**DEPARTMENT OF COMPUTER SCIENCES**

**Advanced Web Development**

**THEME**: IEEE 830

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# 1  Introduction

As developers, we need to create and design a web page, which allows users to purchase a scheduled appointment for cleaning their vehicle. The system will be controlled by an administrator, who will be able to see the scheduled appointments, as well as the earnings of the day.

It should be taken into account that the system will carry out a part of all the work that is normally carried out in a car wash and that the requirements requested by the client must be clear and specific to avoid future conflicts.

## 1.1  Purpose

Document all the requirements that the system must perform and consequently what it does not have to do, for which the document will provide the necessary information to each of the team members so that the system requirements are always clear and have been reduced the number of errors.

## 1.2  Scope

The system will keep an agenda with the dates and times in which users have scheduled an appointment on the web page, the system will have two types of users, the administrator who will control the web page and the client which is the one that will use the carwash services.

## 1.3  Involved personnel

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| Approval | Yes |
|---|---|

## 1.4 Definitions, acronyms and abbreviations

**Requirement.-** It is the condition or capacity that a system, product, service or component must have to satisfy a contract, standard, specification, or other formally established documents.

**System.-** A system is a set of interrelated elements that works as a whole.

## 1.5 References

| Reference | Title | Route | Date | Author |
|---|---|---|---|---|
| Specification of Requirements according to the IEEE 830 standard | IEEE Std. 830-1998 | https://www.fdi.ucm.es/ professor / gmendez / docs / is0809 / ieee830.pdf | October 22, 2008 | www.ucm.e s |
| | | | | |

## 1.6 Summary

The document has very important information since with it you will have one more guide to continue with the project. To carry out the project it is necessary to have requirements, otherwise it will not be known what is being done, so with the specification of requirements it will be clearer how to carry out the project.

The document is organized in a way that is easy for the other members of the team to understand, for this reason the document is divided into specific parts and each one is clearly detailed.

## 2 General description

For the development of the web application, a web application will be developed that is user-friendly and that does not focus on serving a single user only, but can be adapted for new needs, one of the limitations that is presented is the need From a stable internet connection to keep the application running, it is highly doubted that the web application is not compatible with the operating system since it does not run on it, but runs in a browser. What the system is mainly looking for is to reduce the waiting time for a car wash by managing scheduled visits to a client, improving their comfort, as well as safeguarding their health by preventing them from visiting crowded places or leaving their home

### 2.1 Product perspective

The web application that is being developed by the entire work team is a web that requires the use of the internet as well as the use of a browser to be able to be used, it will depend completely on a hosting for its correct operation, this will allow several users to be able to enter it at the same time, which will allow to fulfill the objective which is to streamline the management of the car wash as well as increase the comfort of the client when receiving the service.

## 2.2    Product functionality

The web application must have a simple interface to be used and that therefore can be understood by any user of the web application, in addition to having a friendly navigation and an eye-catching design

The application must allow taking from An appointment from a client to wash their car, receive the client's data as well as their address or point where they want the washing to be carried out, once the client confirms the request, it will be registered in the application so that administrators can receive it and accept it and assign a visit time after which a confirmation of their request will be sent to the client.

Once the team completes the wash, they must mark the visit as complete and it will move from pending to completed.

## 2.3    User Characteristics

| Type of user | Customer |
|---|---|
| Training | None |
| Abilities | None |
| Activities | Enter the web application and request your car wash. |

| Type of user | Administrator |
|---|---|
| Training | None |
| Abilities | None |
| Activities | Review customer requests, accept or reject them, and assign visiting hours. |

## 2.4    Restrictions

When developing the web application we may find some restrictions to deliver the system. One of them is the user traffic on the page, if there is a large number of requests in a short period of time, the web application or the hosting may suffer a drop. In addition to this, the system is restricted by a monthly or annual payment of a hosting to host the web application.

Because the system will be developed in a web application, the user's hardware will not be inconvenient as long as they have an internet connection and can use a browser, however, basic knowledge in computer science will be essential for a correct use of the application, however, In the development of the system, it must be prioritized that its use is intuitive and easy for any type of user who uses it.

Finally, an important restriction is the need for direct intervention in the process with confirmations, since this will increase the waiting time for a client, which can cut a bit from the client's comfort goal.

## 2.5    Assumptions and dependencies

The application, being developed for use on the Internet, will not be dependent on the computer's operating system, however each browser will depend on the version and its own add-ons to display fully or differently from what was developed. Local servers will be used, and it can be accessed via LAN, so if there is a technical problem or appears this affects it directly.

## 2.6    Predictable evolution of the system

In future versions, the system will include the possibility of registering through your google or facebook account to speed up the registration process and make it easier for the client to book appointments. If we continue to refer to modifications we can say

that it would be the implementation of new customer service options from the car wash company, as well as modifications and constant offers and discounts.

And finally, a change that would be made often would be a maintenance to the system, the same that will have the correction of errors that are damaging or slowing down the system.

## 3   Specific requirements

### 3.1     Common interface requirements

#### 3.1.1   User interfaces

The system It will have 2 main interfaces, one for the client and one for the administrator, the client interface will consist of a set of information windows about the company, as well as a menu to navigate through it, on the other hand the administrator interface It will consist of a login and after which you will have an access page, as well as a menu so that you can access the different options of the system.

#### 3.1.2   Software interfaces

Any web browser whose latest version has been released in the last 10 years.

#### 3.1.3   Communication interfaces

Communication between the client and the server must be done using standard internet protocols, in this case via https.

| Requirement number | 1 |
|---|---|
| Requirement name | Tests on localhost to then load the system to a server |

| Guy | ☑ Requirement ☐ Restriction | |
|---|---|---|
| Requirement source | Developer | |
| Requirement priority | ☑ High / Essential | ☐ Medium / Desired ☐ Low / Optional |

## 3.2 Functional requirements

### Functional requirement # 1

Validate user

The software upon receipt of a user it will validate with a file where the list of users are found.

| Requirement number | 1 | | |
|---|---|---|---|
| Requirement name | Validate user | | |
| Guy | ☑ Requirement ☐ Restriction | | |
| Requirement source | Customer who wants the software | | |
| Requirement priority | ☑ High / Essential | ☐ Medium / Desired | ☐ Low / Optional |

### Functional requirement # 2

Validate password

The software will validate the password received by the user and compare it with the password entered by the user.

| Requirement number | 2 |
|---|---|
| Requirement name | Validate password |
| Guy | ☐ Requirement ☐ Restriction |
| Requirement source | Customer who wants the software |
| Requirement priority | ☐ High / Essential ☐ Medium / Desired ☐ Low / Optional |

## Functional requirement # 3

Encrypt password

The software will encrypt the password at the time of login and when it is saved in the user archive, no one will be able to view the password.

| Requirement number | 3 |
|---|---|
| Requirement name | Encrypt password |
| Guy | ☐ Requirement ☐ Restriction |
| Requirement source | Software developer and client |
| Requirement priority | ☐ High / Essential ☐ Medium / Desired ☐ Low / Optional |

## Functional requirement # 4

System audit

The software should have a section for the administrator or superuser where you can see the system audit, that is (access to the system, actions carried out by the client, etc.).

| Requirement number | 4 |
|---|---|
| Requirement name | System audit |
| Guy | ☐ Requirement ☐ Restriction |
| Requirement source | Software Client |
| Requirement priority | ☐ High / Essential ☐ Medium / Desired ☐ Low / Optional |

**Functional requirement # 5**

System on the web

The software must be found on the web, that is, the product to be developed is a web application.

| Requirement number | 5 |
|---|---|
| Requirement name | System on the web |
| Guy | ☐ Requirement ☐ Restriction |
| Requirement source | Software Client |
| Requirement priority | ☐ High / Essential ☐ Medium / Desired ☐ Low / Optional |

**Functional requirement # 6**

Notify customer appointment information.

The software must fulfill the function of notifying a client of the information of their appointment, such as day, time and price of the service.

| Requirement number | 6 |
|---|---|
| Requirement name | Notify customer appointment information. |
| Guy | ☐ Requirement ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ High / Essencel ☐ Medium / Desired ☐ Low / Optional |

**Functional requirement # 7**

Show messages of offers and promotions by season.

The software must contain information about discounts or promotions that the laundry center offers seasonally.

| Requirement number | 7 |
|---|---|
| Requirement name | Show messages of offers and promotions by season. |
| Guy | ☐ Requirement ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ High / Essential ☐ Medium / Desired ☐ Low / Optional |

**Functional requirement # 8**

Different forms of payment for the service.

The software must allow the customer or user to cancel the service through different forms of payment.

| Requirement number | 8 |
|---|---|

| | |
|---|---|
| Requirement name | Different forms of payment for the service. |
| Guy | ☐ **Requirement**    ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ High /       ☐ **Medium /**       ☐ Low / Optional<br><br>Essential       **Desired** |

## Functional requirement # 9

Restrict scheduling two appointments at the same time and day.

The software must restrict two people from scheduling the service at the same time on the same day, this will not be possible since there may be no availability of washing personnel.

| | |
|---|---|
| Requirement number | 9 |
| Requirement name | Restrict scheduling two appointments at the same time and day. |
| Guy | ☐ Requirement     ☐ **Restriction** |
| Requirement source | Software developer |
| Requirement priority | ☐ **High /**       ☐ Medium /       ☐ Low / Optional<br><br>**Essential**       Desired |

## Functional requirement # 10

Mark service as completed or not completed.

The software should allow the super user to mark the service as completed or not completed.

| Requirement number | 10 |
|---|---|
| Requirement name | Mark service as completed or not completed. |
| Guy | ☐ Requirement    ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ High / Essential    ☐ Medium / Desired    ☐ Low / Optional |

## Functional requirement # 11

Show full appointment details.

The software should show the client's scheduled appointment with all its details.

| Requirement number | eleven |
|---|---|
| Requirement name | Show full appointment details. |
| Guy | ☐ Requirement    ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ High / Essential    ☐ Medium / Desired    ☐ Low / Optional |

## Functional requirement # 12

Cancel an unwanted appointment

The software will allow the client to cancel a scheduled appointment within a certain time, after that time has elapsed, they will not be able to cancel the appointment.

| Requirement number | 12 |
|---|---|

| Requirement name | Cancel an unwanted appointment. |
|---|---|
| Guy | ☐ Requirement      ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ High / <br> Essential   ☐ Medium / Desired   ☐ Low / Optional |

**Functional requirement # 13**

Allow to schedule an appointment at a desired time.

The software will allow the client to schedule an appointment at the hours that are pre-

established by the business, taking into account the delay time of the service.

| Requirement number | 13 |
|---|---|
| Requirement name | Allow to schedule an appointment at a desired time. |
| Guy | ☐ Requirement      ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ High / <br> Essential   ☐ Medium / Desired   ☐ Low / Optional |

**Functional requirement # 14**

Show message when user does not have scheduled appointments.

The software will launch a message indicating that the user or client has no scheduled

appointments.

| Requirement number | 14 |
|---|---|

| Requirement name | Show message when user does not have scheduled appointments. |
|---|---|
| Guy | <mark>☐ Requirement</mark>    ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | <mark>☐ High /</mark> <br> <mark>Essential</mark> | ☐ Medium / <br> Desired | ☐ Low / Optional |

### Functional requirement # 15

Keep an inventory of the sales generated

The software must carry an inventory with the sales made per day, weekly or monthly.

| Requirement number | fifteen |
|---|---|
| Requirement name | Keep an inventory of the sales generated. |
| Guy | <mark>☐ Requirement</mark>    ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | <mark>☐ High /</mark> <br> <mark>Essential</mark> | ☐ Medium / <br> Desired | ☐ Low / Optional |

### Functional requirement # 16

Show the hours and days available to schedule an appointment.

The software must show the availability of hours and days to be able to schedule an appointment.

| Requirement number | 16 |
|---|---|

| | |
|---|---|
| Requirement name | Show the hours and days available to schedule an appointment. |
| Guy | ☐ **Requirement**  ☐ Restriction |
| Requirement source | Software developer |
| Requirement priority | ☐ **High / Essential**  ☐ Medium / Desired  ☐ Low / Optional |

**Functional requirement # 17**

Restrict customer access to the administrator section.

The software must restrict the full access of the client user to the superuser section.

| | |
|---|---|
| Requirement number | 17 |
| Requirement name | Restrict total client access to administrator tab. |
| Guy | ☐ Requirement  ☐ **Restriction** |
| Requirement source | Software developer |
| Requirement priority | ☐ **High / Essential**  ☐ Medium / Desired  ☐ Low / Optional |

## 3.3  Non-functional requirements

### 3.3.1  Performance requirements

The web application will have a super user or administrator who will be the only one who can see the sales records (per day, weekly or monthly). You will also be able to see your work staff, and you can enable or disable work staff. The system

will have at least 2users. You will have a quick response at the time of operation since it is not a complex and difficult system to use.

### 3.3.2  Security

The web application, in order to be safe and protected, an encryption will be placed for the password that the user enters when registering. It should be noted that an additional system audit table will be added, which will indicate the time and date of entry of customers to the web application, and what actions it took, same as an appointment reservation. It also has a super user or administrator, which will only be provided to the owner of the business or product.The super user will be the only one who can view added users and appointments To the system.

### 3.3.3 Reliability

The web application should show informative messages when the user makes a mistake within the system, this message will indicate what the client or user should be done in that case so that the user does not make the same mistake again. In other words, you will be presented with a warning on the screen or in the text input field.

### 3.3.4  Availability

Availability will be 100% as it requiresIt has several requirements but not very complex, that is, it will always be available to the user.

### 3.3.5  Maintainability

Based on the audit table, preventive maintenance will be carried out in a period of 3 months in which several important points such as system security and operation will be analyzed. The aforementioned process will be carried out by the development team themselves who will review if the system continues fulfilling

its functions. Once the process is finished, it must be detailed if the system requires any change in security or operation, or in the worst case if it was affected by a hacker system for the theft of information. The contract will establish what A security patch must be implemented in the event of a massive hack into the system.

### 3.3.6 Portability

The system must be uploaded to a server so that the client can access and use the web application, otherwise the client or business owner will not be able to view and perform the pertinent tests on the delivered system..

## 3.4   Other requirements

Implement and adapt new changes or recommendations that the engineer mentions or provides us For the best of project in order to learn and apply what was learned in the different classes.

# 4   Appendices

This is a project carried out by software engineering students, so there will be a little difference between the different documentation and this document. As the project is going to be in constant change the documentation, consequently the documentation as well.