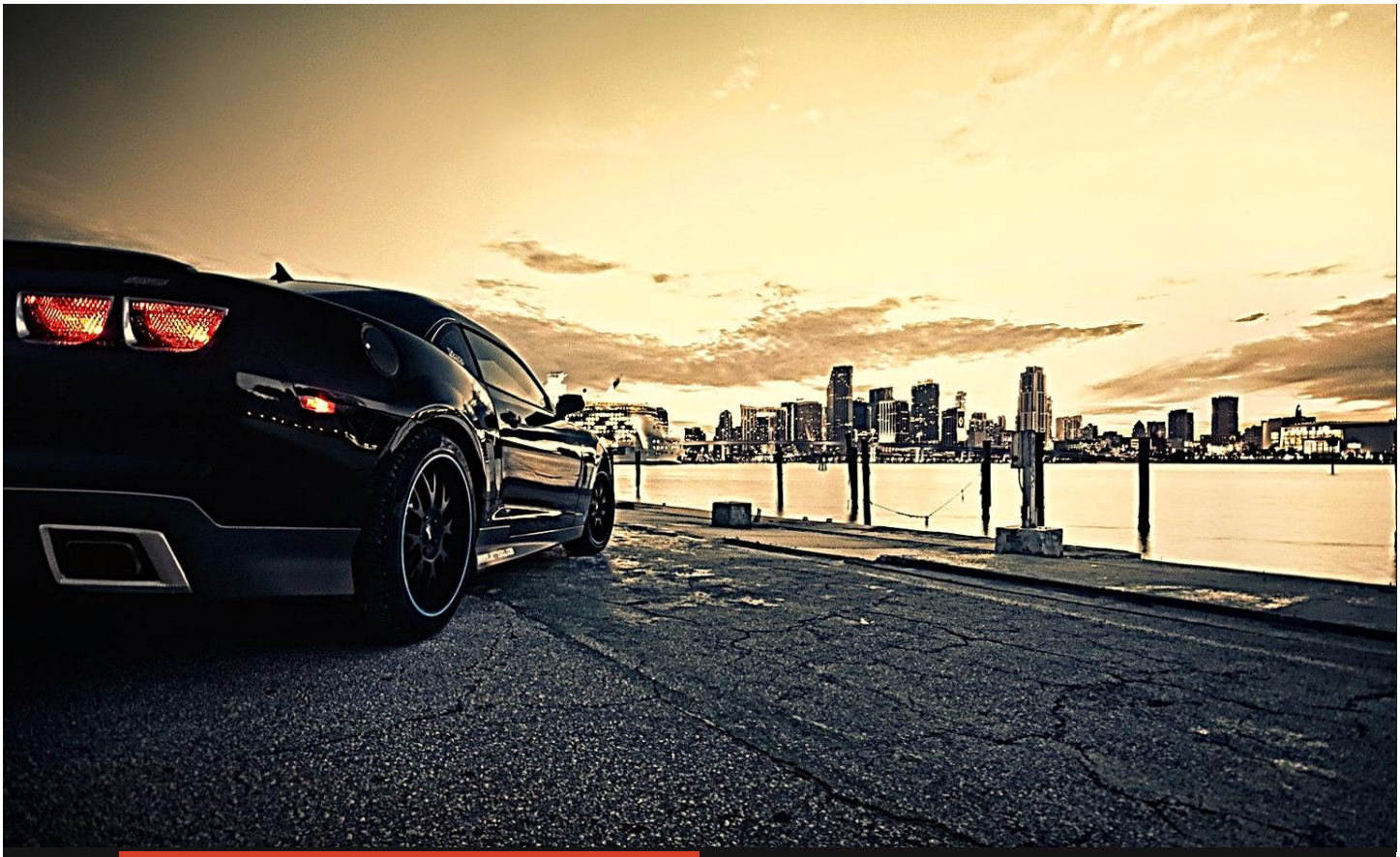

MESHWARK

YOUR DESTINATION IS OUR MISSION

Developers:

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CAR RENTAL SYSTEM

The purpose of this project is to develop a comprehensive Car Rental System for a car rental company. The system aims to automate manual procedures involved in car reservation, management, and reporting. It provides a user-friendly interface for customers to reserve cars from multiple locations, offers advanced search capabilities, and generates necessary reports for efficient business operations.

SYSTEM FEATURES

1. Customer Options

a. **Customer Registration and Login**
Customers can create accounts by providing personal information such as name, contact details, and identification. This enables them to reserve cars through the system.

b. **Car Reservation**
Once registered and logged in, customers can search for available cars and reserve them for specific dates and times. The system ensures that the reserved cars are not double-booked and provides confirmation to the customers.

c. **Car Search**
Customers are aided by your system to search for the available cars by any of the car specs according to their needs.

d. **Advanced Car Search**
Customers are aided by the system's advanced search capabilities, which allow them to search by any of the car information, customer information or reservation day and get all information about the car, customer, and reservation.

e. **Comprehensive Reservation Management**
The system effectively automates the processes related to car reservations. It handles tasks such as reserving cars, tracking pick-up and return dates, managing payment information, and generating invoices. This streamlines the overall reservation process for both customers and the car rental company.

f. **History and information**
Show the previous car reservations made by the customer on a certain date and show the following outputs: Reservation ID, plate ID, office ID, Payment, pickup date and return date.

2. Admin Options

The system provides several necessary options to administer for efficient business management. These options include:

a. **Admin Log in**
Admin can log in by providing personal information such as Email and password. This enables them to follow updates and reserve cars through the system.

b. **Search Reservation**
Retrieving the reservation details for a certain period, or a certain customer or a certain car. The admin can search for the current reservations without specifying any input or he can specify the combination of inputs through which he wants the reservations.

c. **Car status on a specific day**
Presents the status (active, out of service, rented) of all cars on a valid given day. If the admin doesn't choose the date, the status of all cars on the current day will be retrieved.

d. **Daily payments within a specific period**
Retrieving the daily payments received by the car rental system within a valid specified time frame.

e. **Admin Car Reservation**
Admin can reserve a car for a customer by providing a valid Plate_Id, customer_id, pickup date and return date and if the car isn't rented or out of service the reservation is done successfully.

f. **Cancel Reservation**
Admin can cancel any reservation by providing a valid reservation ID.

g. **New Car Registration**
The system allows the registration of new cars by capturing valid important information such as model, year, plate ID, number of passengers, status, price per day and office ID. The system ensures that the new plate ID doesn't exist for any other existing car and that the office ID exists.

h. **Car Status Change and Update**
Admin can change and update the status of the car from "Active" to "out of service" and vice versa.

3. System Architecture

The Car Rental System is built using a client-server architecture. The client side consists of a user-friendly web interface accessible to customers worldwide. The server side handles the core logic and database management. The system utilizes a database management system to store and retrieve car, customer, and reservation data efficiently.

4. Technology Stack

The Car Rental System has been developed using the following technologies:

- Programming Language: PHP
- Web Framework: XAMP
- Front-End: HTML, CSS, JavaScript
- Database: MySQL

DDL

```sql
Create database Car_Rental_System;


Use Car_Rental_System;

CREATE TABLE Car (
    PlateID VARCHAR(20) PRIMARY KEY,
    Model VARCHAR(255) NOT NULL,
    Year INT NOT NULL,
    NoPassengers INT NOT NULL,
    Status VARCHAR(20) NOT NULL,
    PricePerDay  Decimal(10,2) NOT NULL,
    OfficeID INT
);

CREATE TABLE Office (
    OfficeID INT PRIMARY KEY AUTO_INCREMENT,
    Location VARCHAR(255) NOT NULL,
    ContactInformation VARCHAR(255) NOT NULL
);

CREATE TABLE Customer (
    CustomerID INT PRIMARY KEY AUTO_INCREMENT ,
    CustomerName VARCHAR(255) ,
    TelephoneNumber VARCHAR(255) ,
    Age INT ,
    Email VARCHAR(255),
    Password VARCHAR(255),
    Confrim_Password VARCHAR(255)
);

CREATE TABLE Reservation (
    ReservationID INT PRIMARY KEY AUTO_INCREMENT,
    CustomerID INT,
    PlateID VARCHAR(20),
```

```
    OfficeID INT,
    PickupDate DATE,
    ReturnDate DATE,
    Payment DECIMAL(10, 2)
);

CREATE TABLE Admin (
    AdminID INT PRIMARY KEY AUTO_INCREMENT ,
    AdminName VARCHAR(255),
    Email VARCHAR(255),
    Password VARCHAR(255),
    OfficeID INT
);

ALTER TABLE Car
ADD FOREIGN KEY (OfficeID) REFERENCES Office(OfficeID);

ALTER TABLE Reservation
ADD FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID),
ADD FOREIGN KEY (PlateID) REFERENCES Car(PlateID),
ADD FOREIGN KEY (OfficeID) REFERENCES Office(OfficeID);

ALTER TABLE Admin
ADD FOREIGN KEY (OfficeID) REFERENCES Office(OfficeID);
```

ER MODEL

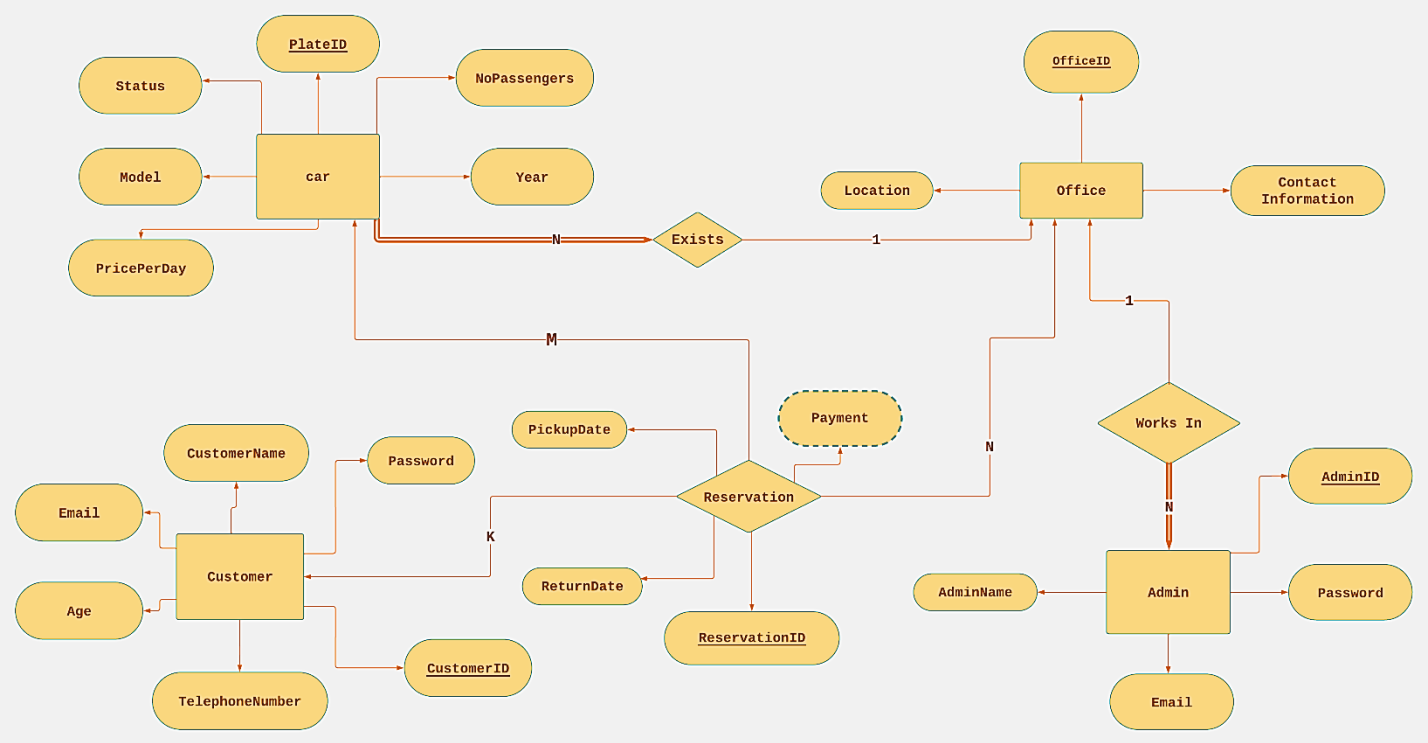

Figure 1:ERD diagram for our system

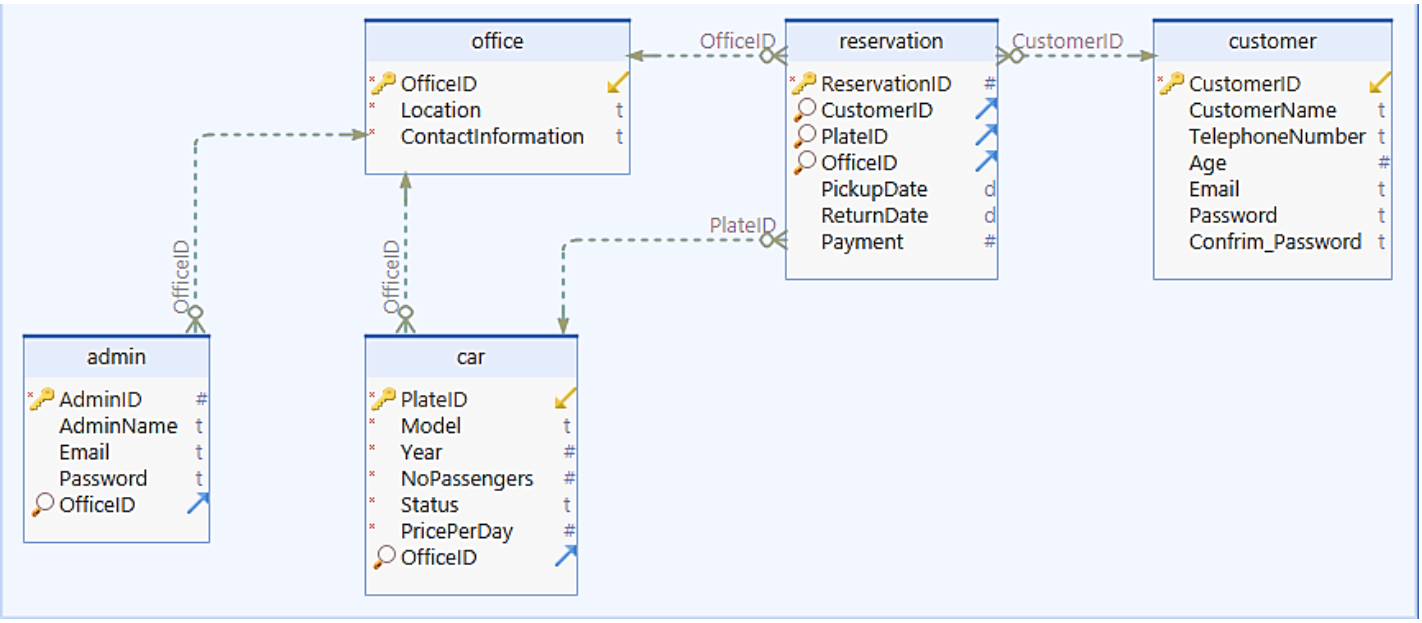

Figure 2: ERD Diagram

SCREENS

User interfaces:

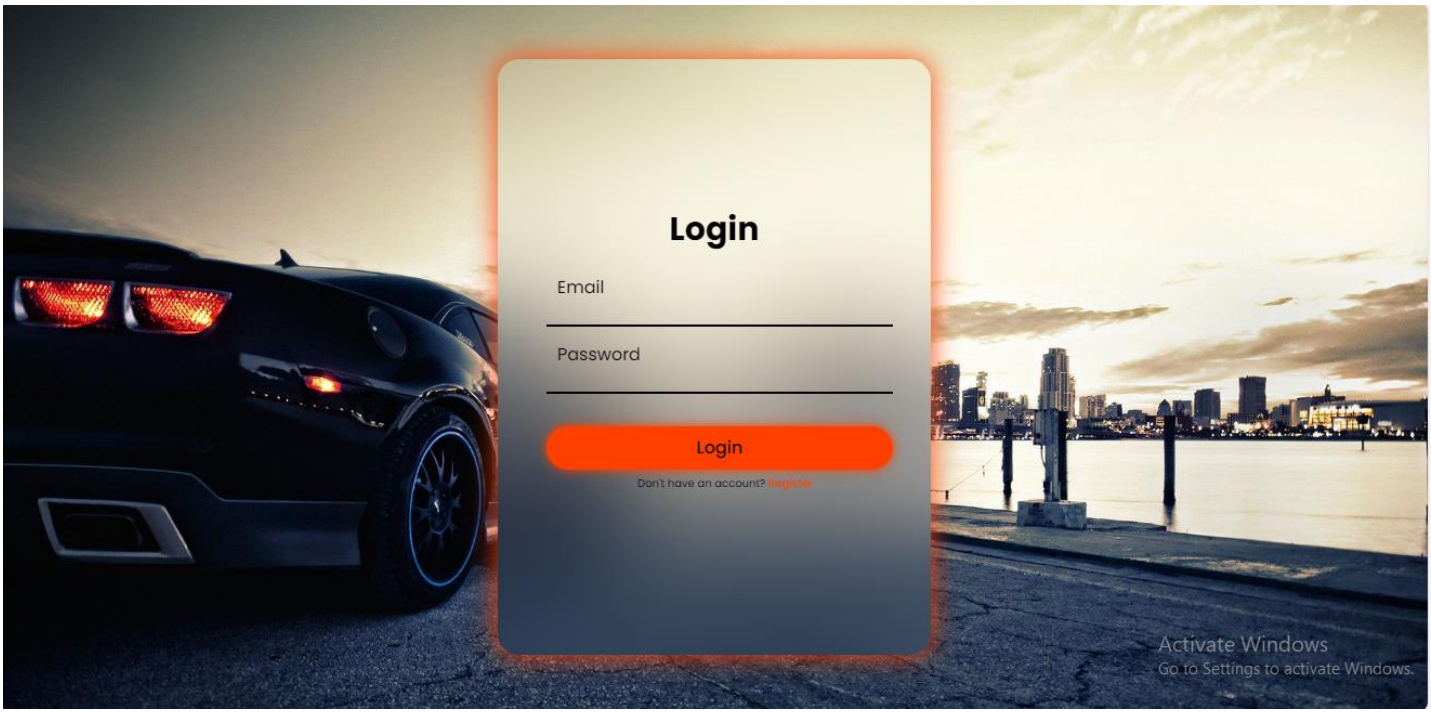

Figure 3: Customer Login page

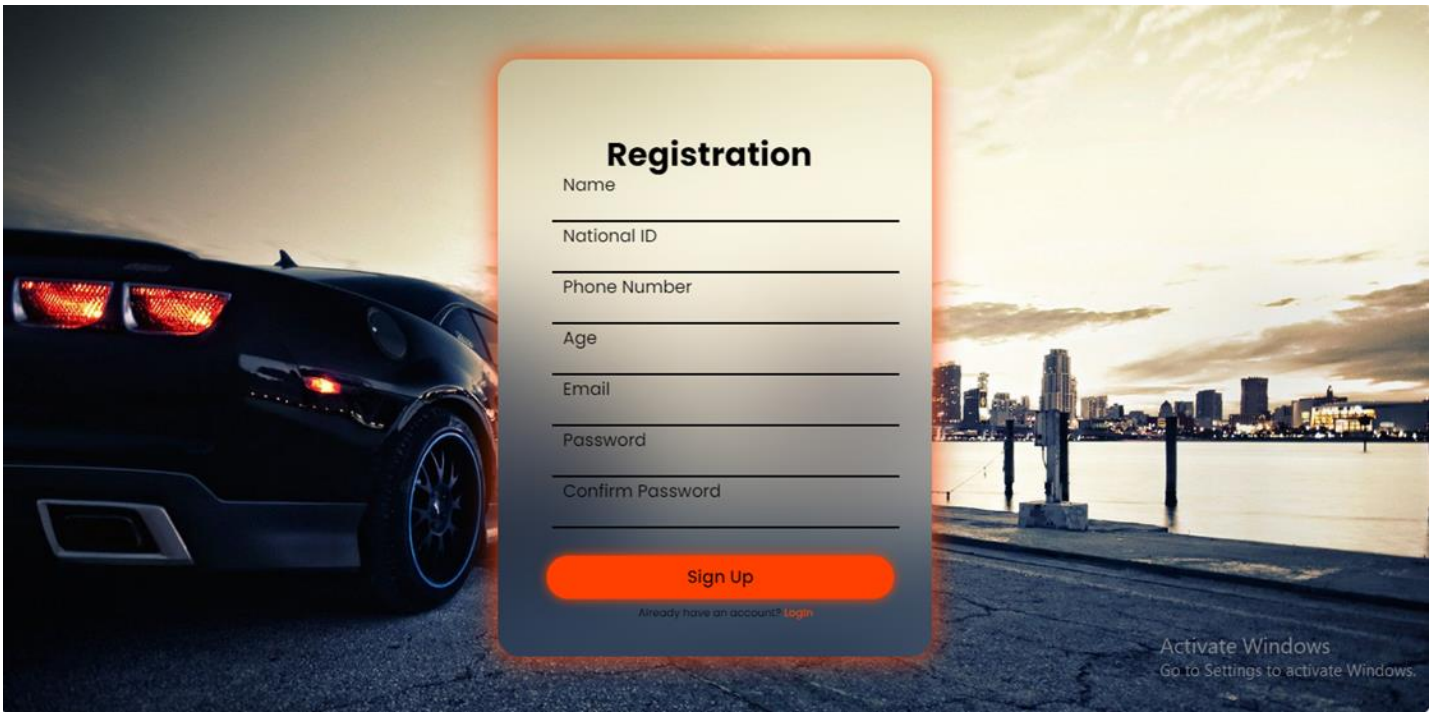

Figure 4: Customer registration interface

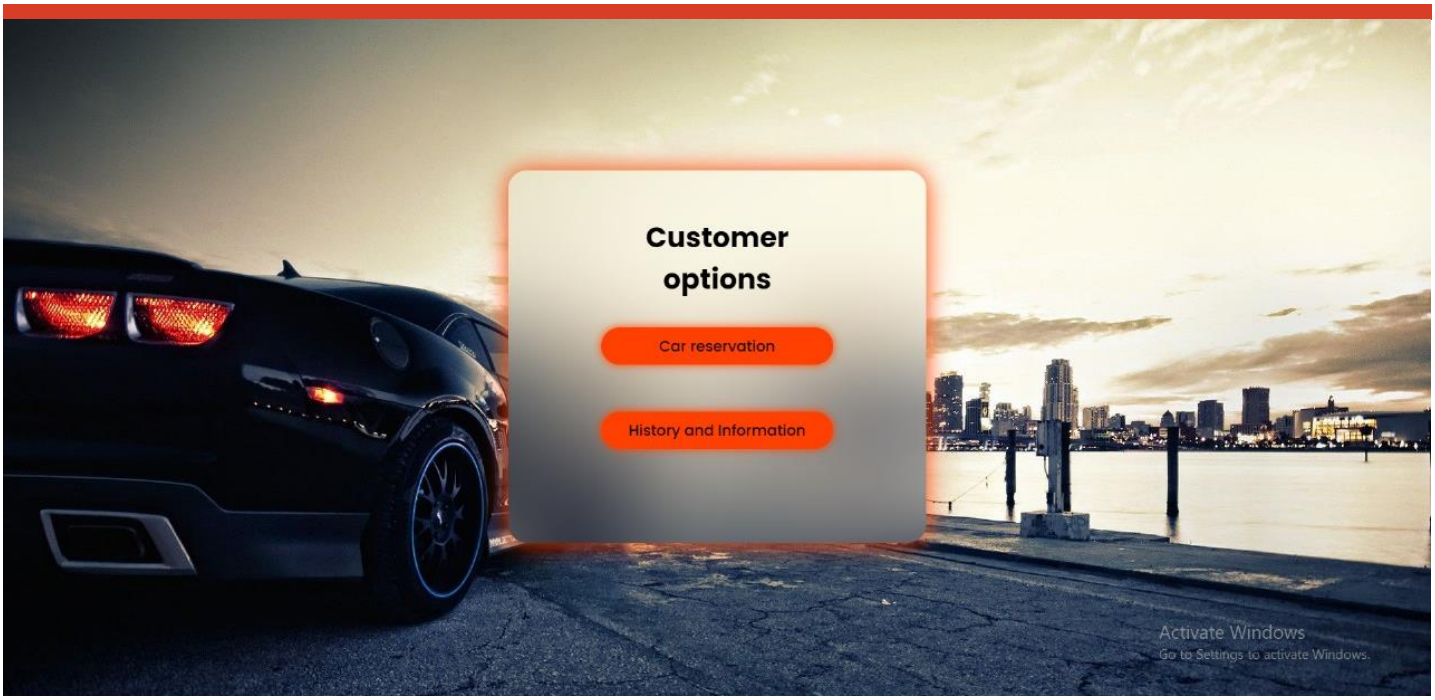

Figure 4: Customer options interface

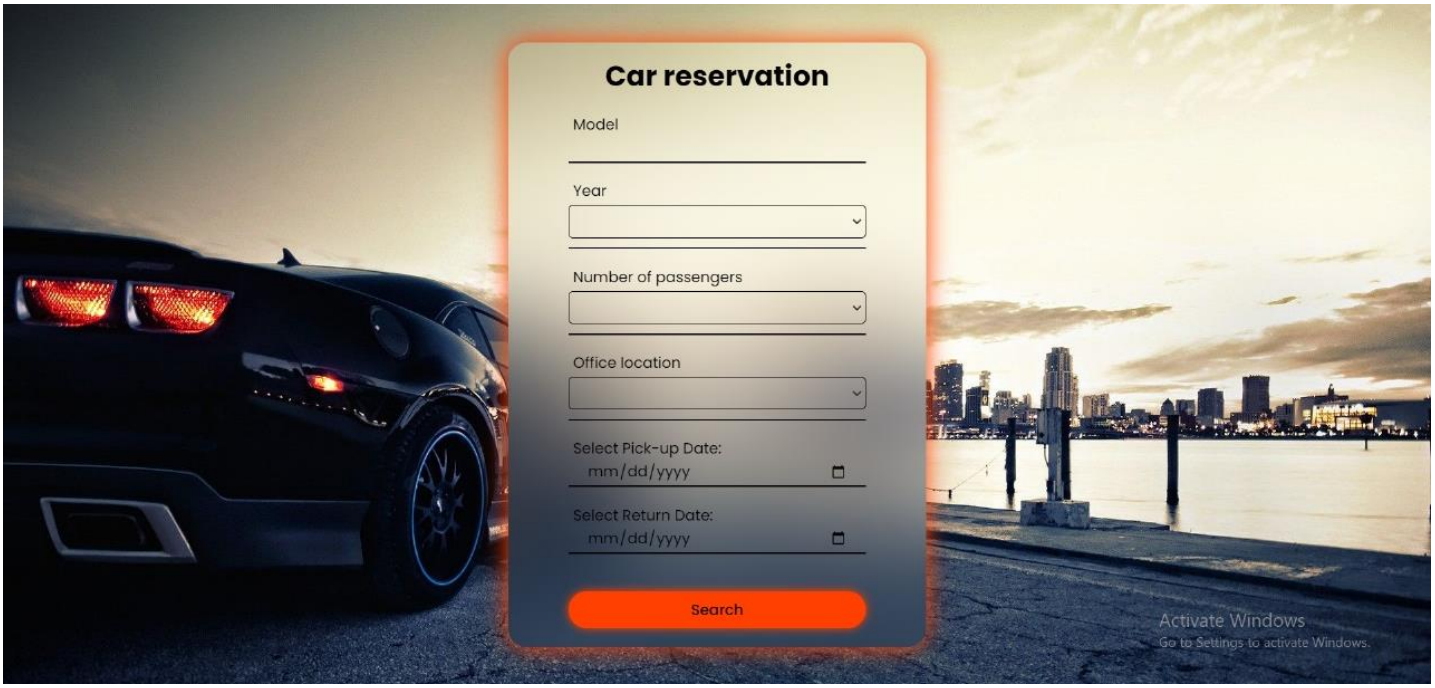

Figure 5: Car reservation customer interface.

Admin Interfaces:

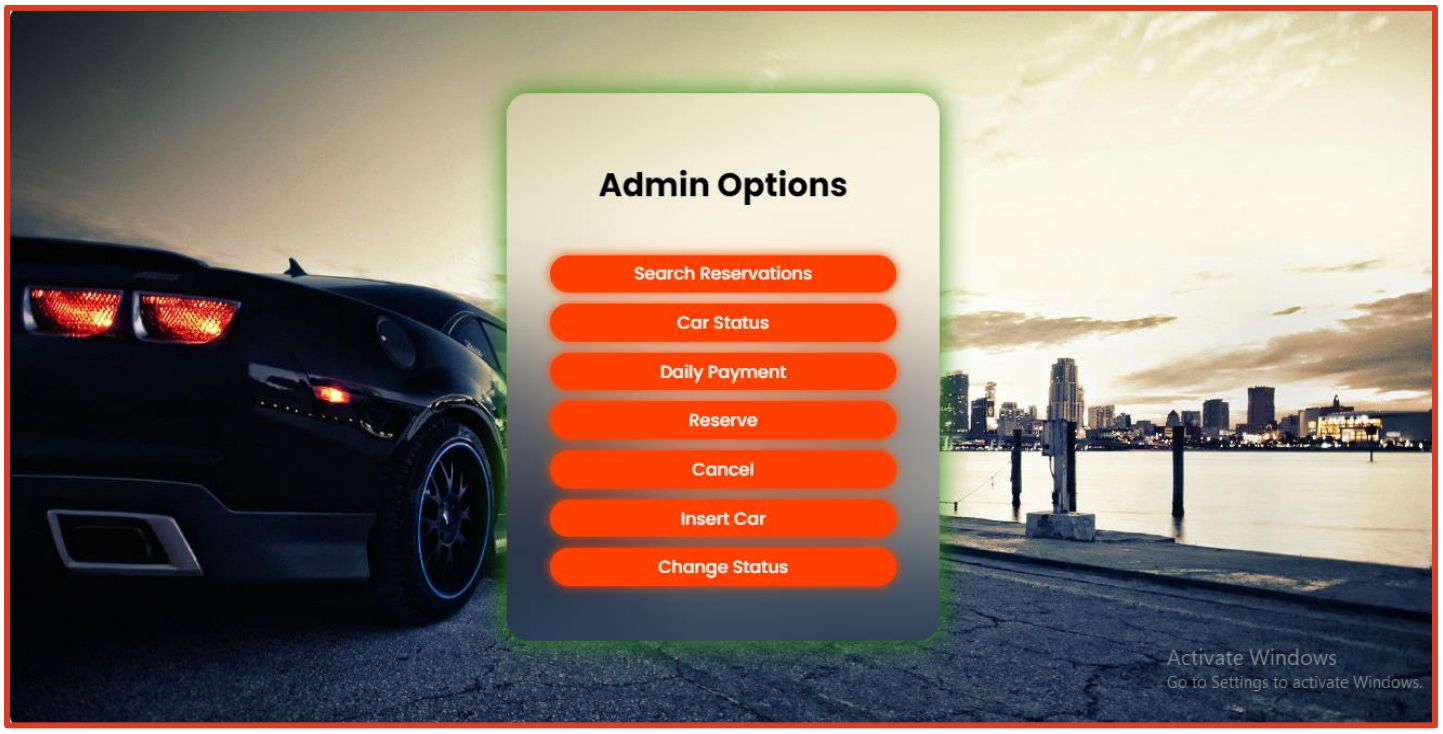

Figure1: Admin Login

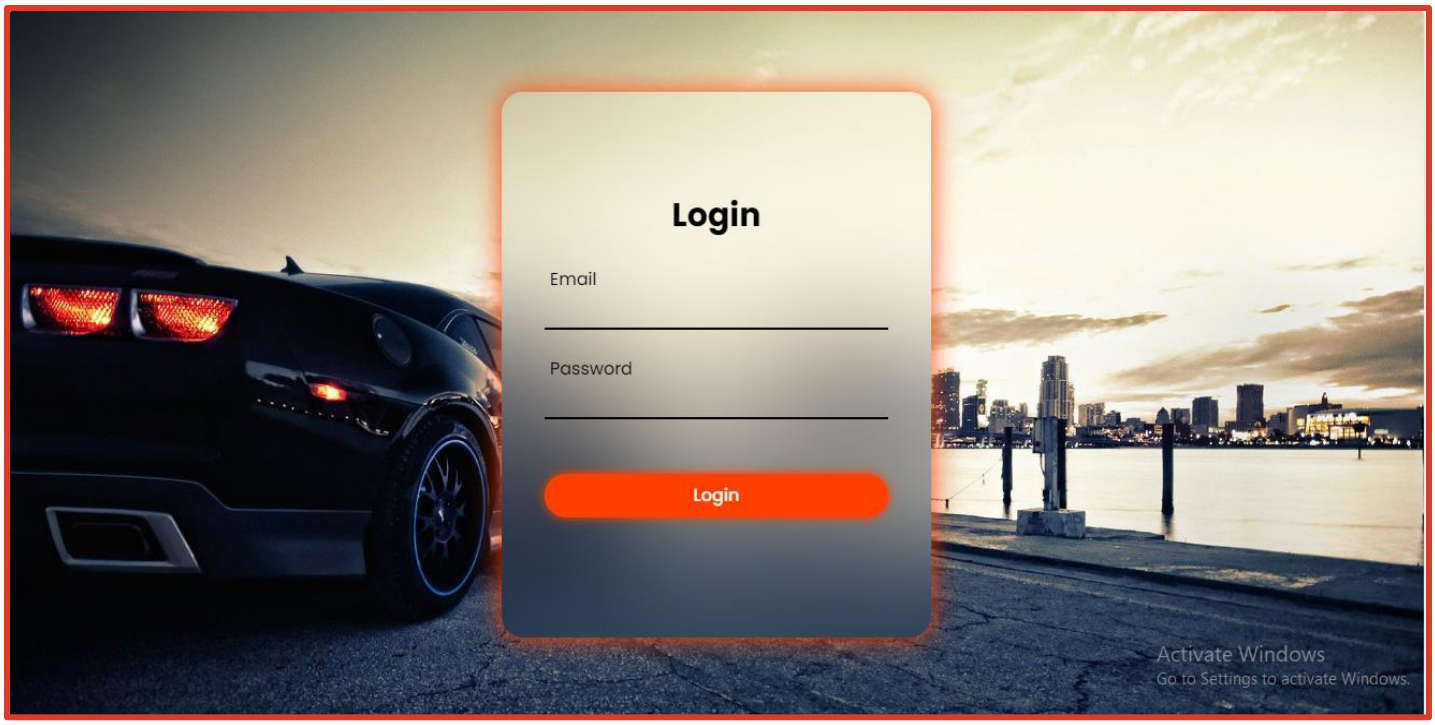

Figure2: Admin Options

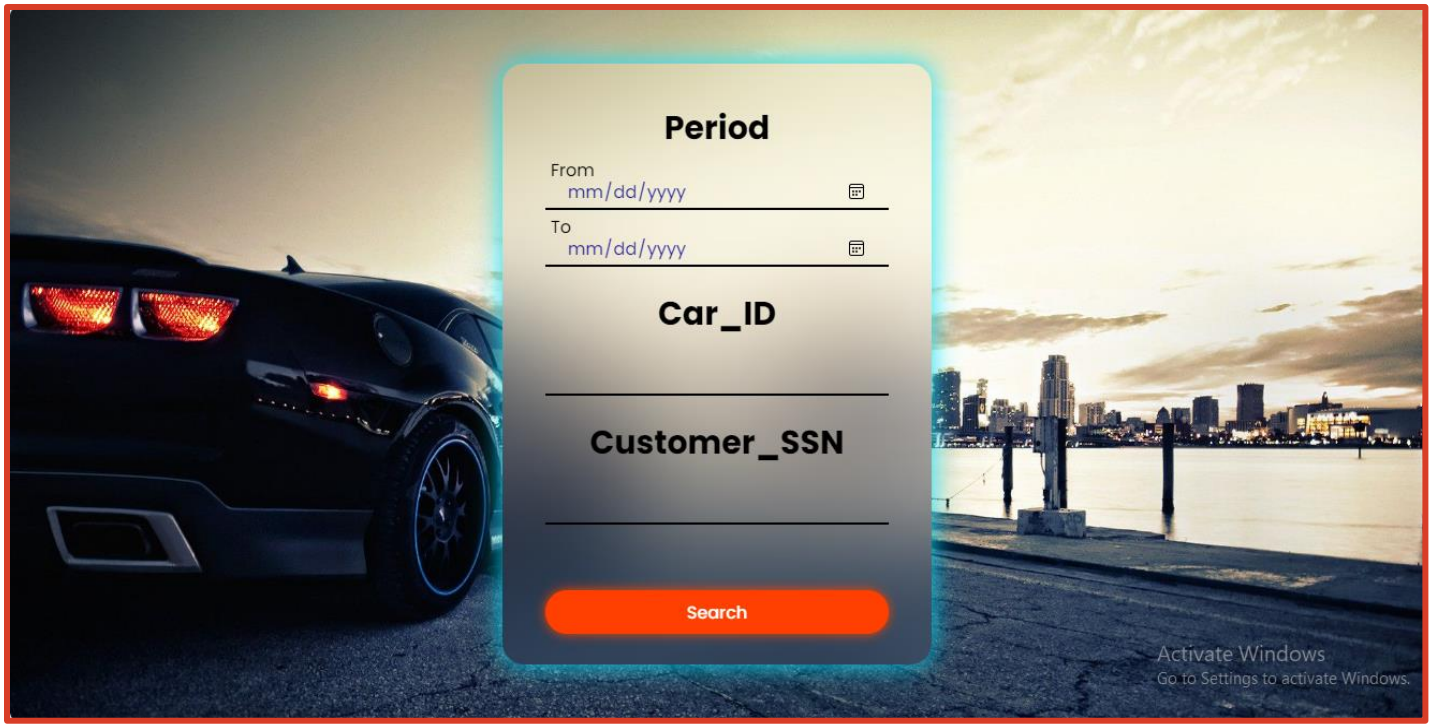

Figure 3: Through this interface, Admin can Search Reservations by entering a specific period or Car ID or Customer SSN.

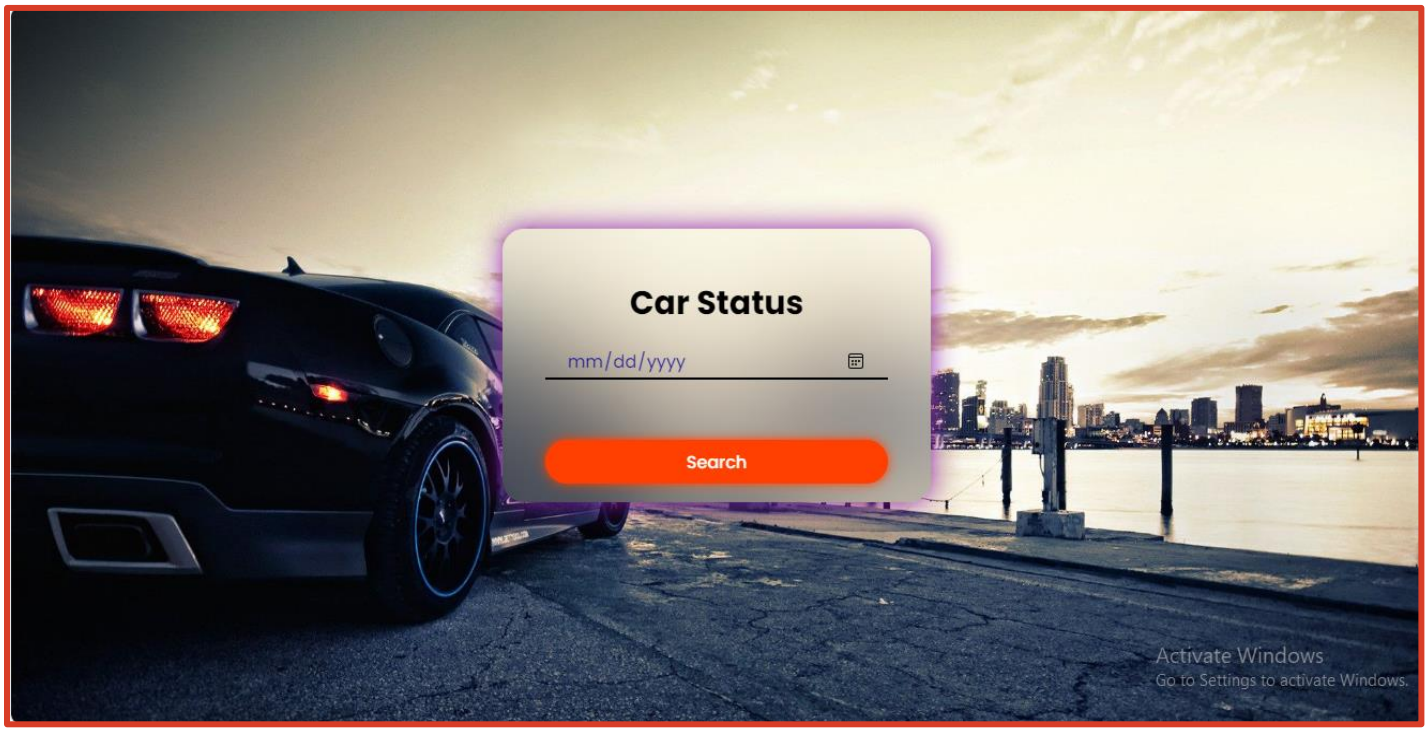

Figure 4: Through this interface, Admin can know the Car status in a specific period.

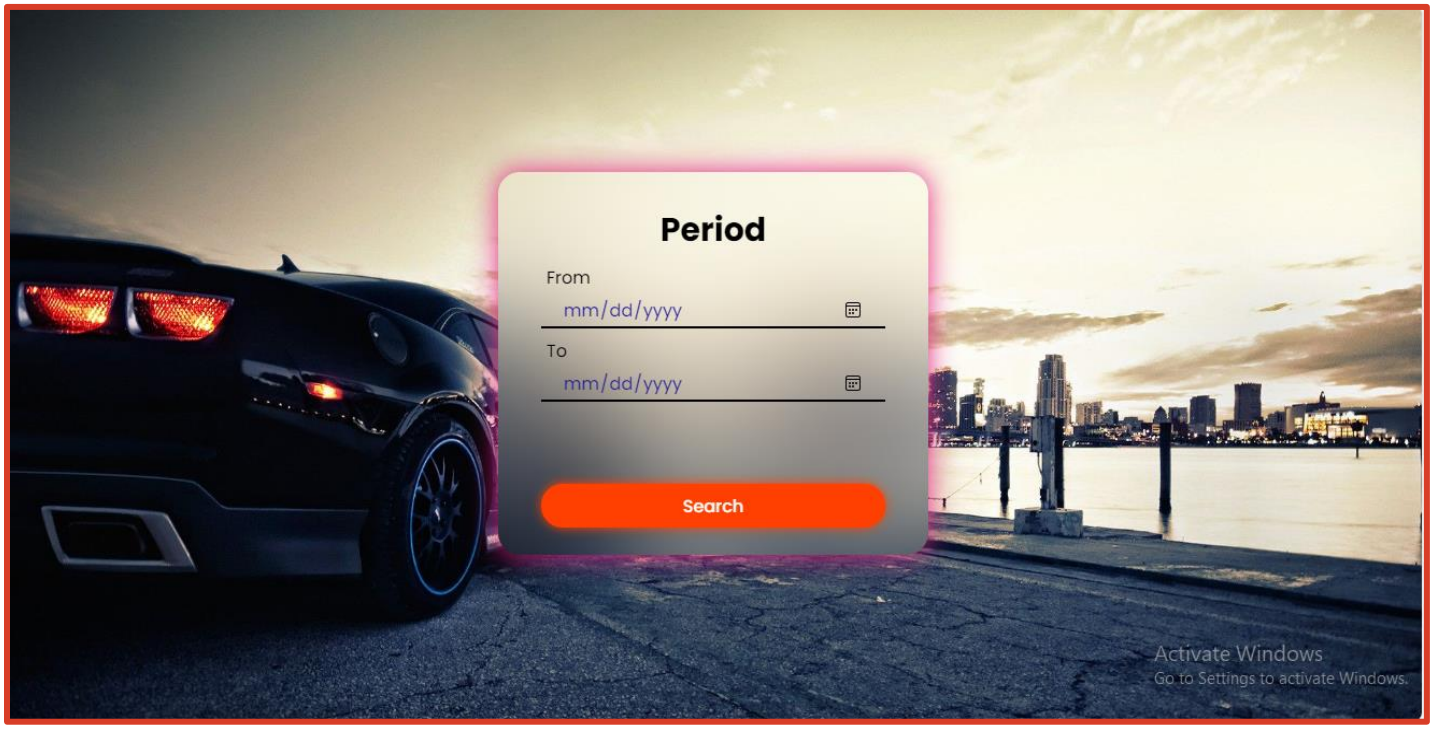

Figure 5: *Through this interface, Admin can* Retrieve Daily payments in a specific period.

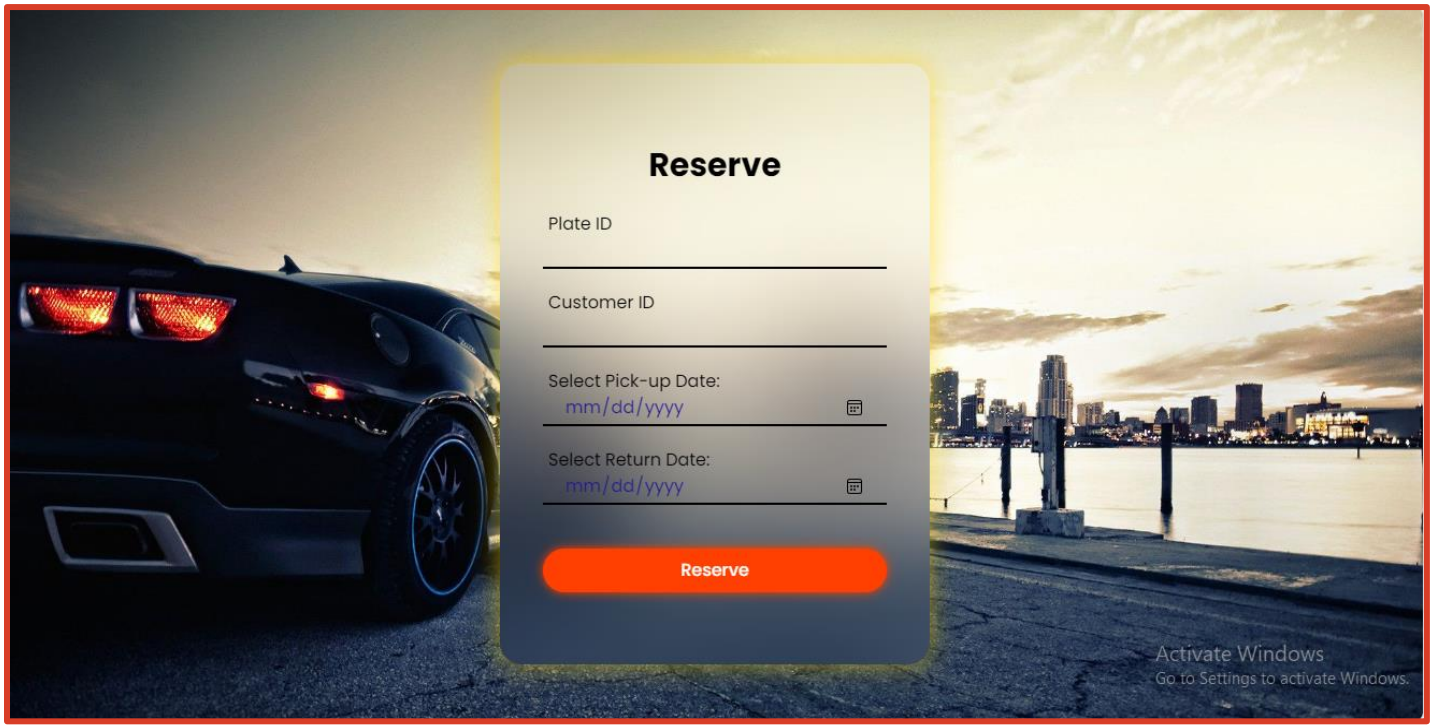

Figure 6: Through this interface, Admin can Reserve an Active car for a customer.

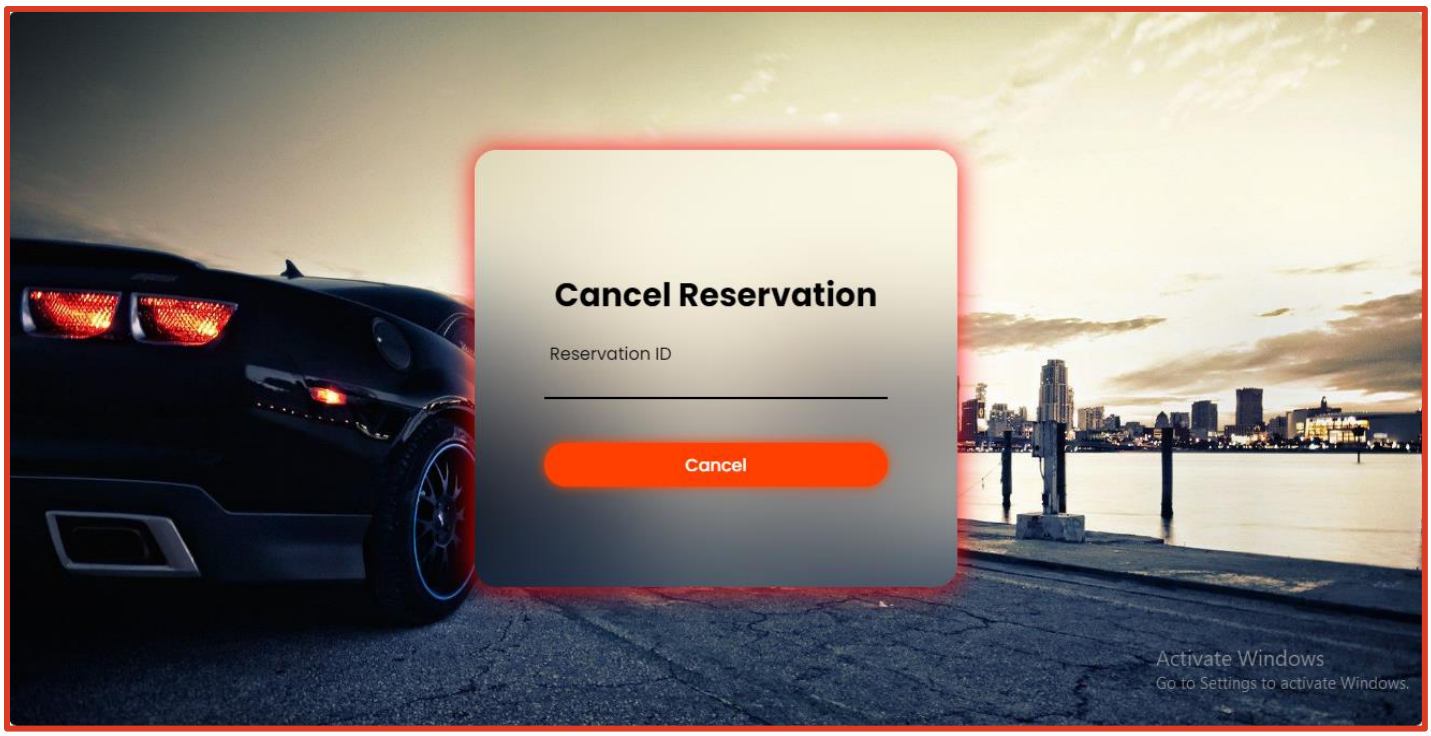

Figure 7: Through this interface, Admin can cancel reservations through a valid reservation ID.

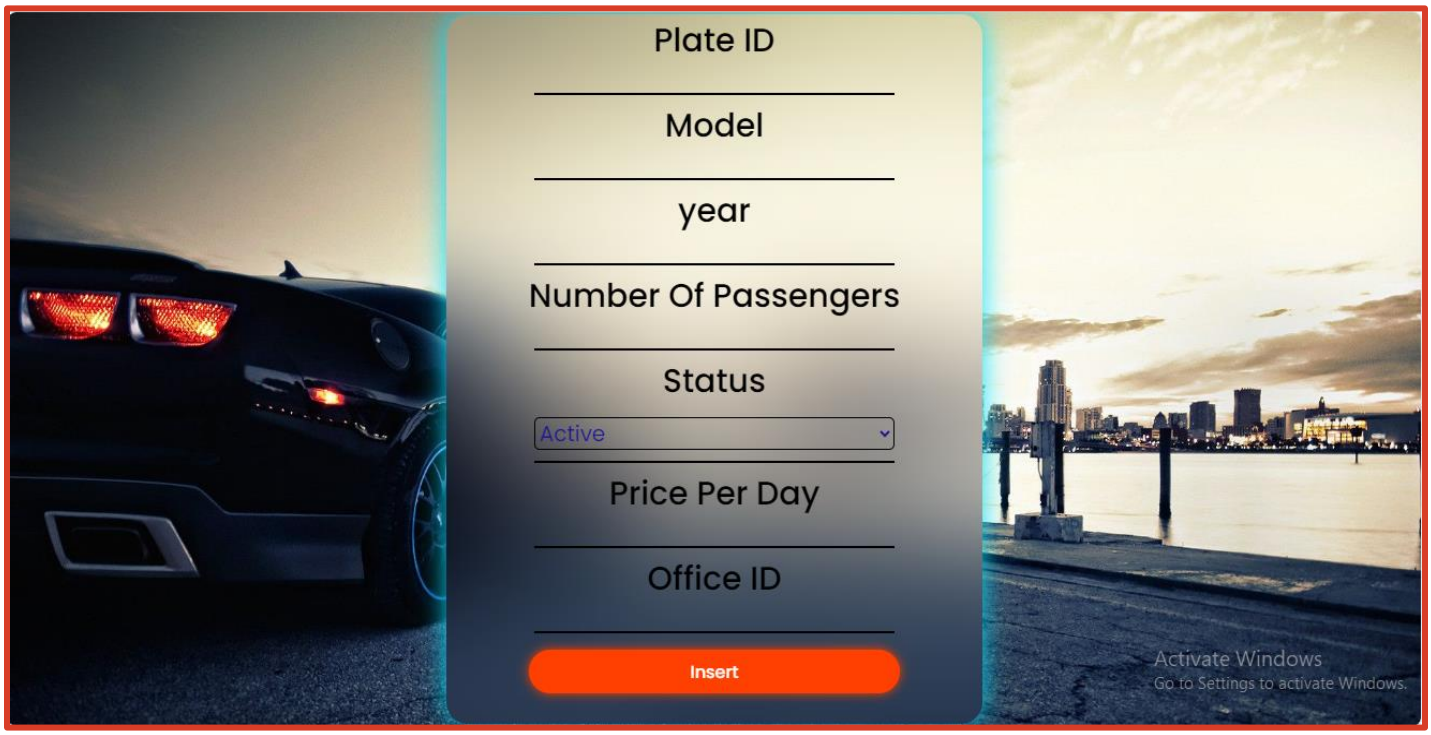

Figure 8: Through this interface, Admin can insert a new car into the system

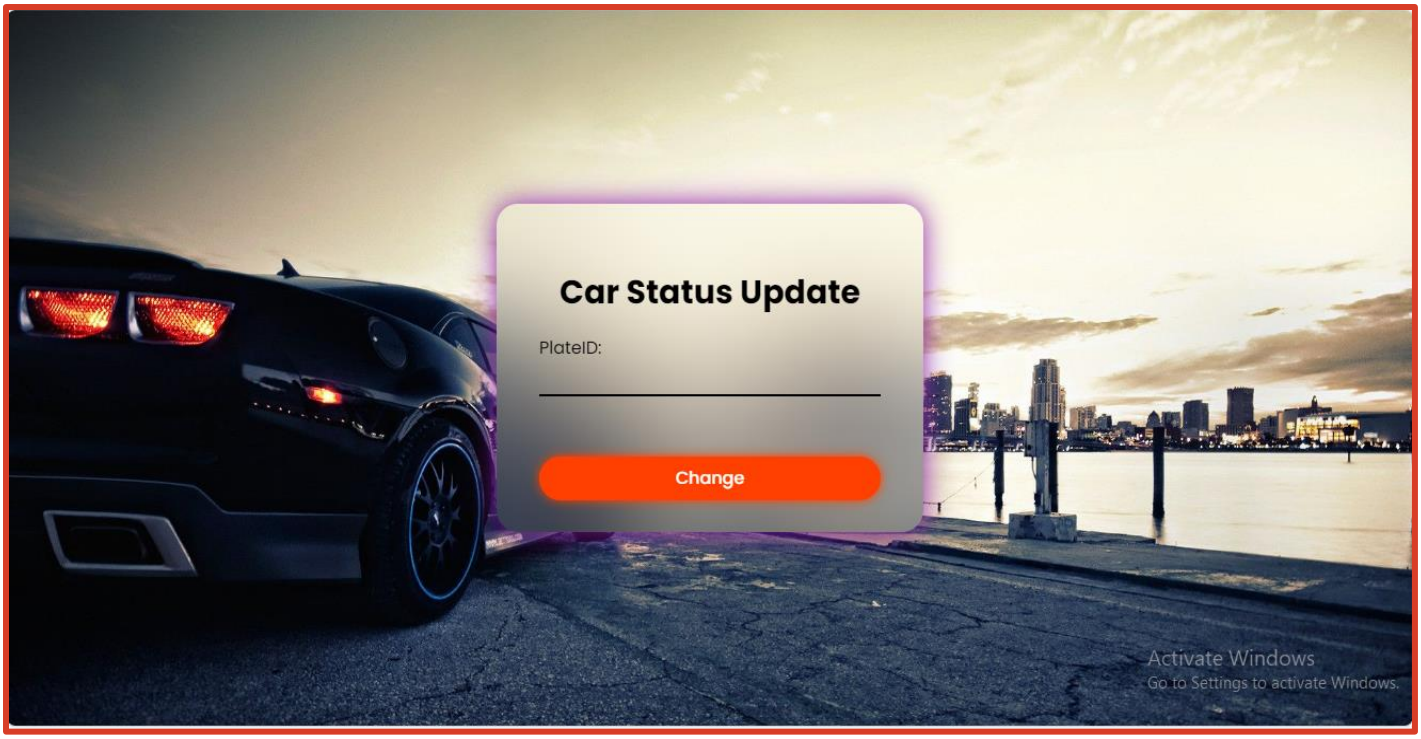

Figure 9: Through this interface, Admin can change the status of a certain car from "Active" to "Out of service" and vice versa