager of the company.

Overview

A gym always needs maintenance, because the flow of users and machines, according to its use, have a limit in their time of life. So the leaders of gyms and the maintenance manager need software that records the needs of the gyms about the maintenance of machines and also keeps them communicating. This project will be useful for the development and growth of the gyms, because with this efficient software will provide useful information so that the gyms are always kept in good condition.

Background

A gym is a place that has both sports equipment and other technological equipment; many of these equipment can break or wear out, preventing them from performing their functions normally, and therefore, they need repair. The system to be developed is for the systems department of a chain of gyms, and therefore, the software is dedicated to keep track

of the repairs made to the computer and sports equipment of the various gyms that make up the chain.

Four actors will be involved in this system, which are: the systems manager, the maintenance manager, his maintenance staff and the leaders of each gym.

The Systems Manager will be the main administrator who will be responsible for creating users, this will be done because it will be a private web application that can only be accessed by a certain number of designated people, also have the possibility that if you create a new gym this can be added to the database of its chain of gyms. From their profile they will be able to see if the maintenance tasks have been completed or not, thus achieving greater agility and control over the care of the gyms.

The maintenance manager will have access to the list of repair requests entered by the different leaders of each gym, once these requests are received, the maintenance manager must assign a member of his staff to proceed with the repair of the same.

Once the work is done, it should be recorded as "Completed" once the maintenance staff member has done it correctly and when this has been done this information will be sent to their database, along with the details of the completed fixes.

The leaders of each gym are in charge of reporting the different problems with the equipment (computer and sports) in their gym, which will be received by the maintenance manager and the systems manager.

Specific Requirements

Functional Requirements

The Wellness Group Requirements System

1. The program must allow entry a request to fix some instrument/machine/technology device that are located on the gym

   Each user will access with their username and password

   Only the supervisor user can generate a request for a fix

2. Email notifications will be sent to the person who is designated to fix the machine.

   Notifications will be sent by email when the machine is fixed by the person who has been designated to the boss who designated the task.

3. The super admin is the only user who can create new users for the system

   There will four type of users, super admin, admin, supervisors and simple users

4. Each person in charge will be automatically assigned their pending activities and once this is done they can assign the priority and execution dates.

5. The principal users will be able to examine reports and assignment management.

6. It will be possible to see the dates of execution by each person responsible for performing the work.

7. A report of pending purchases is generated.

8. Information will be received regarding all maintenance needs of the premises such as machinery, equipment, objects, among others.

Non-functional Requirements

1.1.1 Performance Requirements

- Requests and responses on computer or gym equipment maintenance should be virtually immediate.
- The system should have a maximum response time of five seconds for any CRUD operation in the database.
- Emails sent by the system shall take no longer than five minutes to reach the recipient.

1.1.2 Security

- Guarantee the security of the information and data that are handled. The program will be only for personal/private use. This will be guaranteed by the management of different user profiles, including the encryption of passwords.
- The system will guarantee the security of data by the continuous backup of the databases that the system will use.
- As a web application the development team will ensure that all internet protocols will be used.

1.1.3 Reliability

- The system should take a maximum of 10 minutes to recover from a total system crash, in most cases.
- The system shall maintain backup copies of the database, so that data can be recovered in the event of any failure or interruption.

- There should be no downed pages (downed links) in the system.

1.1.4 Availability

- System availability must be continuous with a service of 7 days for 24 hours.
- In case of any error that the system shows, the development team ensures that the system will be recovered in a timely manner. The development team is in service for 7 days/24 hours.

1.1.5 Maintainability

- The source code of the system should be readable and understandable by any programmer, as well as using the CamelCase standard for naming variables, classes, objects, etc. Thanks to this, maintenance (updates, changes) will be easier to perform.
- The system must have documentation that can be easily updated, which will make maintenance work easier.

1.1.6 Portability

- The system will be a web application so is going to be available in all platforms and devices like computers, laptops, tablets and smartphones.The development of the system will have a responsive design.
- The devices must have the minimum requirements that the different web browsers require.

1.1.7 Usability

- In most cases the user will be able to reach the desired task with a maximum of five clicks.

- The interface should be user-friendly and easy for the user to understand.
- The learning time of the system by the user should not exceed four hours.
- The system shall present informative error messages oriented to a certain user profile, if necessary.