GitHub Link: [danlemiu/CS425-SE-Project · GitHub](https://github.com/danlemiu/CS425-SE-Project)

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## **MUMSchedCarRental: Use Case Description**

### **Use Case Number: 1**

**Name:** User Registration and Login

**Brief Description:** This use case allows users (both consumers and dealers) to register and log in to the system.

**Actors:** User (Consumer or Dealer)

**Preconditions:**

* The user must have access to the internet.
* The user must not already have an account with the same email.

**Flows of Events:**

#### **Basic Flows**

#### **1.0 Register User**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The user navigates to the registration page. | The system displays the registration form with fields for name, email, password, and user type (consumer or dealer). |
| 2 | The user fills out the form and submits it. | The system verifies that the email is unique and saves the user details, returning a success message. If a duplicate email is found, it returns an error message. |

**Postconditions:**

* The user profile is saved in the system.

**Business Rules:**

* No duplicate user profiles. A unique profile is identified by the email address.

#### **1.1 Login User**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The user navigates to the login page. | The system displays the login form with fields for email and password. |
| 2 | The user enters their email and password and submits the form. | The system verifies the credentials and, if correct, logs the user in and redirects them to their dashboard. If the credentials are incorrect, it returns an error message. |

**Postconditions:**

* The user is logged into the system.

**Business Rules:**

* The system must securely store and validate user passwords.

### **Use Case Number: 2**

**Name:** Search Car Listings

**Brief Description:** This use case allows users to search for car listings based on various criteria.

**Actors:** User (Consumer or Dealer)

**Preconditions:**

* The user must be logged into the system.

**Flows of Events:**

#### **Basic Flows**

#### **2.0 Search Car Listings**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The user navigates to the car search page. | The system displays the search form with fields for make, model, price range, style, drive type, engine type, color, mileage, and number of doors. |
| 2 | The user fills out the search form and submits it. | The system processes the search criteria and returns a list of matching car listings. |

**Postconditions:**

* The system displays the search results.

**Business Rules:**

* The system should return relevant car listings based on the search criteria.

### **Use Case Number: 3**

**Name:** Manage Car Listings (Dealer)

**Brief Description:** This use case allows dealers to add, update, and delete their car listings.

**Actors:** Dealer

**Preconditions:**

* The dealer must be logged into the system.

**Flows of Events:**

#### **Basic Flows**

#### **3.0 Add Car Listing**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The dealer navigates to the add car listing page. | The system displays the car listing form with fields for make, model, price, style, drive type, engine type, color, mileage, number of doors, and additional details. |
| 2 | The dealer fills out the form and submits it. | The system verifies the details and saves the car listing, returning a success message. |

**Postconditions:**

* The car listing is saved in the system.

**Business Rules:**

* The system should ensure all required fields are filled.

#### **3.1 Update Car Listing**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The dealer navigates to their car listings page. | The system displays a list of the dealer's car listings. |
| 2 | The dealer selects a car listing to update. | The system displays the car listing form pre-populated with the current details. |
| 3 | The dealer updates the details and submits the form. | The system updates the car listing and returns a success message. |

**Postconditions:**

* The car listing is updated in the system.

**Business Rules:**

* The system should ensure only the listing owner can update the details.

#### **3.2 Delete Car Listing**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The dealer navigates to their car listings page. | The system displays a list of the dealer's car listings. |
| 2 | The dealer selects a car listing to delete. | The system displays a confirmation dialog. |
| 3 | The dealer confirms the deletion. | The system deletes the car listing and returns a success message. |

**Postconditions:**

* The car listing is deleted from the system.

**Business Rules:**

* The system should ensure only the listing owner can delete the listing.

### **Use Case Number: 4**

**Name:** Manage Dealer Information (Admin)

**Brief Description:** This use case allows administrators to manage dealer profiles.

**Actors:** Admin

**Preconditions:**

* The admin must be logged into the system.

**Flows of Events:**

#### **Basic Flows**

#### **4.0 Add Dealer Profile**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The admin navigates to the add dealer profile page. | The system displays the dealer profile form with fields for name, email, address, and phone number. |
| 2 | The admin fills out the form and submits it. | The system verifies the details and saves the dealer profile, returning a success message. |

**Postconditions:**

* The dealer profile is saved in the system.

**Business Rules:**

* No duplicate dealer profiles. A unique profile is identified by the email address.

#### **4.1 Update Dealer Profile**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The admin navigates to the dealer profiles page. | The system displays a list of dealer profiles. |
| 2 | The admin selects a dealer profile to update. | The system displays the dealer profile form pre-populated with the current details. |
| 3 | The admin updates the details and submits the form. | The system updates the dealer profile and returns a success message. |

**Postconditions:**

* The dealer profile is updated in the system.

**Business Rules:**

* The email field should be unwritable.

#### **4.2 Delete Dealer Profile**

| **Step** | **User Actions** | **System Actions** |
| --- | --- | --- |
| 1 | The admin navigates to the dealer profiles page. | The system displays a list of dealer profiles. |
| 2 | The admin selects a dealer profile to delete. | The system displays a confirmation dialog. |
| 3 | The admin confirms the deletion. | The system deletes the dealer profile and returns a success message. |

**Postconditions:**

* The dealer profile is deleted from the system.

**Business Rules:**

* The system should ensure the dealer is not associated with any active car listings before deletion.