**Software Requirements Specification (SRS) for Car Purchasing Web Application**

**Revision History**

| **Date** | **Version Number** | **Description** | **Implemented By** |
| --- | --- | --- | --- |
| 16/3/2024 | Version 1 | Initial draft | Amira Bahaa |
| 30/3/2024 | Version 2 | functional requirements modifications | Angelous Adel |
| 7/4/2024 | Version 3 | added feature validations | Bassant Samir |

**Document Approval**

The following Software Requirements Specification has been accepted and approved by the following:

| **Printed Name** | **Title** | **Date** |
| --- | --- | --- |
| Bassant Samir | Project Manager | 16/3/2024 |
| Bassant Samir | Project Manager | 31/3/2024 |

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# 1. Introduction

## 1.1 Purpose

The purpose of this document is to outline the functional and non-functional requirements for the development of a Car Purchasing Web Application. This application will serve as a platform for sellers to advertise their cars and for buyers to search and reserve desired cars.

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## 1.2 Scope

The car purchasing web application will provide the following functionalities:

**User Registration and Login:** Users will be able to register for an account and log in. After logging in, users will be directed to the car listing page, where they can view available cars.

**Car Search:** Users will have the ability to search for cars based on model.

**Car Reservation:** Users will be able to reserve a car from the available listings.

## 1.3 Definitions, Acronyms, and Abbreviations

- SRS: Software Requirements Specification

- PC: Personal Computer

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# 2. Overall Description

## 2.1 Product Perspective

The Car Purchasing Web Application will be a standalone system accessible through web browsers on PCs. It will interact with a database to store and retrieve car listings, user information, and reservation details.

## 2.2 Product Features

The main features of the application include:

1. User Registration and Login

2. Car listing page displaying the number of currently available cars.

3. Search functionality allowing users to search for cars based on different criteria.

4. Option for users to reserve cars from the available listings.

5. Admin Features for User and Listing Management

## 2.3 User Classes and Characteristics

The application will have two primary user categories:

**- User:** Individuals interested in buying or selling cars.

**- Admin:** Responsible for managing the system, including user accounts, car listings, and reservations.

## 2.4 Operating Environment

The Car Purchasing Web Application will be accessible via web browsers on PCs with an internet connection.

# 3. Specific Requirements

## 3.1 External Interface Requirements

### 3.1.1 User Interfaces

The user interface shall be intuitive and user-friendly, facilitating easy navigation for both buyers and sellers.

The user interface shall be intuitive and user-friendly, allowing users to easily navigate through the application.

The application shall include the following interfaces:

- Registration and login forms for users.

- Car listing page displaying available cars.

- Search functionality with various search criteria.

- Reservation form for users to reserve cars.

### 3.1.2 Hardware Interfaces

None

### 3.1.3 Software Interfaces

The application shall interact with a backend database to store and retrieve car listings, user information, and reservation details.

## 3.2 Functional Requirements

## 3.2.1 User Registration

Users can register using their phone number (11 characters), name (up to 50 characters), and a password (at least 8 characters with uppercase letters and one number).

**srs\_registeration\_phone\_01**

- phone number field shouldn’t be blank

**srs\_registeration\_phone\_02**

- phone number field should accept numbers only

**srs\_registeration\_name\_01**

- name field shouldn’t be empty

**srs\_registeration\_name\_02**

- name field should accept alphabetical characters only

**srs\_registeration\_name\_03**

- name field should accept a maximum of 50 characters only

**srs\_registeration\_password\_01**

- Passwordfield shouldn’t be empty

**srs\_registeration\_password\_02**

- Passwordmust contain at least 8 characters, including uppercase alphabets and one number.

**srs\_registeration\_ConfirmPassword\_01**

- confirm password field shouldn’t be empty

**srs\_registeration\_ConfirmPassword\_02**

- the input entered in the confirm password field should match the input entered in password field

### validation requirements

**srs\_registration\_val\_01**

- If the user enters invalid inputs in any field of the registration form, the system shall display the error message "Invalid inputs!" upon submitting the form.

**srs\_registration\_val\_02**

- If the user tries to register with a phone number that is already associated with an existing account, the system shall display an error message "Phone number already exists!" upon submitting the form.

## 3.2.2 Login

Users can log in using their unique user ID (phone number with 11 characters) and password (at least 8 characters with uppercase letters and one number).

**srs\_login\_id\_01**

- id field shouldn’t be empty

**srs\_login\_id\_02**

- id field should accept numbers only

**srs\_login\_admin\_01**

- Admin users shall log in using provided Admin ID and password that will be available in the database

**srs\_login\_password\_01**

- Passwordfield shouldn’t be empty

**srs\_login\_password\_02**

- Passwordmust contain at least 8 characters, including uppercase alphabets and one number.

### validation requirements

**srs\_login\_val\_01**

- If the user enters invalid phone number or password in the login form, the system shall display the error message "Invalid credentials!"

**srs\_login\_val\_02**

- If the user tries to log in with a phone number that is not associated with an existing account, the system shall display the error message "Phone number does not exist!”

## 3.2.3 Car Listing Page Display

Upon login, users must be directed to the car listing page, which should not display unavailable cars and should contain a maximum of 10 available cars per page.

Each car card on the listing page will feature the car image, model, and price, and when clicked, users will be redirected to the corresponding car details page.

**srs\_CarListingPage\_01**

- Upon logging in, users shall land on the car listing page

**srs\_CarListingPage\_02**

- Listing page shouldn’t display unavailable cars

**srs\_CarListingPage\_03**

- Each listing page will contain a maximum of 10 available cars

**srs\_CarListingPage\_CardInfo\_01**

- Each car card contain the car image, model, and price.

**srs\_CarListingPage\_Redirect\_01**

- When the user clicks on the car card in the listing page , they should get redirected to the corresponding car details page.

### validation requirements

**srs\_CarListingPage\_val\_01**

- if the user’s search query returns no results, the system shall display the error message "No available cars to display."

**srs\_CarListingPage\_val\_02**

- if the website's database contains no available listings for cars to sell, the system shall display the error message "There are no cars available for sale”

## 3.2.4 Car Details Page Display

The car details page must displayed to user after opening the car details, the application should show the car specifications.

**srs\_CarDetailsPage\_01**

- The car details page shall include car model, price, seller name, and seller phone number

## 3.2.5 Car Search Functionality

Users can search by model name or by the price search.

**srs\_CarSearch\_ModelName\_01**

- The model name input field should accept characters and numbers only

**srs\_CarSearch\_ModelName\_02**

-The model name input field shouldn’t be empty

**srs\_CarSearch\_Price\_01**

- Users will be able to search based on price by specifying the price range field

**srs\_CarSearch\_Price\_02**

- Price range field should have a minimum of 0 and a maximum of 999,999,999

### validation requirements

**srs\_CarSearch\_val\_01**

Error message for invalid price range: "Price range should be between 0 and 999,999,999."

## 3.2.6 Car Reservation Option

The Car Reservation Option provides users with the ability to reserve cars from the available list, Upon successful reservation, the list is updated to reflect the reservation status.

**srs\_CarReservation\_01**

- Users shall have the option to reserve a car from the available cars in the listing page by clicking on the “reserve” button on the car card.

**srs\_CarReservation\_02**

- A car shouldn’t be able to get reserved by more than 1 user

**srs\_CarReservation\_03**

- Upon reserving a car, the listing shall be updated to not show the reserved car.

**srs\_CarReservation\_04**

- Upon reserving a car, the user should get a pop up message that says “car reserved successfully”

### validation requirements

**srs\_CarReservation\_Val\_01**

Error message for attempting to reserve a car already reserved: "Sorry, this car has already been reserved."

**srs\_CarReservation\_Val\_02**

Success message upon successful reservation: "Car reserved successfully."

## 3.2.7 Car Advertisement Option

The Car Advertisement Option allows users to advertise their cars by providing necessary details through a submission form.

**srs\_CarAdvertisment\_01**

- Users shall have the option to advertise their car on the listings by clicking on “advertise” button to be redirected to the car advertisement form page

**srs\_CarAdvertisement\_02**

- The car selling page will be submitted in a form that includes : car model, price, car images, seller name, and seller phone number.

**srs\_CarAdvertisement\_Model\_01**

-Car model field should accept characters and numbers

**srs\_CarAdvertisement\_Model\_02**

-Car model field shouldn’t be empty

**srs\_CarAdvertisement\_Price\_01**

-Price field shouldn’t be empty

**srs\_CarAdvertisement\_Price\_02**

-Price field should accept positive numbers only

**srs\_CarAdvertisement\_Price\_03**

-Price field should decline any values above 999,999,999

**srs\_CarAdvertisement\_Image\_01**

-Car image field shouldn’t empty

**srs\_CarAdvertisement\_SellerName\_01**

-Seller name field shouldn’t be empty

**srs\_CarAdvertisement\_SellerName\_02**

-Seller name field should accept characters only

**srs\_CarAdvertisement\_SellerName\_03**

-Seller name field should accept a maximum of 50 characters

**srs\_CarAdvertisement\_SellerPhone\_01**

-Seller Phone field shouldn’t be empty

**srs\_CarAdvertisement\_SellerPhone\_02**

-Seller phone field should accept 11-digits number only

**srs\_CarAdvertisement\_SellerPhone\_03**

-Seller phone field should starts with 01

### validation requirements

**srs\_CarAdvertisement\_Val\_01**

If the user enters invalid inputs in any field of the car advertisement form, the system shall display the error message "Invalid inputs!" upon submitting the form.

**srs\_CarAdvertisement\_Val\_02**

If the user tries to submit the form without filling all the fields, the system shall display the error message "Fields cannot be empty!”

## 3.2.8 Admin Features

The Admin Features provides administrators with functionalities for managing user accounts and lists.

**srs\_AdminFeatures\_01**

- Admin users shall have access to features for managing user accounts and listings.

**srs\_AdminFeatures\_02**

- Admins shall be able to delete user accounts.

**srs\_AdminFeatures\_03**

- Admins shall be able to delete car advertisements

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## 3.3 Non-Functional Requirements

None till now

# 4. User Categories

- User

- Admin

# 5. Constraints

- The system shall be web-based and accessible via PC.

- User IDs shall be unique.

- Admin features are required for user and listing management.

# 6. Additional Features (Added) / Change management Process

- Passwords must contain at least 8 characters, including uppercase alphabets and one number.

- Search criteria shall include the ability to search by car model.