

# Carrus

software engineering project

supervisor: Areej Alfreh

## Team members:

Rana Alsulami (Leader)

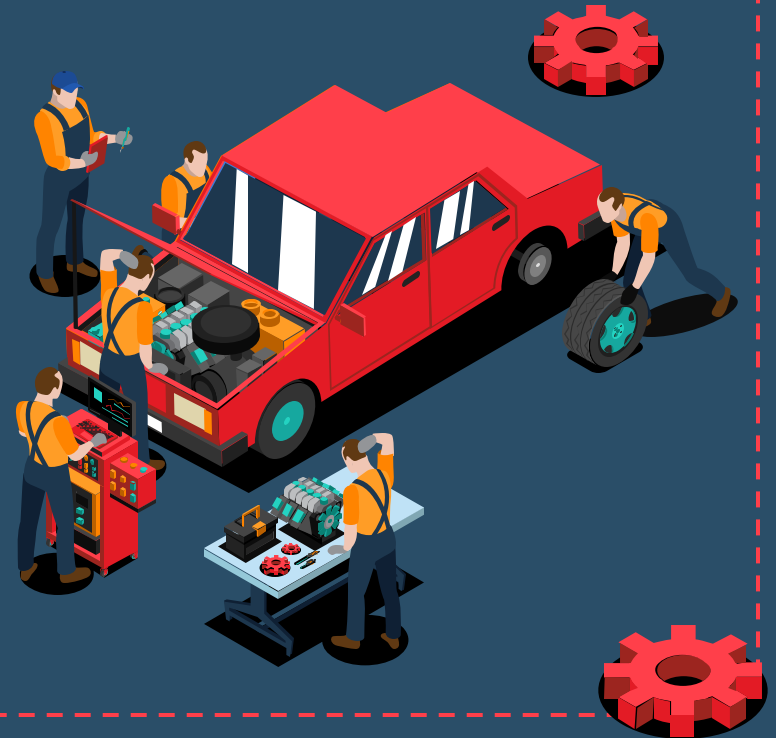
Asayel Qaid

Noura Al Sharif

Basant Melibari

Jood Albogami

Weam Shibah

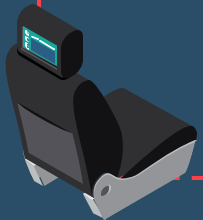


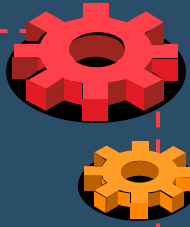


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**Scope:** interactive transaction based app

### 1- What is the software idea/application type?

Our software idea is a comprehensive car store platform that serves individuals in the automotive industry, the platform also allows users to browse, compare, and make reservations for rental cars, buy and sell cars and car spare parts. In conclusion our application provides a convenient services for all car needs

### 2- What are the user categories?

Individuals looking to buy, rent, or maintain a car or buy some car parts

### 3- What is the requirements specification (i.e. services)?

- |                   |                    |
|-------------------|--------------------|
| 1- Create account | 2- Login           |
| 3- Selling cars   | 4- car maintenance |
| 5- spare parts    | 6- renting cars    |



# Functional requirement:



## 1. The user shall be able to create a new account .

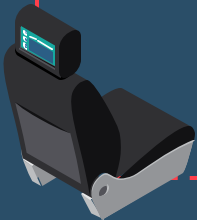
1.1 the system allow the user create account, and take the user to the account creation page to register with certain field (name, email, phone number and password,).

1.2 The system shall check The validation of entered data \*email and phone number if there's a matching in the data base if the information is already exist the system will display an error message( email and phone number have to be unique for every user ).

1.3 The system shall display a pop-up page for phone number verification code.

1.4 the system store the registering to the data base.

1.5 the system shall take the user to login page.





# Functional requirement:

## 2. The user shall be able to log in .

2.1 the system shall be able to display login form to the user which contain these fields: (name and password).

2.2 The system shall check if the password matching with password stored in database.

2.3 the system shall display a pop-up page for phone number verification code if the password matching otherwise the system will generate an error message.

2.4 The system shall take the user to home page .

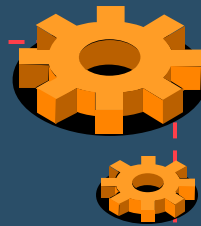
## 3. The user can maintenance their car.

3.1 the system shall list of cars companies to the user and let the user chose the desired company.

3.2 the system shall display the available time and allow the user schedule one of them.

3.3 the system shall display the appointment information .





# Functional requirement:

## 4. the user can buy some spare parts

- 4.1-The system should include an options for users to buy spare parts.
- 4.2 -System should allow the user to search for the desired part.
- 4.3-The system should display the spare parts , including the details of each part, such as name of the part, the price, quantity and the description with availability to add the item to the cart .

## 5. The user shall be able to rent a car

- 5.1-The system should display the available rental cars.
- 5.2-The system should allow users to specify rental dates and select desired car with availability to add the item to the cart .
- 5.3-The system should provide a booking information and displays rental agreements for users.
- 5.4 the system shall store the booking information in the database.



# Functional requirement:



## 6. The user shall be able to add or remove items from the cart.

6.1 The system will display the cart items with the remove icon, so when the user clicks on remove the system will remove it from the cart.

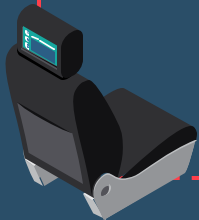
6.2 The system should display added icon if the user clicks on it will be added to the cart .

## 7. The user shall be able to pay for cart

7.1 The system shall takes the user to the payment page, and allow the user choose the payment method and write the card contents.

7.2 The system shall allow the user to click on the Pay button, after write all the information. The system shall take the vallation page of the bank .

7.3 the system shall store the reservation in the database.





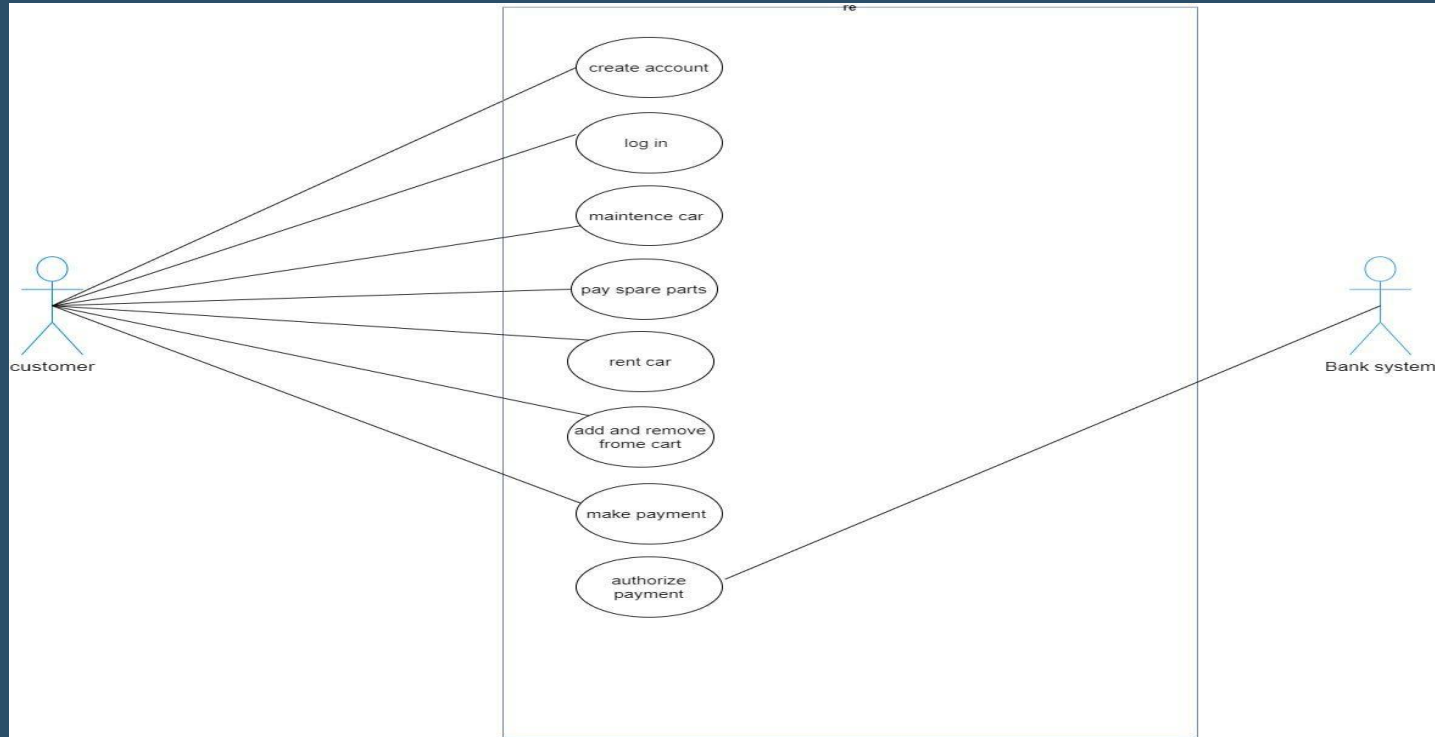
# Non-functional requirement

1.Security	<p>The system must have a high level of security so as not to access user data and modify their personal files, or so that there is no possibility of damaging the system's information by:</p> <ul style="list-style-type: none"><li>-The software will require the user to enter a strong password (contains at least one uppercase letter, at least one lowercase letter, must contain numbers).</li><li>-The software will require the user to re-enter the password for verification.</li><li>-The software automatically sends a verification message to the email address when the user signs up for an account or adds a new email address to their account</li></ul>
2.Usability	<p>It is very easy to use, and it can take 15-30 minutes to learn how to access and use all the services provided.</p>
3.Performance	<p>the response time is high in less than a second.</p>
4.Availability	<p>The system is available 24/7 for the users .</p>
5.portability	<p>System should service the different operating systems.</p>

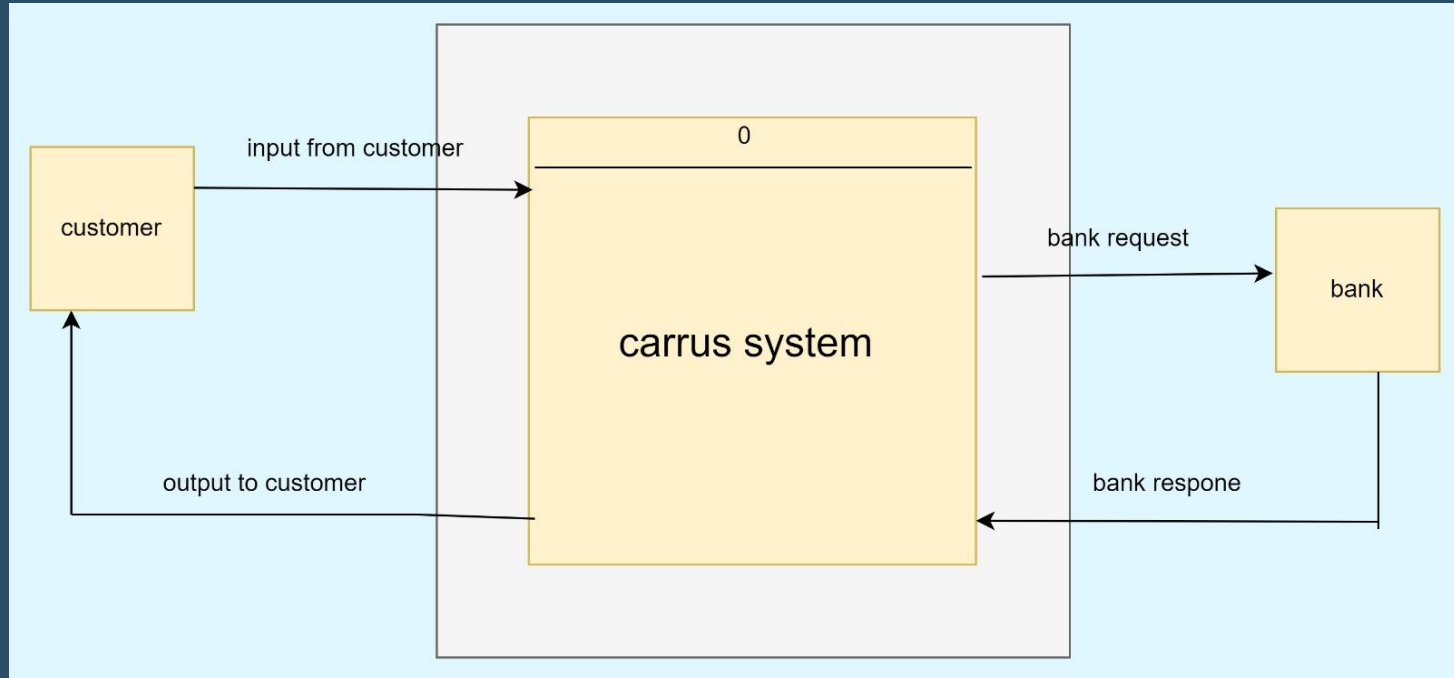




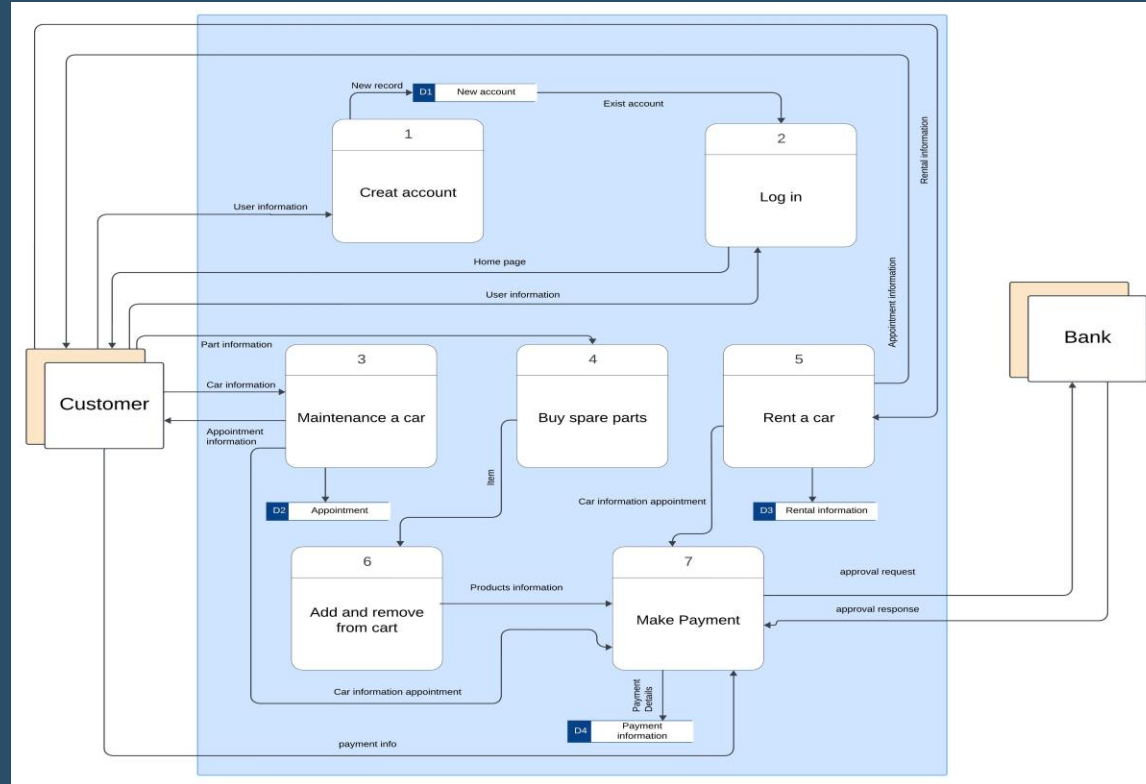
# Use case diagram



# DFD diagram level 0



# DFD diagram level 1





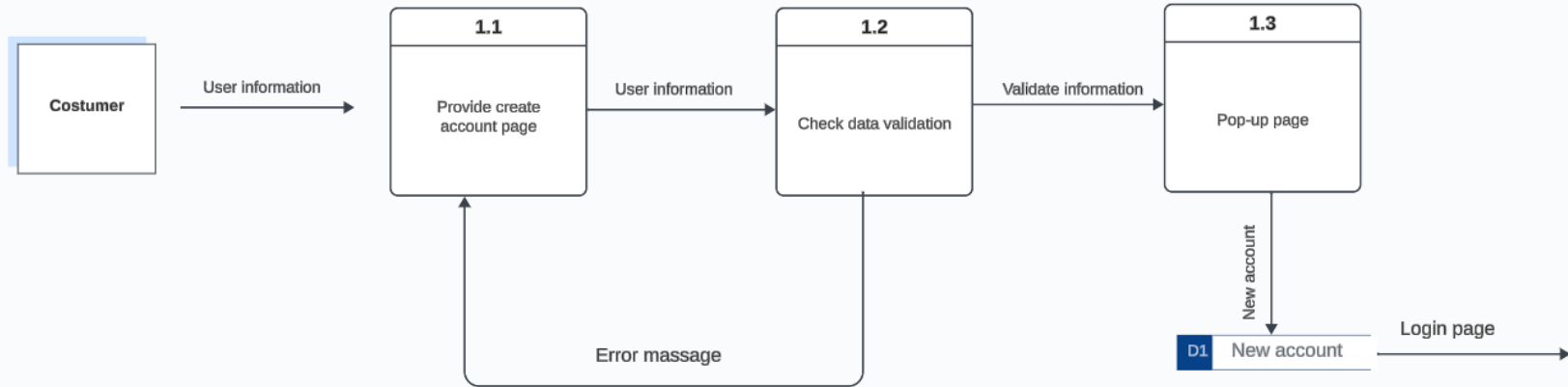
# Scenario - 1.Create account

Actors	Customer
Description	<ol style="list-style-type: none"><li>1. The system will display the account creation page to the user, which contains a list of fields (name, email, password and phone number ) then validate the entered data with these constraints:</li><li>2. The email and phone number must be unique.</li><li>3. There is no other record in the database that has the same values.</li><li>4. The password should be at least 8 characters with letters in uppercase, lowercase, and at least 1 Special Character.</li><li>5. If the user leaves an empty field an error message will appear.</li><li>6. as a result of the validation the system will display pop-up window to the user with a message if the validation was successful and do the phone number verification. otherwise, it return the user to the form and display error message.</li></ol>
Data	Form fields data: (name, email, password and phone number)
Stimulus	User click on “ Create account “ button .
Response	Move to “ Login “ page





# Child diagram - 1.Create account



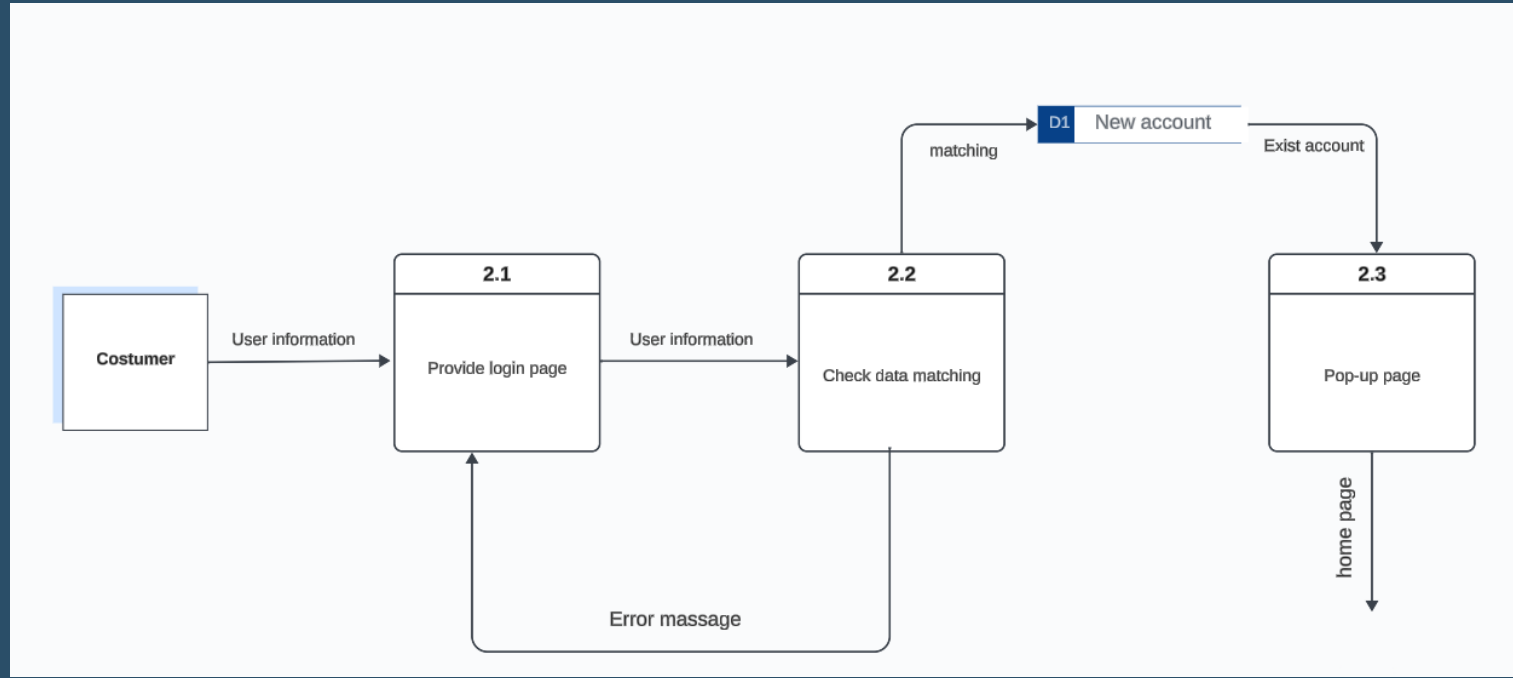


## Scenario - 2.Log in

Actors	Customer
Description	<ol style="list-style-type: none"><li>1. The system will display a login form to the user, which contains two fields: (phone number, and password).</li><li>2. The password must match an existing one by signing up.</li><li>3.If the user leaves an empty field an error message will appear.</li><li>4. After the user fill the form the system will check from the entered data with the database. if there is a match the system will display pop-up window to the user and will be navigated to the home page. otherwise, display error message contains .</li></ol>
Data	User information (phone number, password)
Stimulus	User click on “ Login “ button .
Response	The user will be navigated to the home page.



# Child diagram - 2.Log in





## Scenario - 3.Maintenance a car

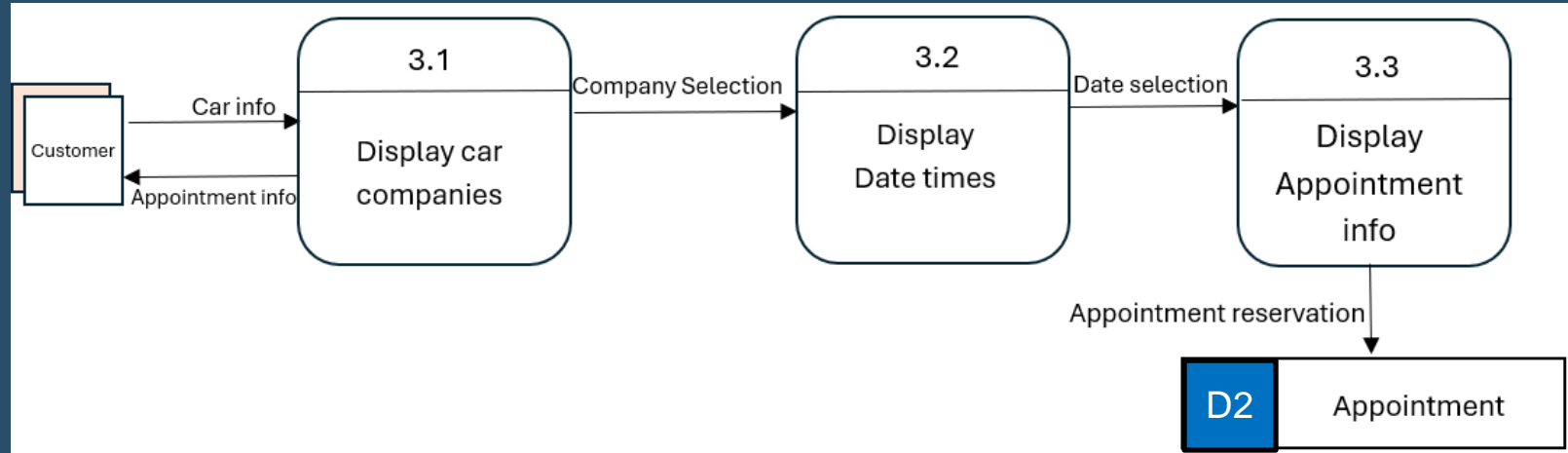
Actors	Customer
Description	<p>1- The system shall list of cars companies to the user and let the user choose the desired company.</p> <p>2- The system shall display the available time and allow the user schedule one of them</p> <p>3- The system shall display the appointment information.</p>
Data	The appointment, car company, time.
Stimulus	User click on the submit button.
Response	Display appointment.







# Child diagram - 3.Maintenance a car



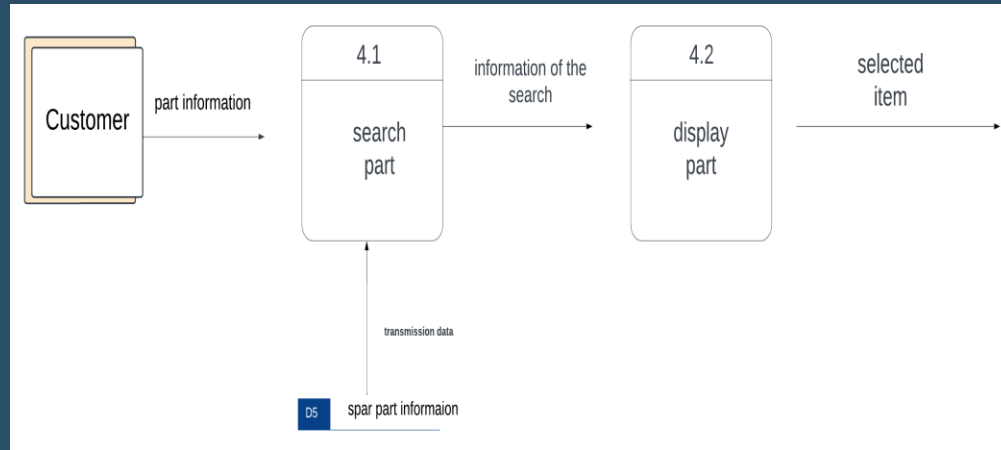


## Scenario - 4. Buy spare parts

Actors	user
Description	<p>1-The system should include an options for users to buy spare parts.</p> <p>2 -System should allow the user to search for the desired part.</p> <p>3-The system should display the spare parts, including the details of each part, such as name of the part, the price, quantity, and the description with availability to add the item to the cart .</p>
Data	The part information (What customer need) .
Stimulus	User click to add button.
Response	The item moves to the cart.



# Child diagram - 4. Buy spare parts





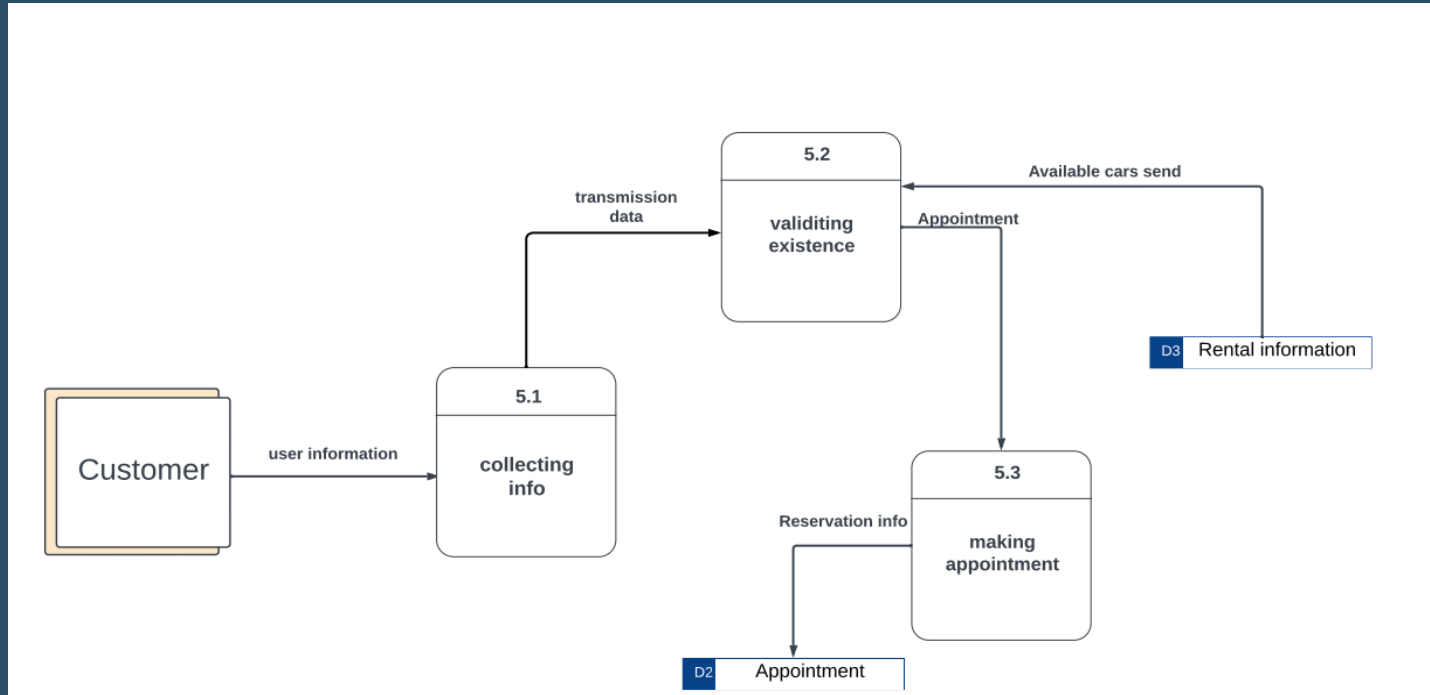
## Scenario - 5.Rent a car

Actors	User
Description	<p>6.1 -The system should display the available rental cars.</p> <p>6.2 The system should allow users to specify rental dates and select desired car with availability to add the item to the cart.</p> <p>6.3 The system should provide a booking information and displays rental agreements for users.</p> <p>6.4 the system shall store the booking information in the database .</p>
Data	ID , Driving license.
Stimulus	Customer click on "rent" buttons.
Response	the availability of the requested car is successfully verified, an appointment will be booked for the customer to receive the car.





# Child diagram - 5.Rent a car





## Scenario - 6.Add and remove from cart

Actors	user
Description	<ol style="list-style-type: none"><li>1. the system will display the cart items</li><li>2. system should allow the user edit the selected items</li><li>3. system should allow the user to remove items from the cart</li><li>4. system should allow the user add items to the cart</li></ol>
Data	Selected cars information
Stimulus	Customer click on 'remove' , 'edit' and 'add' buttons
Response	The cart will be updated





## Child diagram - 6.Add and remove from cart





## Scenario – 7.Make payment

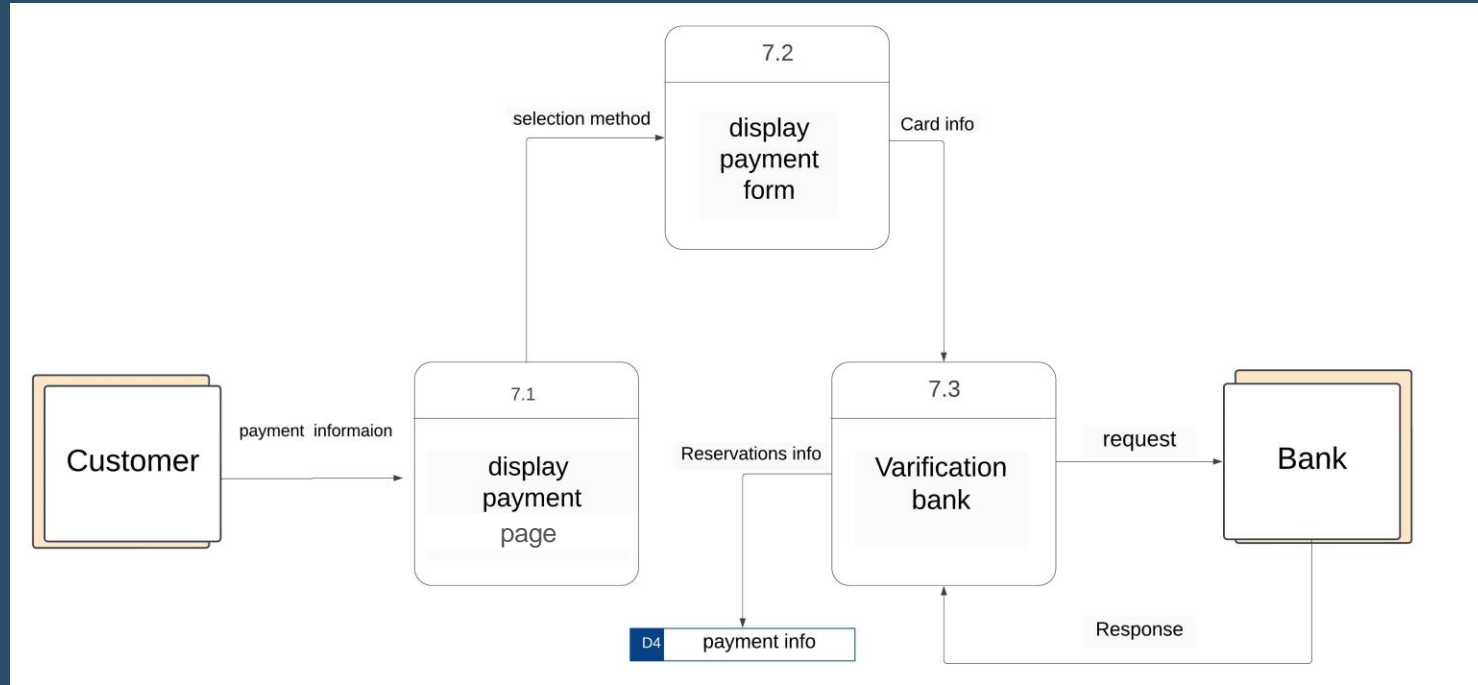
Actors	User,Bank
Description	<ul style="list-style-type: none"><li>1- The system shall takes the user to the payment page, and allow the user choose the payment method and write the card contents.</li><li>2- The system shall allow the user to click on the Pay button, after write all the information. The system shall take the vallation page of the bank .</li><li>3- the system shall store the reservation in the database.</li></ul>
Data	Bank card data, mobile number
Stimulus	User click on "payment" button
Response	If the payment method is complete, the reservation will be completed



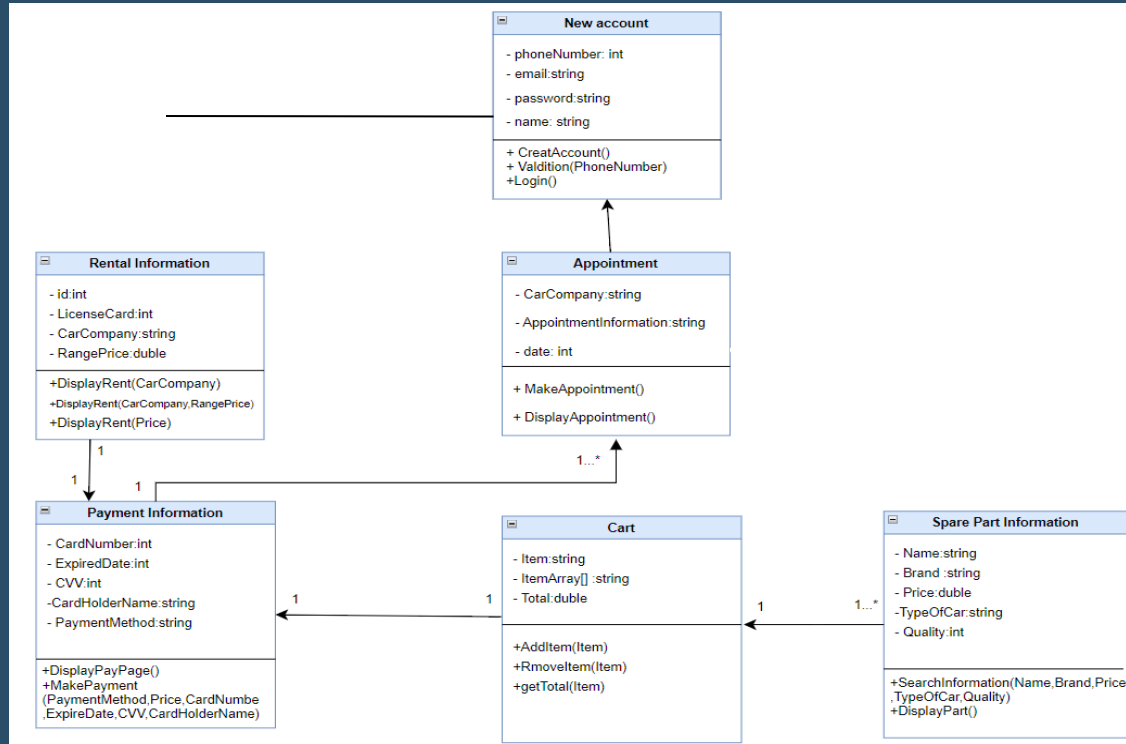




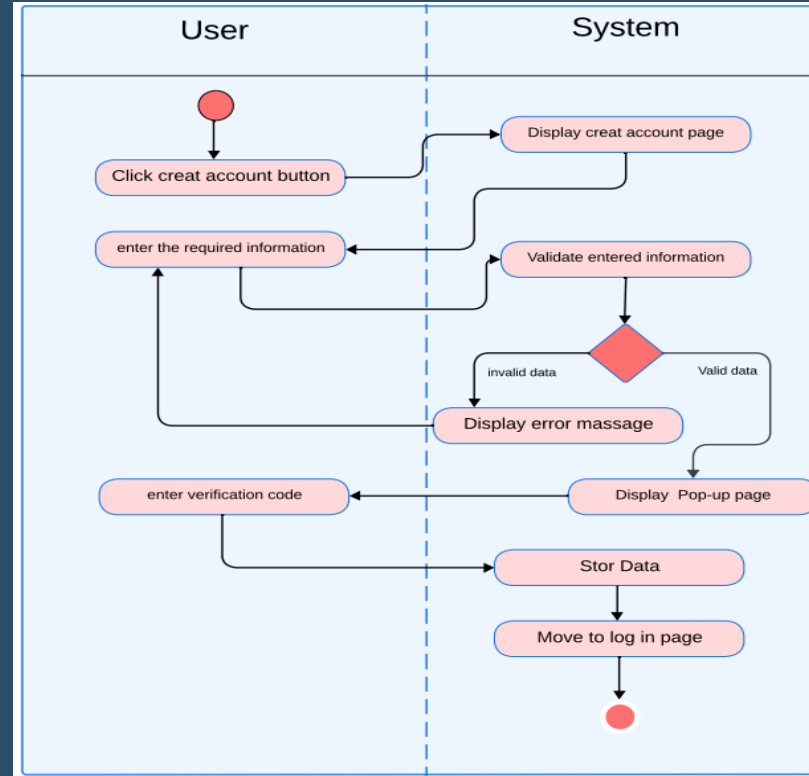
# Child diagram - 7. Make payment



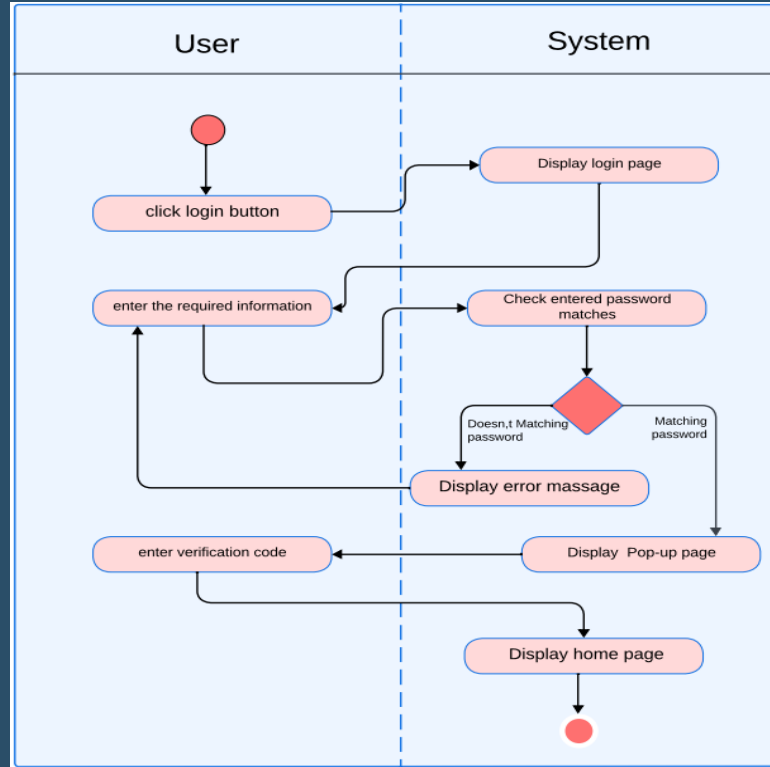
# Class Diagram



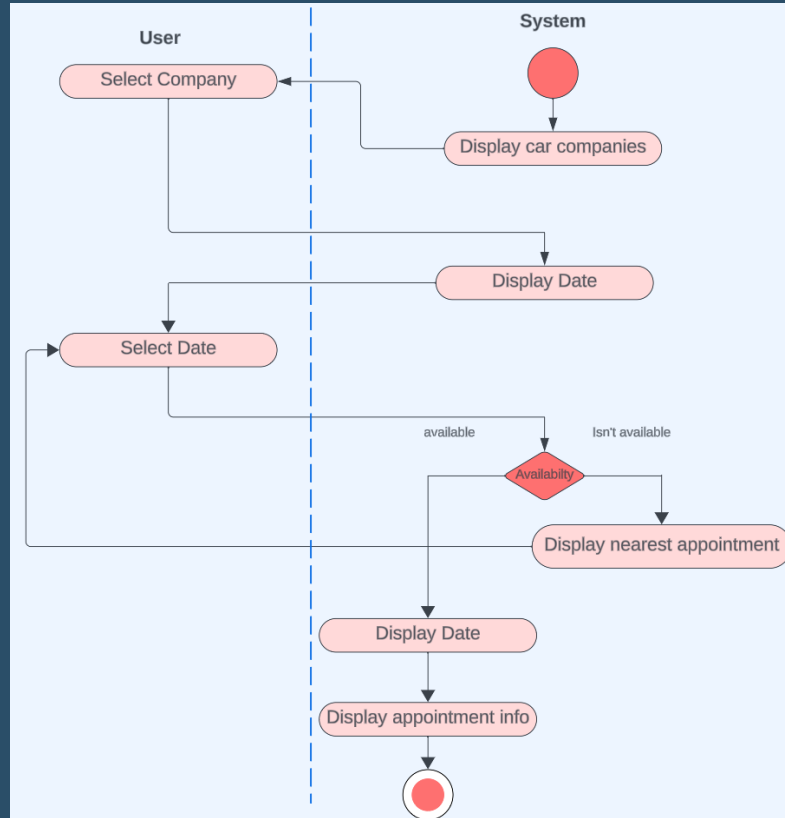
# Activity Diagram - Create account



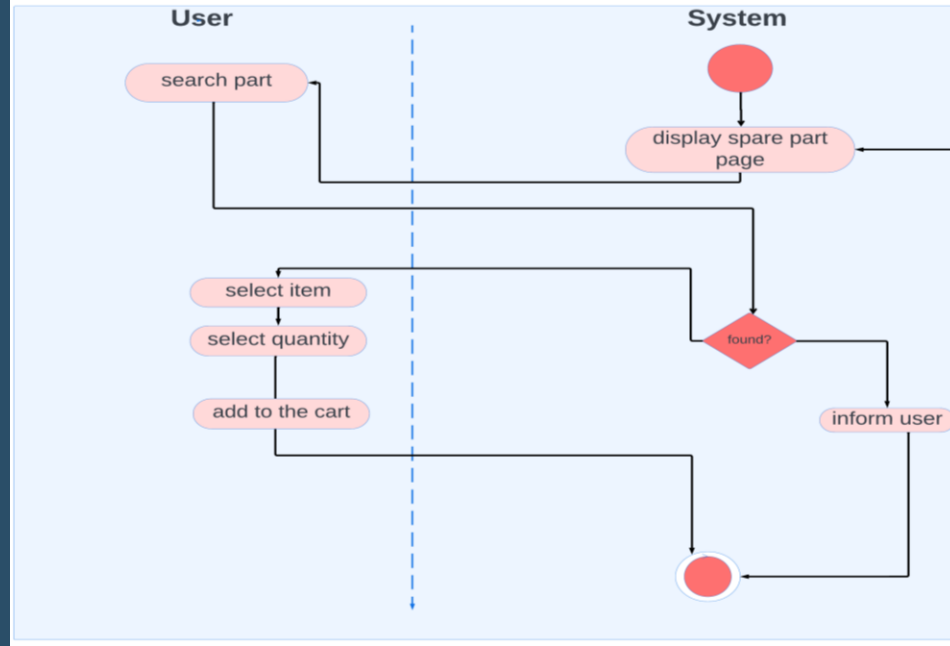
# Activity Diagram - Log in



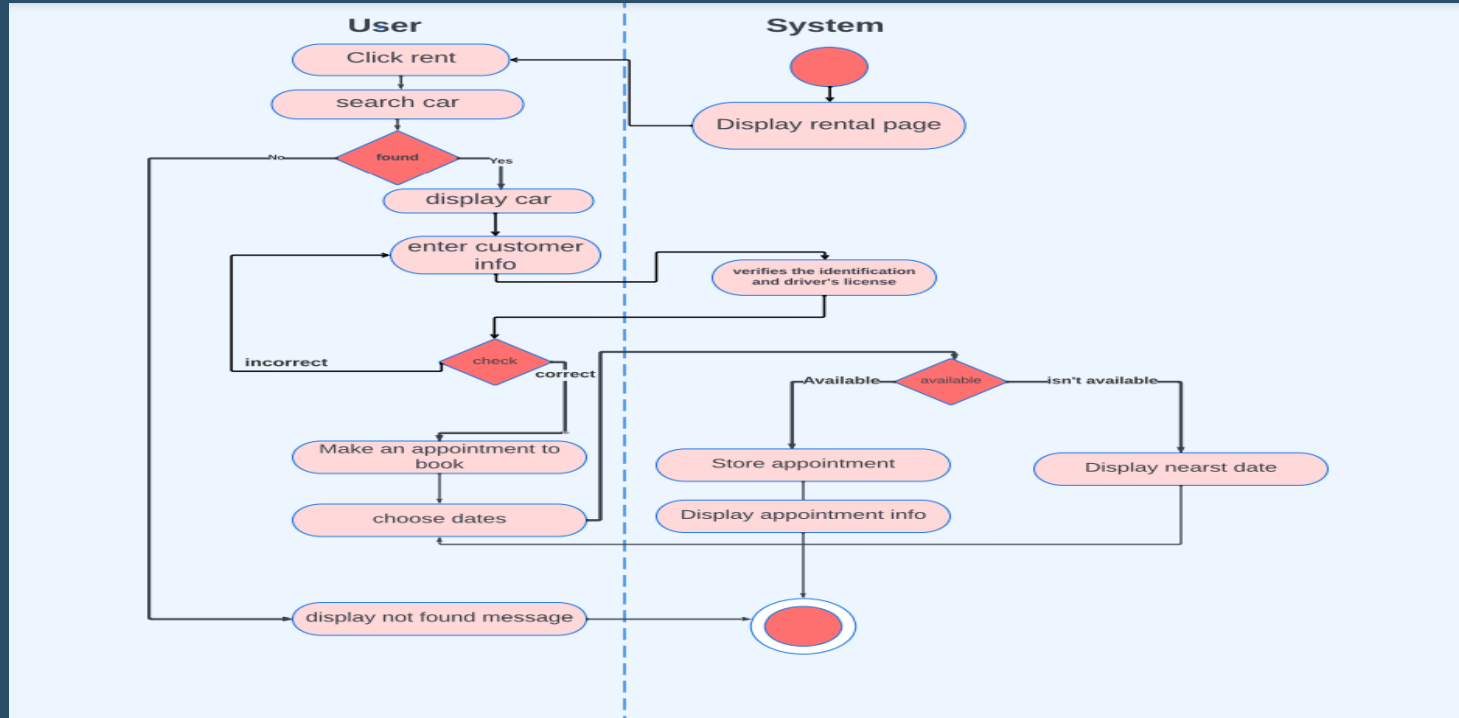
# Activity Diagram - Maintenance a car



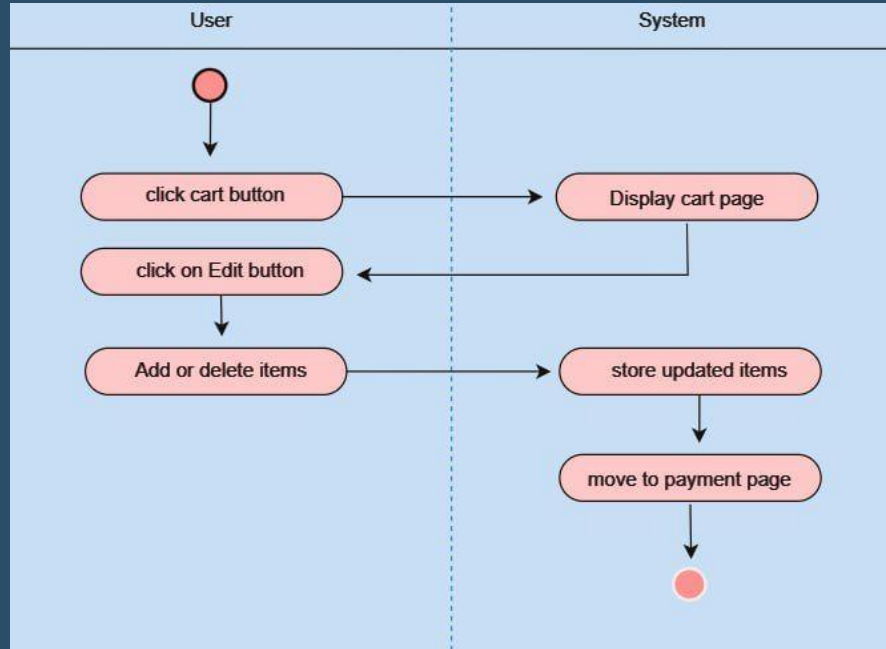
# Activity Diagram - Buy spare parts



# Activity Diagram - Rent a car

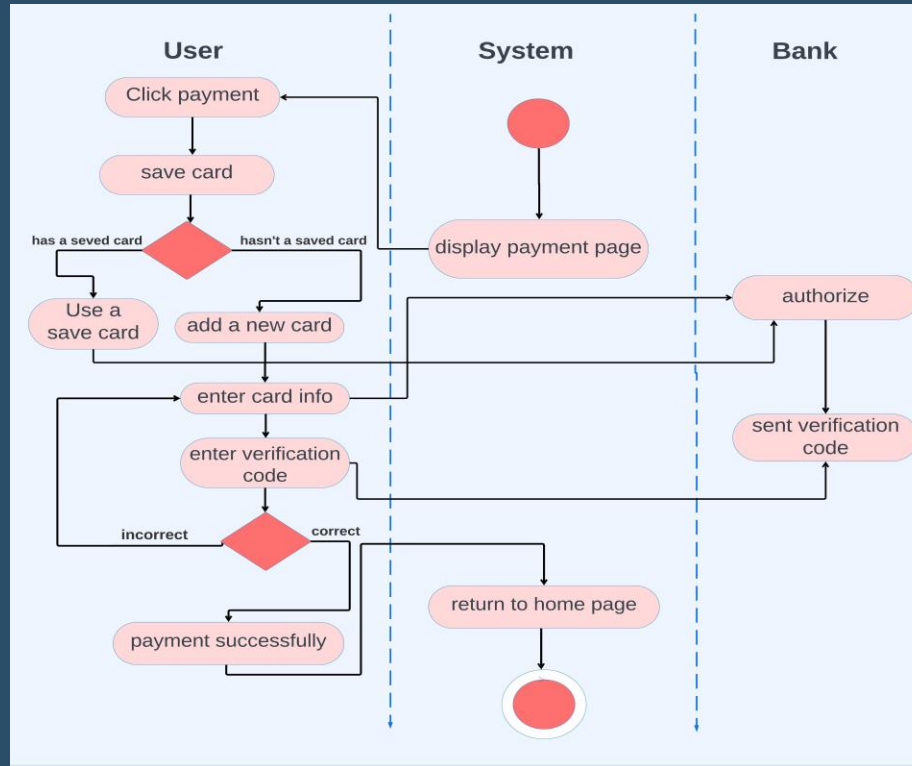


# Activity Diagram – Add and remove from cart

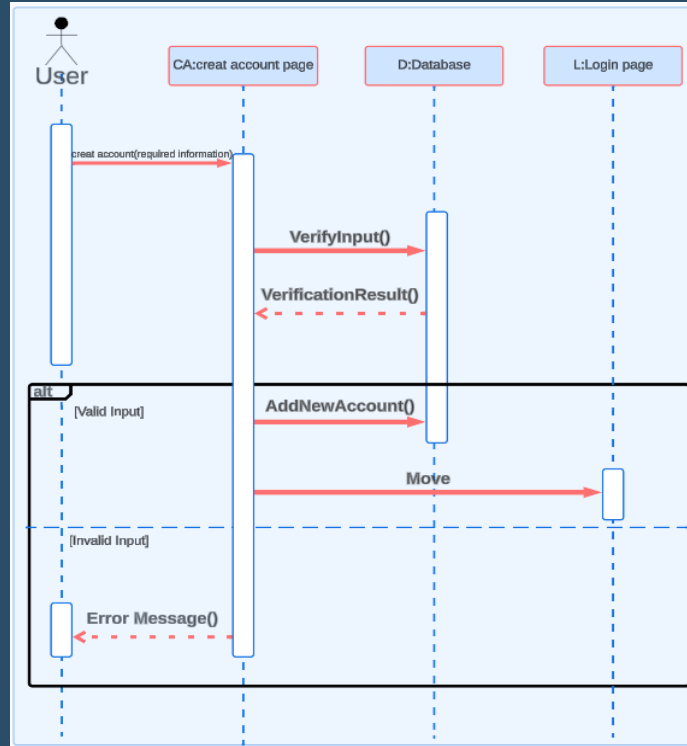




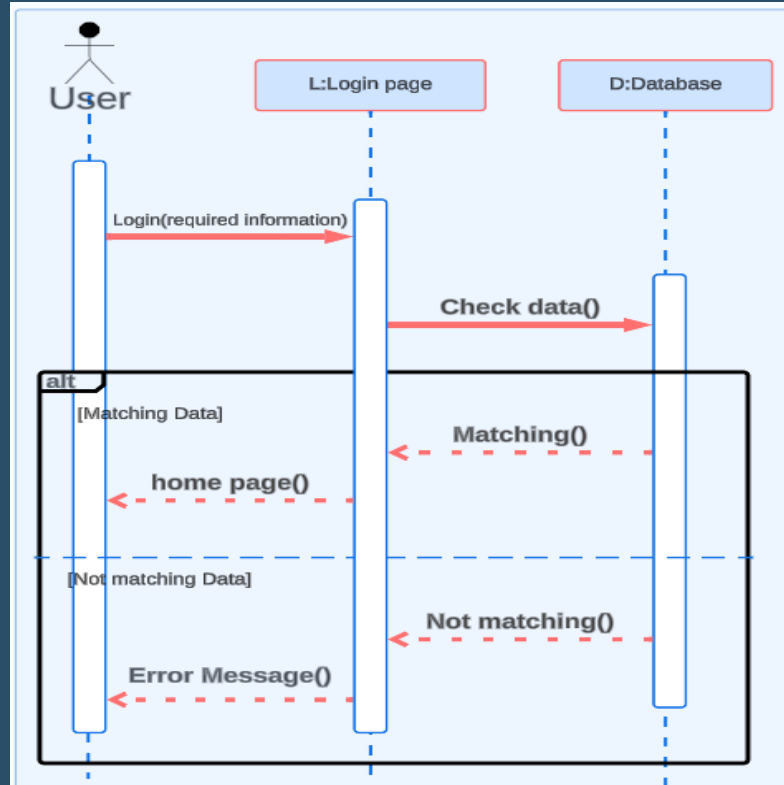
# Activity Diagram - Make payment



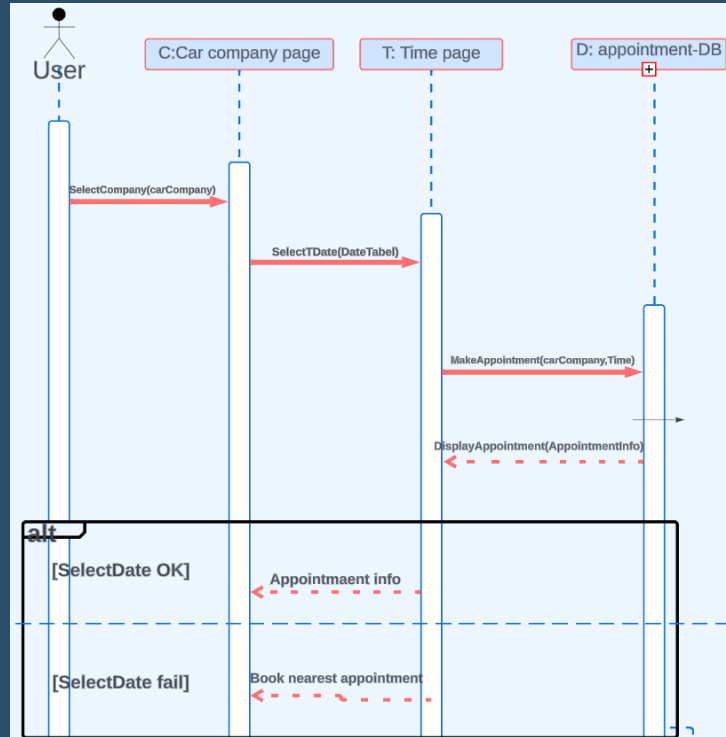
# Sequence Diagram - Create account



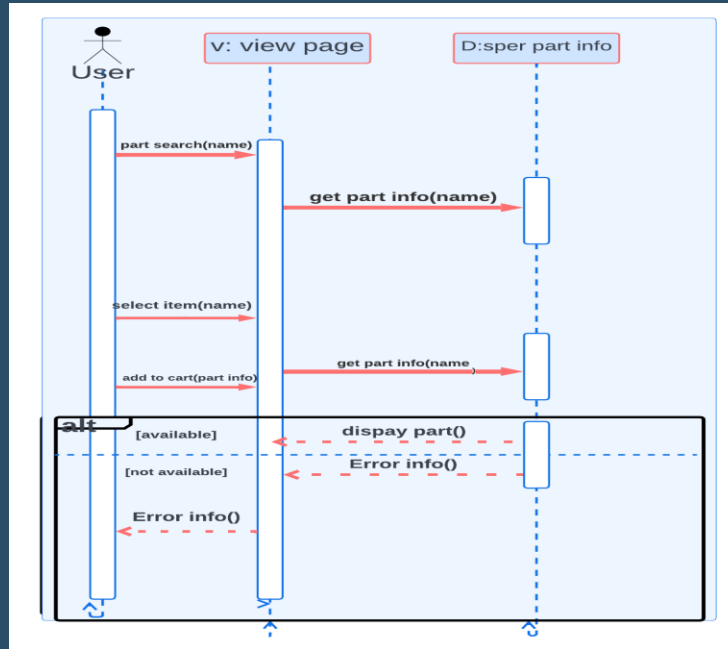
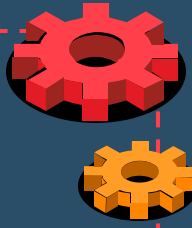
# Sequence Diagram - Log in



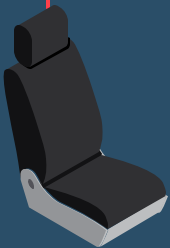
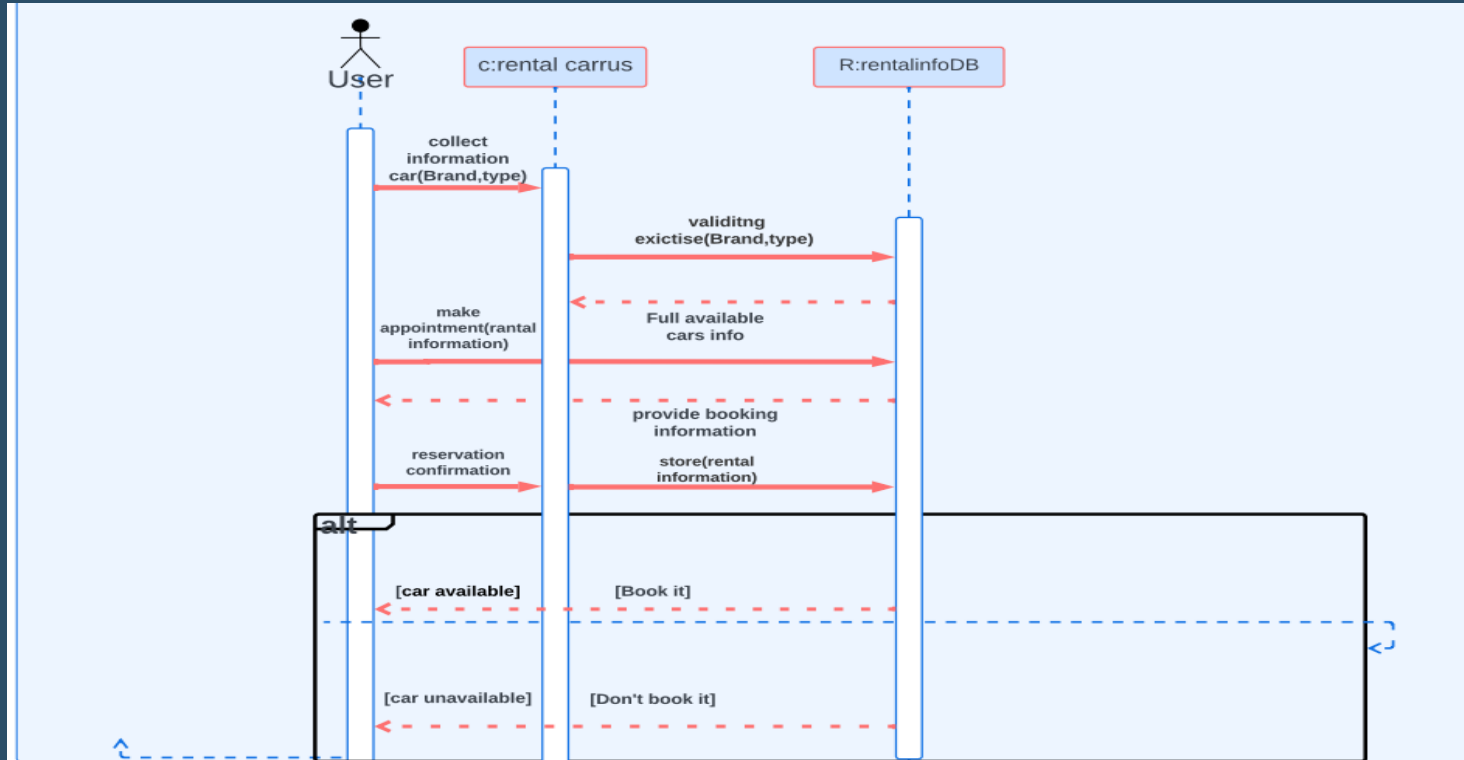
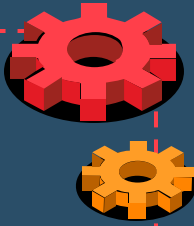
# Sequence Diagram - Maintenance a car



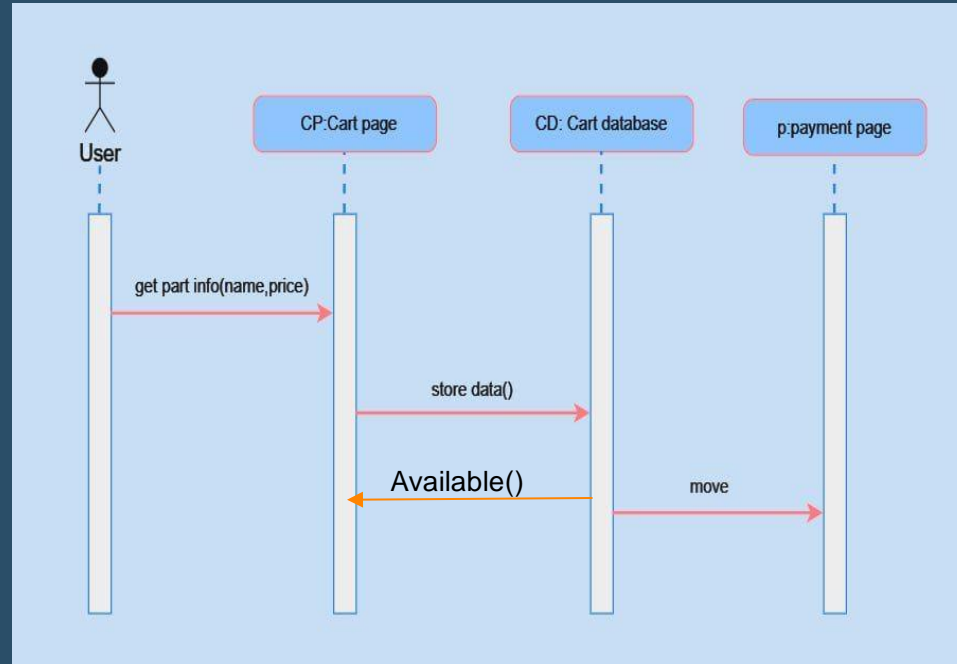
# Sequence Diagram - Buy spare parts



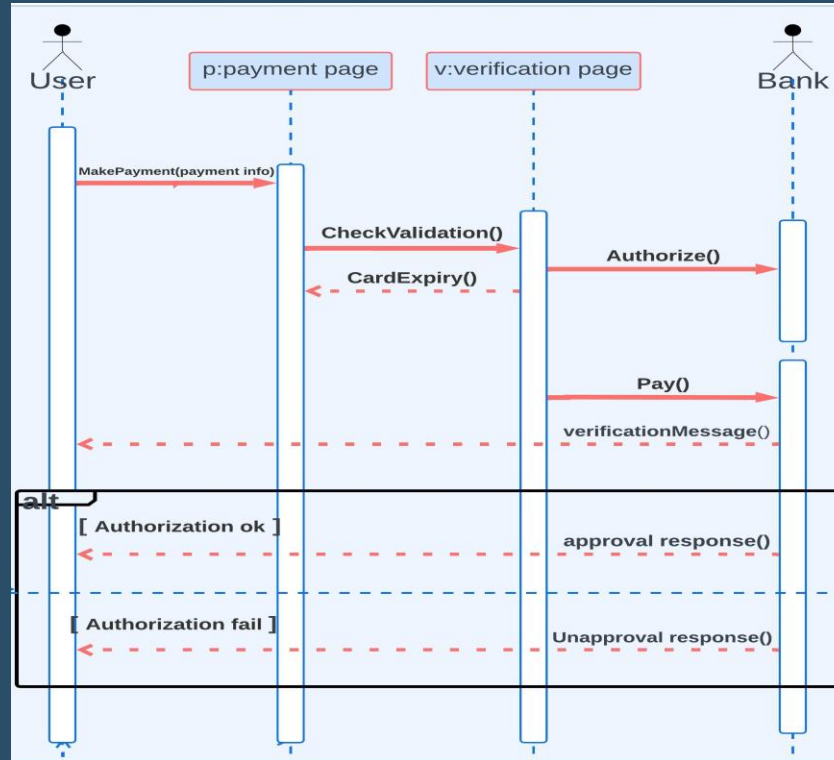
# Sequence Diagram - Rent a car



# Sequence Diagram – Add and remove from cart



# Sequence Diagram – Make payment





# ProtoType



Screen showing the 'Create new Account' form. The header features a white car image. The form includes fields for NAME, EMAIL, PASSWORD, and PHONE NUMBER, each with a red 'X' icon indicating a validation error. A red 'Sign up' button is at the bottom.

**Create new Account**  
*Already Registered? Log in here.*

NAME  
AreejAltrah

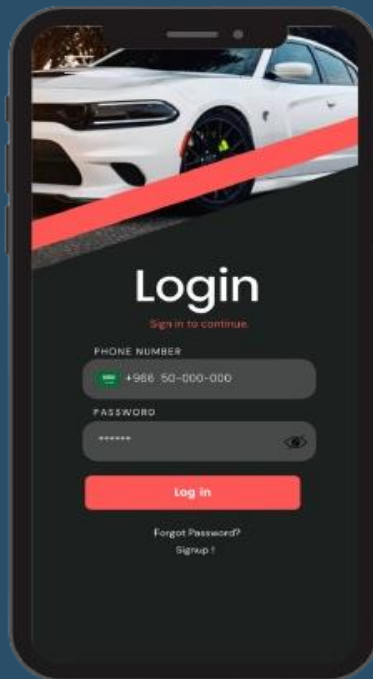
EMAIL  
AreejAltrah@gmail.com

PASSWORD  
\*\*\*\*\*

PHONE NUMBER  
+966 50-000-000

**Sign up**

Create account



Screen showing the 'Login' form. The header features a white car image. The form includes fields for PHONE NUMBER and PASSWORD, each with a red 'X' icon indicating a validation error. A red 'Log in' button is at the bottom.

**Login**  
*Sign in to continue.*

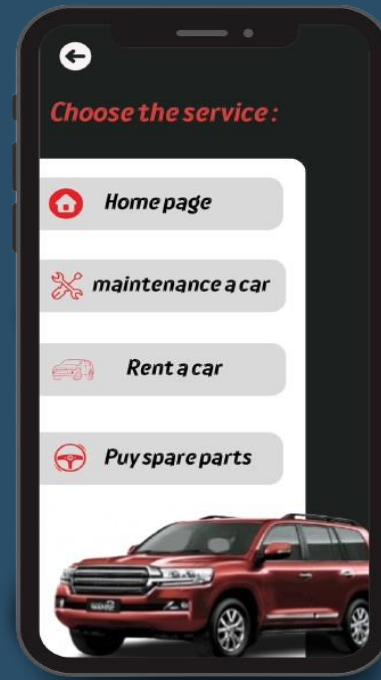
PHONE NUMBER  
+966 50-000-000

PASSWORD  
\*\*\*\*\*

**Log in**





[Forgot Password?](#)  
[Signup !](#)


Login



Screen showing the 'List of services' menu. The header features a white car image. The menu lists four options: Home page, maintenance a car, Rent a car, and Puyspare parts, each with a red icon. A red SUV image is at the bottom.

**Choose the service :**

-  **Home page**
-  **maintenance a car**
-  **Rent a car**
-  **Puyspare parts**

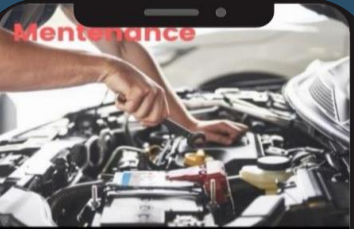


List of services



# ProtoType

**Maintenance**



Select Date

Month Year		12 2023				
Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	31	01	02	03	04
05	06	07	08	09	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	01

SUBMIT

Maintenance

**Appointment**

Name  
User's name

Phone number  
User's phone number



Car company  
Lexus

Date  
23 Jan 2024


+


Done


Appointment

select a product group to sell:

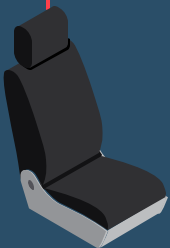
 filters **select**

 brake **select**

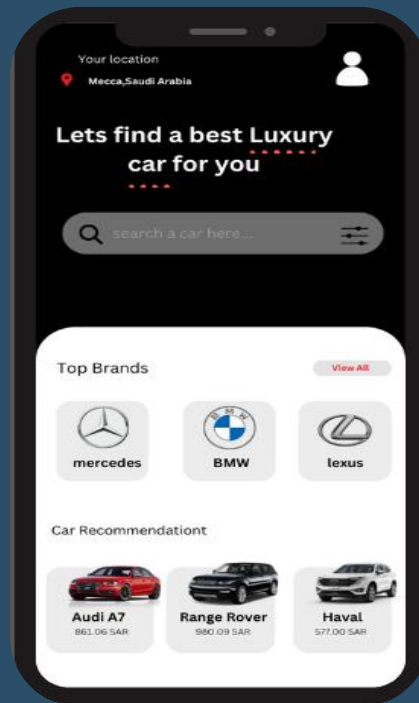
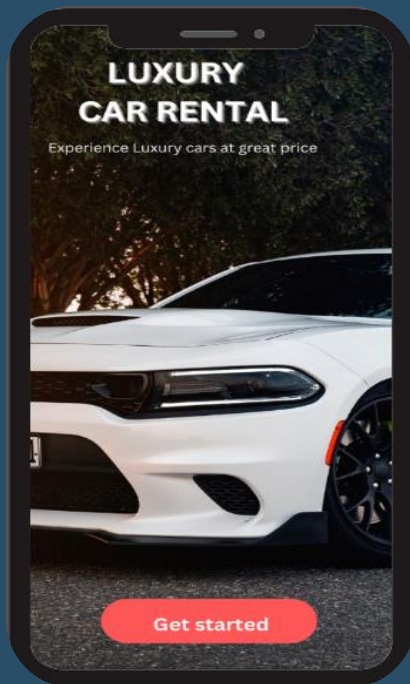
 clutch **✓**

next

Spare parts



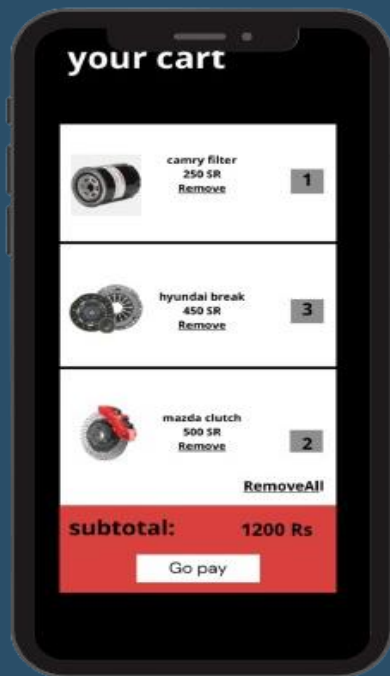
# ProtoType



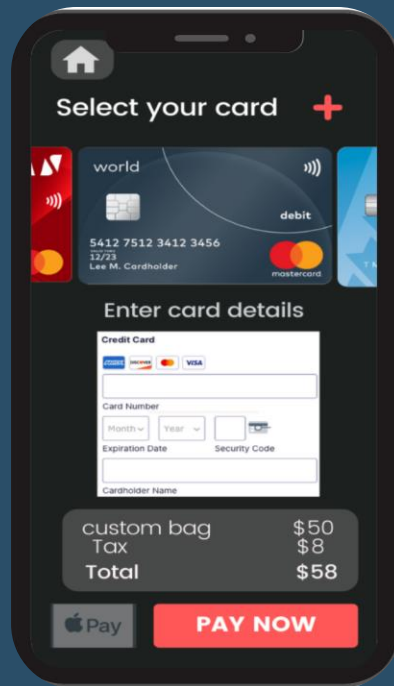
Rent a car



# ProtoType



Cart



Payment

