**Software Requirements Specification for Car Purchasing Web Application**

**Prepared by:**

Menna Abdelmajeed -Salma Jamal

**Reviewed by:**

Beshoy Sameh - Ahmed Mahmoud Samy- Aml Mostafa

**Information Technology Institute- ITI**

**V.1.1**

**Date: 2/22/2023**

**Table of Contents**

**1**[**.**](#_4d34og8) **Introduction 5**

[1.1 Purpose](#_2et92p0) 5

[1.2 Document Conventions](#_tyjcwt) 5

[1.3 Project Scope](#_3dy6vkm) 5

[1.4 References](#_1t3h5sf) 5

[**2. Overall Description**](#_4d34og8) **6**

[2.1 User Classes and Characteristics](#_2s8eyo1) 6

[2.2 Operating Environment](#_3rdcrjn) 6

[2.3 Design and Implementation Constraints](#_26in1rg) 6

[2.4 Assumptions](#_lnxbz9) 6

[**3. System Features**](#_35nkun2) **7**

[3.1 Registration](#_1ksv4uv) 7

[3.1.1 Description](#_6qv6x2o4dvqy) 7

[3.1.2 Priority](#_se7wvn8ds4bn) 7

[3.1.3 Stimulus/Response Sequences](#_dakvtju0q3x) 8

[3.1.4 Functional Requirements](#_dgiz5wd5f7b) 8

[3.1.5 Technical Requirements](#_fskao6ja0z6s) 8

[3.2 Login](#_44sinio) 10

[3.2.1 Description](#_t0x41su93u2a) 10

[3.2.2 Priority](#_k6gbjyg6udnh) 10

[3.2.3 Stimulus/Response Sequences](#_fphi7em85vqa) 10

[3.2.4 Functional Requirements](#_jfbbrh9zybn7) 10

[3.2.5 Technical Requirements](#_8x50gx4mh3nz) 10

[3.3 Logout](#_qgani5gzu4zc) 11

[3.3.1 Description](#_ho9er8o0g39i) 11

[3.3.2 Priority](#_tbjh72xhyxz2) 11

[3.3.3 Stimulus/Response Sequences](#_73jqh8bk7kp9) 11

[3.3.4 Functional Requirements](#_kkwm3vy6syo3) 11

[3.2.5 Technical Requirements: None](#_ysc0xsb4nlyi) 11

[3.4 View Car List](#_m2md7kjhj6lf) 12

[3.4.1 Description](#_7sxp4p7ve2c9) 12

[3.4.2 Priority](#_5t62jz34il7y) 12

[3.4.3 Stimulus/Response Sequences](#_9tzba2dy4zpe) 12

[3.4.4 Functional Requirements: None](#_g8i7usk5wxts) 12

[3.4.5 Technical Requirements: None](#_grpb5mcd62c9) 12

[3.5 Search](#_4nzsq51vytli) 12

[3.5.1 Description](#_53wgp4vjsbz) 12

[3.5.2 Priority](#_5ttxeejg4z5p) 12

[3.5.3 Stimulus/Response Sequences](#_nepnex1v7ioa) 13

[3.5.4 Functional Requirements](#_gnxp5aizo4n1) 13

[3.6 View Car Details](#_5cbt5a212tzp) 13

[3.6.1 Description](#_exua0zszvbnp) 13

[3.6.2 Priority](#_77itj6ug2kx) 13

[3.6.3 Stimulus/Response Sequences](#_cn1yriv73z8l) 13

[3.6.4 Functional Requirements](#_eu5hhticwxs4) 14

[3.7 Buy](#_qngnd5abhgp1) 14

[3.7.1 Description](#_42jimumrlhb0) 14

[3.7.2 Priority](#_zq32852f10y) 14

[3.7.3 Stimulus/Response Sequences](#_f2srk2hh81s) 14

[3.7.4 Functional Requirements](#_hgtgmjw34f1y) 15

[3.8 Add car](#_dkypx1bvlf6u) 16

[3.8.1 Description](#_4j96grw0ivu5) 16

[3.8.2 Priority](#_s759ywmaebjh) 16

[3.8.3 Stimulus/Response Sequences](#_lus0kxbvichz) 16

[3.9 Delete car](#_y0tul2k8awvy) 17

[3.9.1 Description](#_ihpq4nc2jt1b) 17

[3.9.2 Priority](#_nis106jlwbh1) 17

[3.9.3 Stimulus/Response Sequences](#_4vxvuom0gjvp) 17

[3.9.4 Functional Requirements](#_i5m319r9dflp) 18

[3.10 Approve/Decline](#_lca4sutyiq3w) 18

[3.10.1 Description](#_us0zo2ha5y74) 18

[3.10.2 Priority](#_2a34ua1nw48q) 18

[3.10.3 Stimulus/Response Sequences](#_sopywl93pgwd) 18

[3.10.4 Functional Requirements](#_6p11354g0uds) 19

[3.10.5 Technical Requirements:None](#_k2uozhad3nzd) 19

[**4. Quality Attributes**](#_3as4poj) **19**

[4.1 Usability](#_1pxezwc) 19

[4.2 Security](#_2p2csry) 19

**VERSION & Revision HISTORY**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Version #** | **Implemented By** | **Creation Date** | **Approved By** | **Approval Date** | **Explanation** |
| **1.0** | **Menna Abd El-Mejeed**  **Salma Gamal** | **20/02/2023** |  | **22/02/2023** |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**1. Introduction**

## **Purpose**

The purpose of this software requirement specification is to provide a clear, documented model of the requirements for the online car purchasing web application. This system will host a huge database of vehicles, allowing vendors to advertise and market their vehicles and buyers to find the vehicles they're looking for. This document provides a

high-level description for customers who want to purchase cars. The system provides the customer a way to browse easily through various brands and price ranges. So that customer will easily reserve the car that he wants with an intuitive and easy to use portal.

## **Document Conventions**

This document follows MLA Format. The bold-faced text has been used to

emphasize section and subsection headings. Highlighting is to point out words in the

glossary.

## **Project Scope**

* The scope of this project includes design, implementation and testing of the features described in the succeeding sections of this document.
* Acceptance testing is in scope.
* Functional testing & external interfaces are in scope.
* Non-functional testing like stress, performance is beyond scope of this project.
* Unit and automation testing is beyond scope of this project.

## **References**

**1.4.1** Customer requirements specification.

**1.4.2** Sample in Question (SIQ).

# **Overall Description**

## **User Classes and Characteristics**

The system includes two types of users:

Customer: the client should be able to view and buy from the available cars on the website, The features associated with client will be discussed in details in section 3.1

Administrator: the administrator should be able to:

* Approve customer reservation for the car.
* Decline customer reservation for the car.
* Add car data.
* Delete car data.

## **Operating Environment**

The web application can be run on:

* Windows 10: Google Chrome (v.110.0.5481.104).
* Mozilla Firefox (v.110.0).
* Microsoft Edge (v. 110.0.1587.50).

The Internet is a basic necessity for the system to be accessed.

## **Design and Implementation Constraints**

* Web - based system / PC based.
* Unique user IDs.
* Admin features needed.

## **Assumptions**

Admin Features:

* Add the car data.
* Delete car data.
* Approve reservation.

Drop List Feature:

* Car brand.
* Price range

# **System Features**

The Purchasing car website will have 2 roles

1. Admin
2. User

Following features/modules will be available to these 2 different roles

| **Admin** | **User** |
| --- | --- |
| Login & Logout | Login & Logout |
| View car list | View car list |
| View car details | View car details |
| Search | Search |
| Add car | Register |
| Delete car | Buy car |
| Approve & Decline |  |

## **Registration**

### **3.1.1 Description**

Users must have an account in order to be able to view the home page. Users who don’t have an account will not be able to view or buy any of the website products. Users' accounts will hold information about their first name, last name, email, password, confirm password, phone number and address. Users can view and login to their accounts anytime in the future after their registration.

### **3.1.2** **Priority**

Priority Level: High.

### **3.1.3 Stimulus/Response Sequences**

In the login page, users can login if they already have an account and if not, there would be a sign-up button to register his information. Upon matching the required criteria, the account will let the user log in to his/her account and the home page is displayed.

### **3.1.4 Functional Requirements**

**REQ-1: Register**

● User: Users

● Input: ○ In sign up page

○ User- enters first name, last name, email, phone number, address, password,

and confirm password.

● Output: ○ Successfully registered, the home page is displayed

● Alternative flow(s):

○ Incase of repeated/invalid email or phone number, ask user to re-enter a valid

choice.

○ If the user clicks on the login button, the system should navigate to the login

page.

### **3.1.5 Technical Requirements**

**T001** Customer First Name - Numbers are not allowed.

**T002** Customer First Name - Special characters are not allowed.

**T003** Customer First Name - Customer name must not be blank.

**T004** Customer First Name - First character cannot have space.

**T005** Customer Last Name - Numbers are not allowed.

**T006** Customer Last Name - Special characters are not allowed.

**T007** Customer Last Name - Customer name must not be blank.

**T008** Customer Last Name - First character cannot have space.

**T009** Email - Email must not be blank.

**T010** Email - Email must be in email format.

**T011** Email - First character cannot have space.

**T012** Email - can accept special characters.

**T013** Email - can accept numbers.

**T014** Password - Numbers are allowed.

**T015** Password - can’t be copied.

**T016** Password - special characters are allowed.

**T017** Password- must be at-least 8 characters.

**T018** Password - password must not be blank.

**T019** Password - password must be encrypted.

**T020** Confirm Password - Numbers are allowed.

**T021** Confirm Password - can’t be copied.

**T022** Confirm Password - special characters are allowed.

**T023** Confirm Password- must be at-least 8 characters.

**T024** Confirm Password - must not be blank.

**T025** Confirm Password - must be encrypted.

**T026** Confirm Password - Must be match with the password

**T027** Telephone Number – Mobile no. must not be blank.

**T028** Telephone Number – Special characters are not allowed.

**T029** Telephone Number – Characters are not allowed.

**T030** Telephone Number - First character cannot have space.

**T031** Address - Address Field must not be blank.

**T032** Address - First character cannot have space.

**T033** Address - Special characters are not allowed.

**T034** Address - Numbers are allowed.

## **Login**

### **3.2.1 Description**

Login feature will help in authentication of user and admin accounts. Users who have valid email and password can only login into respective accounts. After that users will be able to navigate to the home page successfully.

### **3.2.2 Priority**

Priority Level: High.

### **3.2.3 Stimulus/Response Sequences**

In the login page, users can login and admins, if they already have an account. Upon matching the required criteria, the account will let the user log in to his/her account and the home page is displayed. For the users who don’t have a registered account, there would be a sign-up button to register his information.

### **3.2.4 Functional Requirements**

**REQ-2: Login**

● User: Users and Admin

● Input: ○ In login page

○ User- enters registered email and password

○ Admin- enters registered email and password

● Output: ○Successfully logged in, the home page is displayed

● Alternative flow(s):

○ Incase of invalid email or a mismatch between user id and password, ask the

user to re-enter a valid credential.

### **3.2.5 Technical Requirements**

**T035** Email - must not be blank.

**T036** Email - Email must be in email format.

**T037** Email - First character cannot have space.

**T038** Email - can accept special characters.

**T039** Email - can accept numbers.

**T040** Password - password must not be blank.

**T041** Password - password must be encrypted.

## **Logout**

### **3.3.1 Description**

All users and admins will be able to logout from their accounts from the home page.

### **3.3.2 Priority**

Priority Level: High.

### **3.3.3 Stimulus/Response Sequences**

In the home page, users and admins can logout, then the system will navigate them to the login page again**.**

### **3.3.4 Functional Requirements**

**REQ-3: Logout**

**●** User: Users and admins

● Input: ○ Click ‘logout’ button in home page

● Output: ○ User and admins are successfully logged out, the login page will be displayed

● Alternative flow(s): None

### **3.2.5 Technical Requirements:** None

### 

## **3.4 View Car List**

### **3.4.1 Description**

In the home page, the users can navigate from an enormous data of available cars and each car should have the remaining amount.

### **3.4.2 Priority**

Priority level: High

### **3.4.3 Stimulus/Response Sequences**

When the user or admin login, both of them should be able to reach the home page and view all the list of the available cars**.**

### **3.4.4 Functional Requirements:** None

### **3.4.5 Technical Requirements:** None

## **3.5** **Search**

### **3.5.1 Description**

Customers can search for an item from a large catalog of available cars in the car purchasing system. Users can search through a dropdown list which upon selection, lists the car brand and price.

### **3.5.2 Priority**

Priority Level: High.

### **3.5.3 Stimulus/Response Sequences**

In the home page, users and admins can search by two dropdown lists to choose from the available cars by their brand or price.

### **3.5.4 Functional Requirements**

**REQ-4: Search item**

● User: Users and admins

● Input: ○ In the home page

○ click on the price dropdown list, or brand dropdown list

○ Users can choose a specific brand or the wanted price.

● Output: ○List of cars according to the chosen brand and range of price.

● Alternative flow(s):

○Display:

Cars from a specific brand or range of price are not available, please try

another brand or range of price.

**3.5.5 Technical Requirements:**  None

## **3.6 View Car Details**

### **3.6.1 Description**

In the view car details page, the user can know more about the chosen car information (photo, description, price. Brand, model, number of available cars for each brand) and can reserve this car through the buy button.

### **3.6.2 Priority**

Priority level: medium.

### **3.6.3 Stimulus/Response Sequences**

In the home page, the users can navigate from an enormous data of available Once the user chooses any of the available cars then he/she can press on the car photo which will navigate him/her to the page which includes more information about the chosen car, then the user will be able to view the car (photo, description, price. Brand, model, number of available cars for each brand).

### **3.6.4 Functional Requirements**

**REQ-5: View car details**

● User: Customers and admins

● Input: ○ From the list of cars click on a car to view its details.

● Output: ○ Details of the selected car like -photo, description, price. Brand, model,

number of available cars for each brand will be displayed, along with the buy

button.

● Alternative flow(s): None

**3.6.5 Technical Requirements:**  None

## **3.7 Buy**

### **3.7.1 Description**

Once the customer proceeds to buy from the home page, there is a reservation button. Once the customer presses on it, the reservation form is visible users' reservation form will hold information about their full name, phone number, email, national Id, password and appointment in order to see the car. After filling the details, the customer has to click on the save button to confirm the reservation.

### **3.7.2 Priority**

Priority level: High.

### **3.7.3 Stimulus/Response Sequences**

In the home page, the users can navigate from enormous data of available cars. Once the user chooses any of the available cars, then he/she could press on the buy button which is found below each car or press on the car photo which navigates the user to the car details page which also has a buy button. After that a reservation form appears to let the user enter his required data to reserve his car successfully. Finally, after the user clicks on the save feature in the reservation form a request will be sent to the admin.

### **3.7.4 Functional Requirements**

**REQ-6: Buy**

● User: Users

● Input: ○In home page

○ Click on buy button

○ Fill the reservation form

○ Click on save button

● Output: ○ Reservation successfully placed.

● Alternative flow(s):

○In case the user clicks on the car photo, he could also press on the buy button

from this page and then the reservation form appears.

○In case the user presses the cancel button instead of save button, the home

page displays.

○In case the user email or password doesn’t exist in the database, an error

message appears**.**

**3.7.5 Technical Requirements**

**T042** Customer Full Name - Numbers are not allowed.

**T043** Customer Full Name - Special characters are not allowed.

**T044** Customer Full Name - Customer name must not be blank.

**T045** Customer Full Name - First character cannot have space.

**T046** Email - Email must not be blank.

**T047** Email - Email must be in email format.

**T048** Email - First character cannot have space.

**T049** Email - can accept special characters.

**T050** Email - can accept numbers.

**T051** Telephone Number – Mobile no. must not be blank.

**T052** Telephone Number – Special characters are not allowed.

**T053** Telephone Number – Characters are not allowed.

**T054** Telephone Number - First character cannot have space.

**T055** National ID- Should be 14 numbers.

**T056** National ID- Can’t be blank.

**T057** National ID- Can’t accept characters.

**T058** National ID- Can’t accept special characters.

**T059** National ID - First number cannot have space.

**T060** Password- Can’t be blank.

**T061** password- must be encrypted.

**T062** Password- at least 8 characters.

**T063** Appointment- Can’t be blank.

## **3.8 Add car**

### **3.8.1 Description**

Admins are authorized to add new cars to the system by simply filling out the "Add car" form which includes a photo, description, price. Brand, and model for the car.

### **3.8.2 Priority**

Priority level: High

### **3.8.3 Stimulus/Response Sequences**

In the admin home page, the admin can click on the “Add” button, a form is displayed.

and enter the details for each car such as photo, description, price. Brand, and model and after filling the form the admin will press on the “save” button to add the car to the system.

**3.8.4 Functional Requirements**

**REQ-7: Add**

● User: Admins

● Input: ○ In home page

○ Click on add button

○ Fill the add car form

○ Click on save button

● Output: ○ Car added successfully.

● Alternative flow(s):

○In case the admin presses the cancel button instead of save button, the home

page displays**.**

**3.8.5 Technical Requirements**

**T064** Description- must not be blank.

**T065** Price- must not be blank.

**T066** Price– Special characters are not allowed.

**T067** brand- must not be blank.

**T068** model- must not be blank.

## **3.9 Delete car**

### **3.9.1 Description**

Admins are authorized to delete any car from the system by simply deleting the car from the “All cars” page.

### **3.9.2 Priority**

Priority level: medium

### **3.9.3 Stimulus/Response Sequences**

From the admin home page, admin can display all cars through clicking on the “all cars” page which includes a delete button below each car post.

### **3.9.4 Functional Requirements**

**REQ-8: Delete**

● User: Admins

● Input: ○ In home page

○ Click on “All cars” page

○ Click on delete button

● Output: ○ Car deleted successfully.

● Alternative flow(s): None.

**3.9.5 Technical Requirements:** None.

## **3.10 Approve/Decline**

### **3.10.1 Description**

Admins are authorized to approve or decline customers’ requests to reserve the car.

### **3.10.2 Priority**

Priority level: High

### **3.10.3 Stimulus/Response Sequences**

From the admin home page, admin can click on the “Requests” button which will navigate the admin to the “All Customers Requests” page through which the admin can accept or reject the request of any customer.

### **3.10.4 Functional Requirements**

**REQ-9: Approve/ Decline**

● User: Admins

● Input: ○ In home page

○ Click on Customers’ Requests button

○ Click on the accept button.

● Output: ○ Customer request accepted successfully.

● Alternative flow(s):

○ Click on the reject button. The customer request is rejected.

### **3.10.5 Technical Requirements:** None

# **Quality Attributes**

## **Usability**

* User-friendly interface: The website has a clear and intuitive layout, making it easy for users to navigate and find what they are looking for.
* Clear and detailed product information: The website should provide users with all information they need about the cars, including (photo, description, price. Brand, and model).

## **Security**

* Secure authentication: The website should have secure login mechanisms, to ensure that only authorized users can access sensitive information*. (Using the email and password).*

**Appendix A: Glossary**

|  |  |
| --- | --- |
| **Priority** | *High* |
| *Medium* |
| *Low* |