# **CAR RENTAL SYSTEM**

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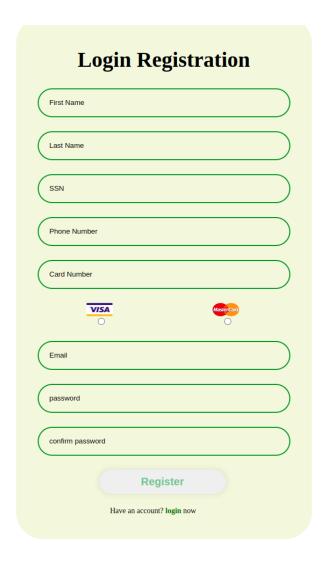
2.1.2024 Database Systems

### INTRODUCTION

It was required to implement a car rental system that allows users to rent cars.

# **Pages**



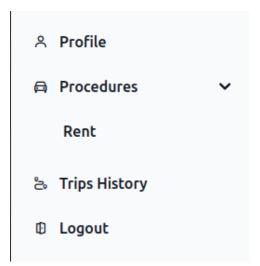


This is the login and register pages , the login is for both admins and customers while registration is for customer only.

### **Customer**

On login, redirected to profile page





This shows the basic info of the Customer. There is a sidebar used for navigation in all pages.

Rent is used to reserve (rent) a car.





This shows a part of the page, on the left is a list of all available cars that fit the criteria that will be filled in the right section of the page. To rent a car, the green "Rent" button on the left is clicked. A car can't be rented without setting the dates first and pressing apply.

# **Rent History**

Car Plate	Model	Year	Start Date	End Date	Amount	City	Country
CAR011	Sedan	2022	2024-01- 15	2024-01- 26	319000.00	New York	United States
CAR006	Sedan	2022	2024-01- 23	2024-01- 24	30000.00	New York	United States
CAR036	Truck	2020	2024-01- 23	2024-01- 25	66000.00	New York	United States
CAR036	Truck	2020	2024-01- 16	2024-01- 23	231000.00	New York	United States
CAR036	Truck	2020	2024-02- 01	2024-02- 17	528000.00	New York	United States
CAR039	Sedan	2022	2024-01- 24	2024-01- 27	90000.00	Toronto	Canada
CAR035	Sedan	2017	2024-01- 24	2024-01- 27	93000.00	Sydney	Australia

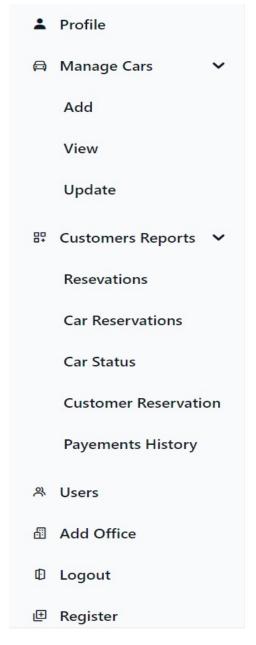
The trips history tab shows the rent history of all cars done by this specific customer.

The logout tab returns to the first login / registration page.

#### Admin

The admin tab has more functionality than the customer, but after login it is also redirected to a profile and also has a sidebar.





# Add a Car

Plate Number:	
Office ID:	Office
Year:	YYYY
Model:	
Color:	
Price:	
Status:	Status
	Add Car

Add car adds new car to the database

Advanced Search		
OFFICE <b>▽</b>	COLOR ~	year
Model	Plate Numbe	Status 🕶
Price		Search

This is the advanced search window for cars. It shows cars according to a variety of specs. On clicking search, redirected to a page that views cars as shown in the figure below:

		Nur	Back mber of queries: 51			
Office ID	Color	Year	Model	Plate	Price	Status
2	Magenta	2019	Mod	111111	4000.00	busy
1	Red	2018	SUV	CAR001	25000.00	available
2	black	2020	Sedan	CAR002	28000.00	available
3	white	2019	Truck	CAR003	32000.00	out_of_service
4	silver	2021	Hatchback	CAR004	20000.00	busy
5	hana_blue	2017	SUV	CAR005	27000.00	available
1	yellow	2022	Sedan	CAR006	30000.00	available
2	hassan_turquoise	2018	Hatchback	CAR007	22000.00	out_of_service
3	white	2023	Truck	CAR008	35000.00	available
4	silver	2020	SUV	CAR009	26000.00	busy
5	yassin_green	2019	Hatchback	CAR010	23000.00	available
1	hana_blue	2022	Sedan	CAR011	29000.00	available
2	black	2018	Truck	CAR012	33000.00	out_of_service
3	Red	2017	Hatchback	CAR013	24000.00	busy
4	hana_blue	2020	SUV	CAR014	28000.00	available
5	white	2021	Sedan	CAR015	27000.00	available
1	black	2019	Truck	CAR016	31000.00	out_of_service
2	silver	2023	Hatchback	CAR017	19000.00	busy

**Update Car Status** 

The update window updates or deletes a car with a certain plate number.

# Plate Number: Status: Update Plate Number: Plate Number: Plate Number: Delete

There are five customer reports available.

1- Reservations: this shows all reservations in a certain time limit



Procedure ID	Name	SSN	Phone Number	Email	Plate Number	Year	Model	Color	Price	Office ID	Country	City	District	Start Date	End Date
1	Alice Johnson	SSN001	1234567890	alice@example.com	CAR001	2018	SUV	Red	25000.00	1	United States	New York	Central Business	2023-01- 01	2023-01- 07
2	Bob Smith	SSN002	9876543210	bob@example.com	CAR002	2020	Sedan	black	28000.00	2	United States	San Francisco	Financial	2023-02- 15	2023-02- 22
3	Charlie Williams	SSN003	5551234567	charlie@example.com	CAR003	2019	Truck	white	32000.00	3	United Kingdom	London	Tech Hub	2023-03- 10	2023-03- 17

2- Car Reservations: this shows car reservations by both time and car plate number



3-Car Status: this shows all car statuses in a specific day

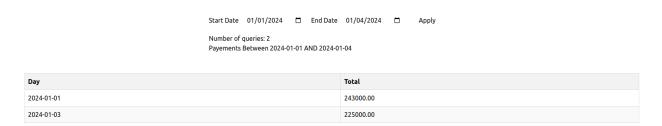
Office ID	Plate	Year	Model	Price	Color	Status	Country	City	District	Date
2	111111	2019	Mod	4000.00	Magenta	busy	United States	San Francisco	Financial	2023-12-30 00:00:00

4- Customer Reservations: this shows reservations of a customer by searching on any of customer attributes

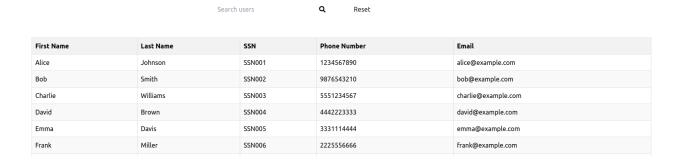


Name	SSN	Procedure ID	Office ID	Plate	Year	Model	Price	City	District
Alice Johnson	SSN001	1	1	CAR001	2018	SUV	25000.00	New York	Central Business
Alice Johnson	SSN001	111	5	CAR005	2017	SUV	27000.00	Sydney	Downtown

5-Payments: This shows all payments done in a specific time period



The Users tab shows a list of all users and a search bar for any user as well



The logout redirects to the first login/ register page.

The register tab is for admin registration.



		Add Office
Country:	Country	
City:	city	
District:	District	
Add		

# Some of the Used Queries

```
$update_car_query = "UPDATE car SET current_status = ? WHERE plate_number = ? ";
DB::update($update_car_query, [$stat, $car_plate]);

$delete_car_query = "DELETE FROM car WHERE plate_number = ?";
$res = DB::delete($delete_car_query, [$request->input('plateNumber_delete')]);
```

```
$searchQuery = '%' . $srch . '%';

$query = "SELECT * FROM customer WHERE (fname LIKE ?

OR lname LIKE ? OR email LIKE ? OR phone_number LIKE ?

OR SSN LIKE ?)";

$users = DB::select($query, [$searchQuery, $searchQuery, $searchQuery, $searchQuery]);
```

```
$query = "SELECT * FROM car
NATURAL JOIN rent
NATURAL JOIN customer
NATURAL JOIN office
WHERE start_date >= '$start_date' AND end_date <= '$end_date'";</pre>
```

#### **CODE DDL**

```
use Car Rental;
CREATE TABLE office (
);
CREATE TABLE car (
  plate number VARCHAR(20) PRIMARY KEY,
CREATE TABLE admin (
```

```
CREATE TABLE customer (
  lname VARCHAR(50),
  phone number VARCHAR(20),
CREATE TABLE rent (
  SSN VARCHAR(20),
  plate number VARCHAR(20),
  procedure_id INT AUTO_INCREMENT PRIMARY KEY,
```

```
amount paid DECIMAL(10, 2),
  FOREIGN KEY (plate_number) REFERENCES car(plate_number) ON DELETE
CREATE TABLE car_status (
  plate_number VARCHAR(20),
  PRIMARY KEY (plate number, date),
  FOREIGN KEY (plate number) REFERENCES car(plate number) ON DELETE
```

# **ER DIAGRAM**

