



CSE302: Database Systems (Section No: 06)

Fall 2024

Project Report

Car Rental Service

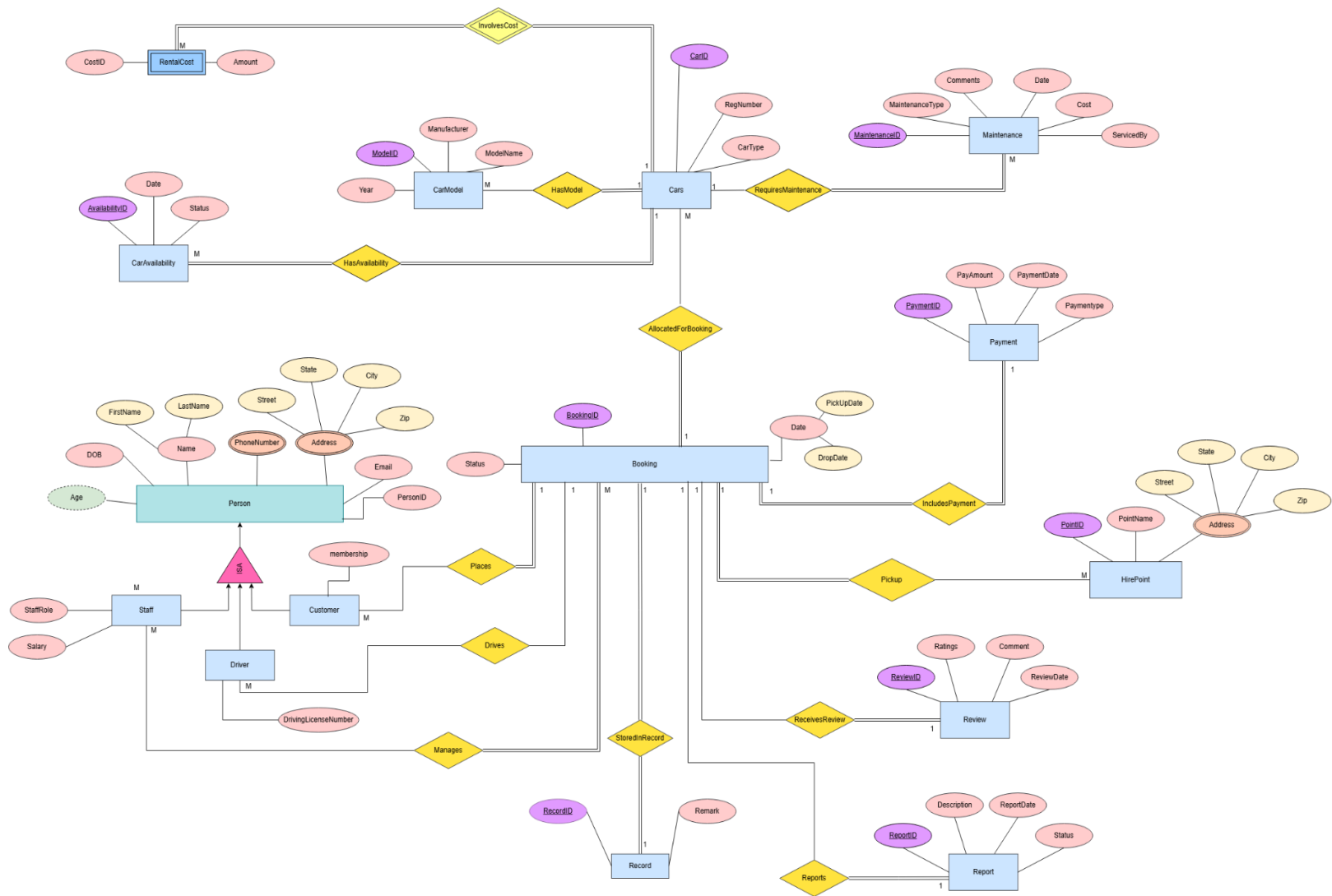
[project-installation-file-link](#)

[source-code-link](#)

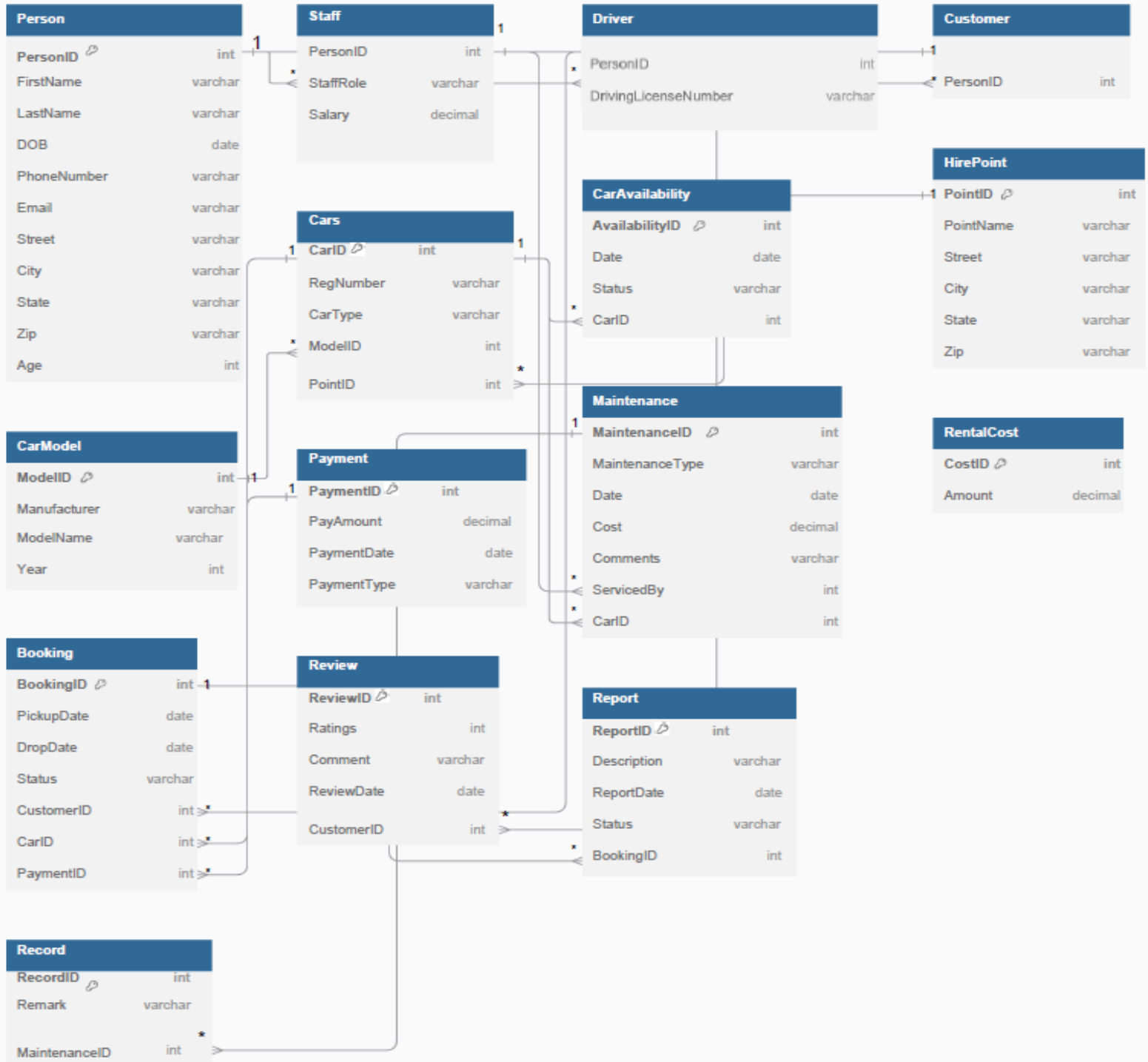
Submitted by:

Student ID	Student Name	Contribution Percentage
2022-3-60-045	MD. Saiful Islam	30% (database, application)
2022-3-60-144	Rafsan Zani Niloy	25% (ER diagram, database)
2022-3-60-317	Umme Mukaddisa	25% (database, application)
2022-3-60-205	Zarif Syndeed Sikder	20% (ER diagram,database)

1. E-R Model of the Project



2. Schema Design of the Project



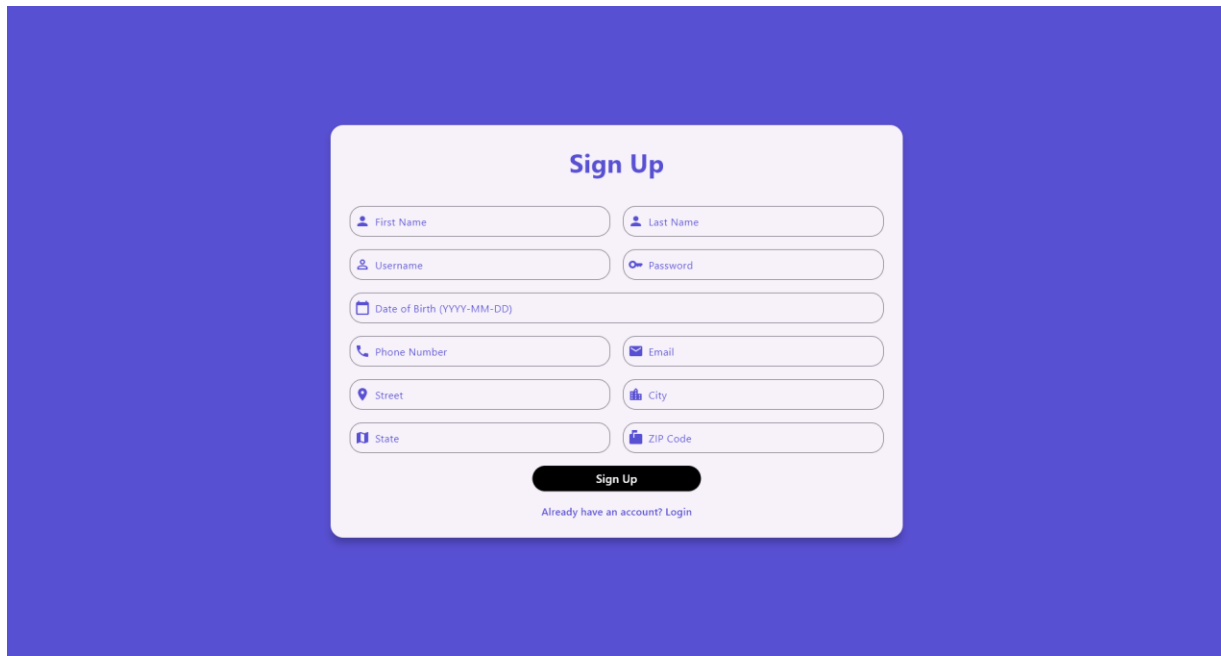
3. Implementation Checklist

Description	Remarks
Project Type	Application
Project Platform	Windows
Programming language	Dart
Framework	Flutter
Database type	Local using Xampp
API	Using PHP Language
Authentication Type	Custom
Number of Pages with Forms	07
Number of Pages based on Queries, Aggregate Queries	21
Included any trigger/other feature which is not taught in class. If yes, please explain briefly.	i) We have used auto increment features to generate ID's automatically. ii) We have used insert_id function to get the last generated id.
Write the most unique feature/functionality in your application or the page of your application that you are proud of. Explain briefly.	There are so many unique features in our application as our application is a windows application & we have used many advanced UI/UX features. We did not use oracle apex rather we have built our custom UI.

4. Pages with user input

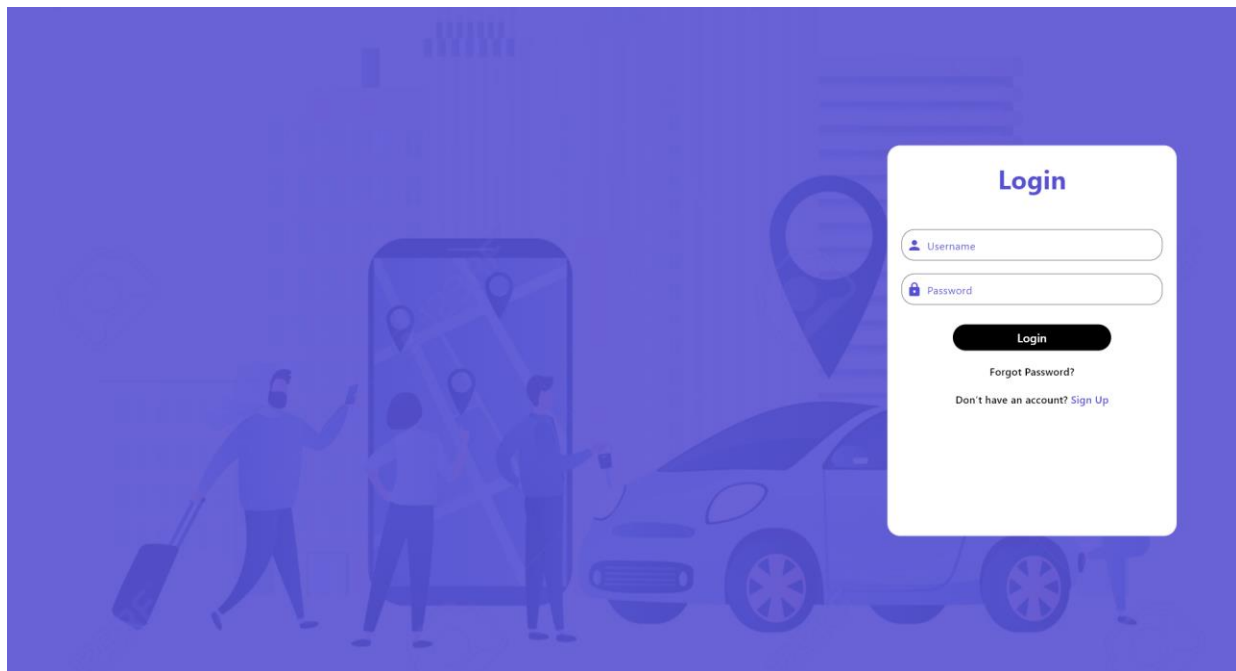
Page Type	Description	Table
Sign up	This page is for signing up with user data.	person, customer, driver, staff.
Log in	Admin, user, driver can log in to there account with their proper user name & password.	person, customer, driver, staff.
Add Cars	Admin add new cars with all required information into database.	cars, carmodel, caravailability, rentalcost.
Add Booking	User rent their desired car in this page.	booking, hirepoint, driver.
Payment	User select their payment method & complete their payment to confirm their booking.	payment.
Add Review	User can add review of their overall experience.	review, booking.
Add Report	User can report about any specific issue regarding their booking.	report, booking.

Figure 4.1:



A 'Sign Up' form is centered on a solid blue background. The form is a white rounded rectangle with a blue shadow. It has a title 'Sign Up' in bold blue text at the top. Below the title are ten input fields arranged in two columns. The left column contains: 'First Name' (with a person icon), 'Username' (with a person icon), 'Date of Birth (YYYY-MM-DD)' (with a calendar icon), 'Phone Number' (with a phone icon), 'Street' (with a location pin icon), and 'State' (with a state outline icon). The right column contains: 'Last Name' (with a person icon), 'Password' (with an eye icon), 'Email' (with an envelope icon), 'City' (with a city skyline icon), and 'ZIP Code' (with a ZIP code icon). At the bottom of the form is a black 'Sign Up' button and a link 'Already have an account? Login'.

Figure 4.2:



A 'Login' form is positioned on the right side of a blue background. The background features a faint illustration of a city street with people, a car, and a large smartphone displaying a map. The form is a white rounded rectangle with a blue shadow. It has a title 'Login' in bold blue text at the top. Below the title are two input fields: 'Username' (with a person icon) and 'Password' (with a lock icon). At the bottom of the form is a black 'Login' button, a link 'Forgot Password?' in blue text, and a link 'Don't have an account? Sign Up' in blue text.

Figure 4.3:

←

Add Car

Enter Car Details

Registration Number

Car Type

Model Name

Manufacturer

Year

AvailabilityID (1.Available 2.Unavailable 3.In Maintenance)

CostID (1,2,3,4,5)

Photo Link

Add Car

Figure 4.4:

←

Toyota

Corolla

Toyota

2023

Compact

Rent Details:
₹ 4000/day

Book This Car


Pickup Date (YYYY-MM-DD)
2025-01-27

Drop Date (YYYY-MM-DD)

Hire Point ID (1(Bus Stand-2) , 2(Gas Station) , 3(Rail Station))

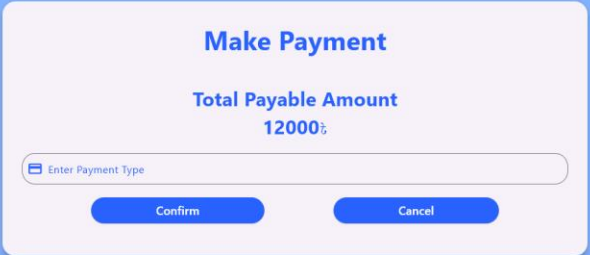
Driver ID (optional)

Confirm Booking



Review Area

Figure 4.5:



A modal form titled "Make Payment" is centered on a solid blue background. The form has a light purple background and rounded corners. It displays the "Total Payable Amount" as "12000₹". Below this, there is a text input field with a card icon and the placeholder text "Enter Payment Type". At the bottom of the form are two blue buttons: "Confirm" and "Cancel".

Make Payment

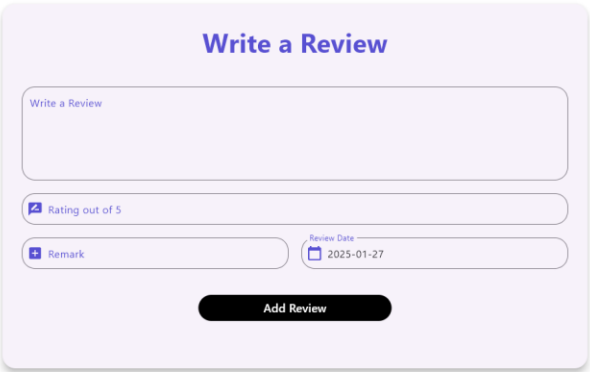
Total Payable Amount
12000₹

Enter Payment Type

Confirm Cancel

Booking added successfully!

Figure 4.6:



A modal form titled "Write a Review" is centered on a white background. The form has a light purple background and rounded corners. It contains a large text area for writing a review, a "Rating out of 5" section with a star icon, a "Remark" section with a plus icon, and a "Review Date" section with a calendar icon showing "2025-01-27". At the bottom is a black button with white text that says "Add Review".

Write a Review

Write a Review

Rating out of 5

Remark

Review Date
2025-01-27

Add Review

Figure 4.7:

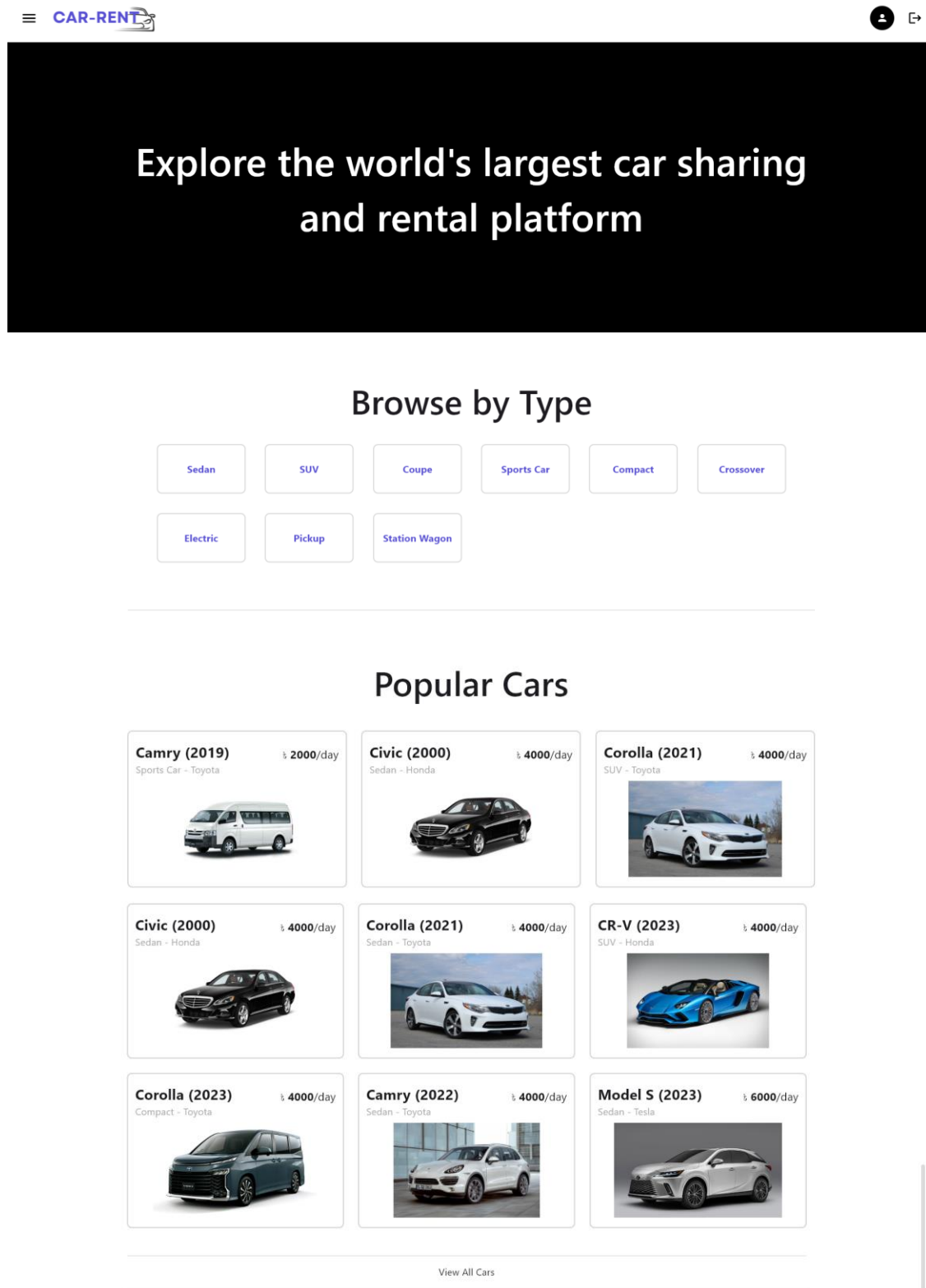
The image shows a 'Raise an Issue' form with a light purple background and rounded corners. The form contains the following elements:

- Title:** 'Raise an Issue' in bold purple text.
- Report about:** A text input field with a purple information icon on the left.
- Description:** A large text area for detailed input.
- Car ID:** A text input field with a purple car icon on the left.
- Driver ID:** A text input field with a purple person icon on the left.
- Remark:** A text input field with a purple plus icon on the left.
- Review Date:** A date input field showing '2025-1-27' with a purple calendar icon on the left.
- Submit Button:** A black button with white text labeled 'Add Review'.

5. Pages based on Multi-Table and Aggregate Queries

Page Type	Query Type	Report description
Home page	Multi-Table Query	It shows all car type, also shows the popular cars.
Filtered Cars	Multi-Table Query	It shows all cars of that specific type.
Show All Available Car	Multi-Table Query	It shows all available cars for booking.
On going	Multi-Table Nested-Query	Shows all current active bookings of a specific user.
Review	Multi-Table Query	Shows all the reviews of a specific user.
Report	Simple Query	Shows all the reports submitted by a specific user.
Cancelled	Simple Query	Shows all cancelled bookings by a specific user.
My Profile	Multi-Table Query	Shows all information of specific user/driver/admin including their unique information related to their role.
Dashboard	Multi-Table Query & Aggregation	To show company's total user, available car, total revenue.
View All Cars	Multi-Table Query	Used by admin to add new cars to the database also to see cars information about availability, rent , model e.t.c.
View All Persons	Simple Query	To show all the admin, users, drivers, staffs information.
View All Customers	Nested Query	To show all the customers information of the database.
View All Payments	Simple Query	Shows all payment details of each bookings.
View All Reports	Simple Query	Shows all reports made by customers.
View All Hire points	Simple Query	Shows company's all hire point details.
View All Maintenance Record	Nested Query	Shows all information of every maintenance.
View All Review Records	Multi-Table Query	Shows all booking related reviews made by customers.
View All Booking Details	Multi-Table Query	Shows everything related to each booking.
Booking Count Total Spend	Multi-Table Query & Aggregation	Shows total spend of each customer for all bookings from this company.
Show All Popular Car	Multi-Table Query & Aggregation	Shows all popular cars of the company based on customer ratings.

Figure 6.1:



(Side Nav-Bar)

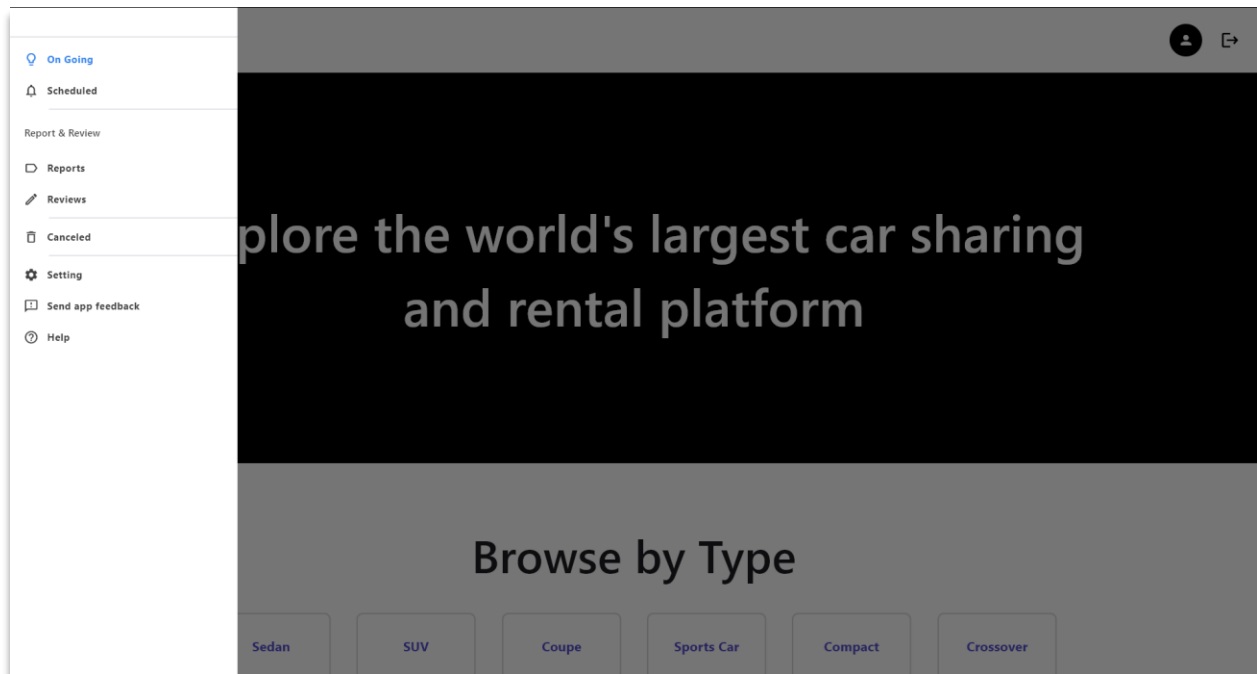


Figure 6.2:

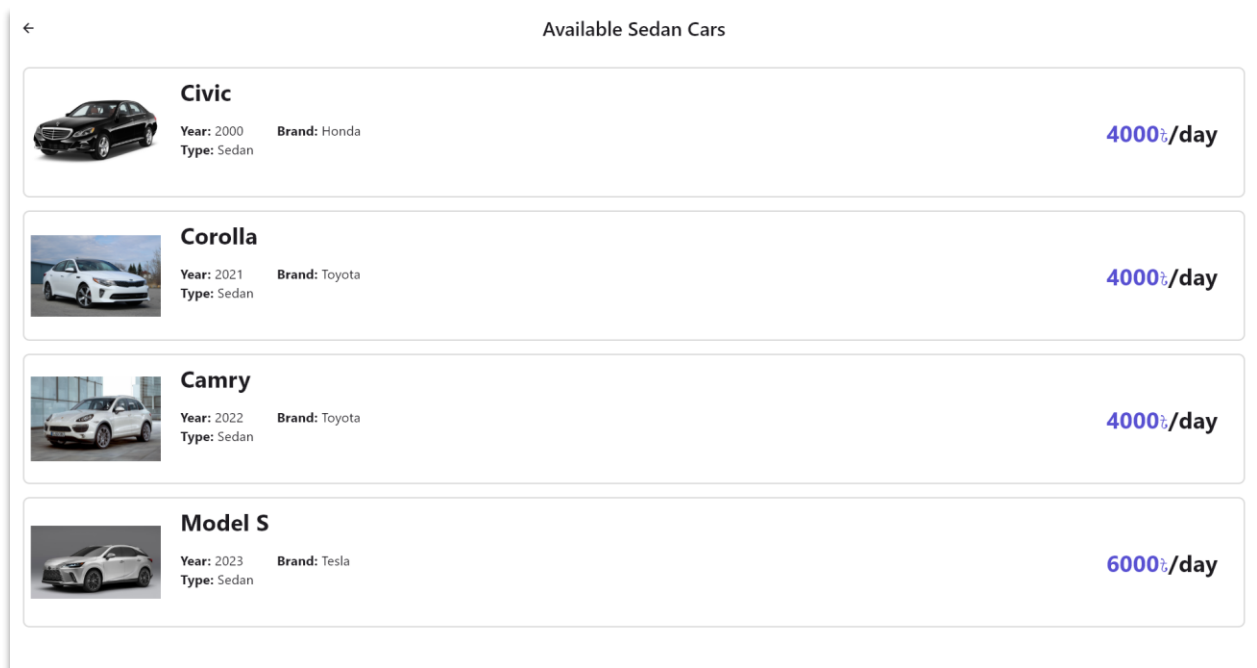


Figure 6.3:





All Available Cars			
	Corolla Year: 2021 Type: SUV	Brand: Toyota	4000€/day
	Civic Year: 2000 Type: Sedan	Brand: Honda	4000€/day
	Corolla Year: 2021 Type: Sedan	Brand: Toyota	4000€/day
	CR-V Year: 2023 Type: SUV	Brand: Honda	4000€/day
Corolla			

Figure 6.4:



onGoing Booking			
	Camry Year: 2019 Type: Sedan	Brand: Toyota	Report Review 2000€/day
	Civic Year: 2000 Type: Sedan	Brand: Honda	Report Review 4000€/day

Figure 6.5:

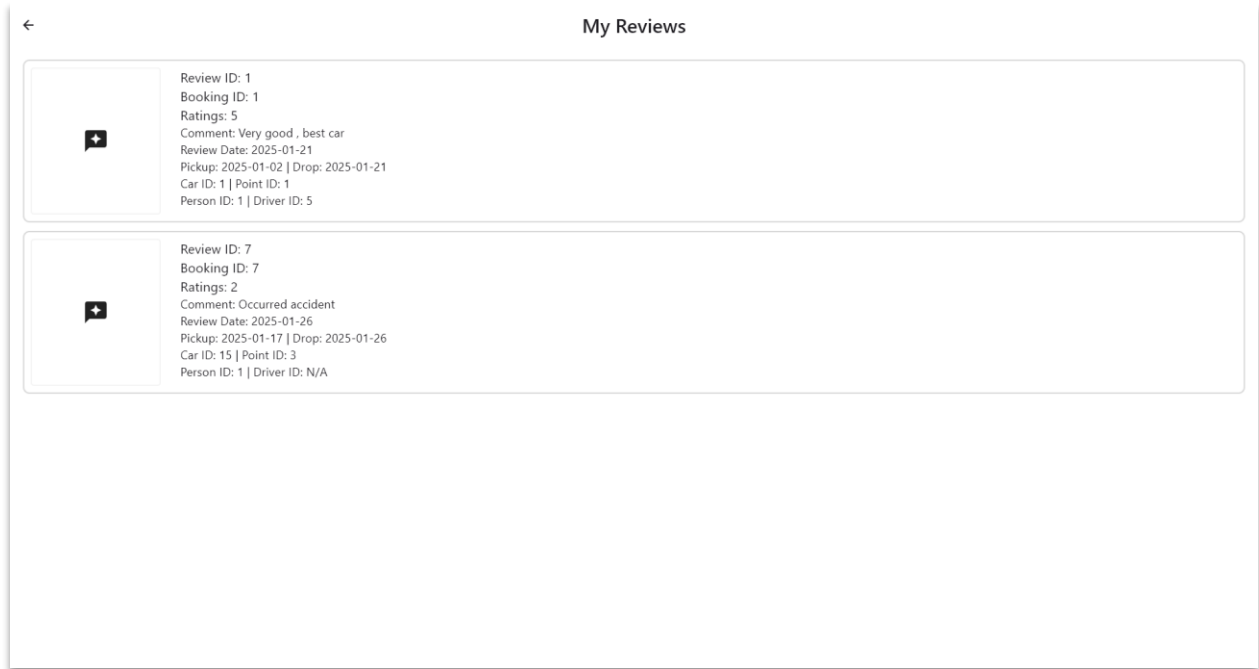


Figure 6.6:

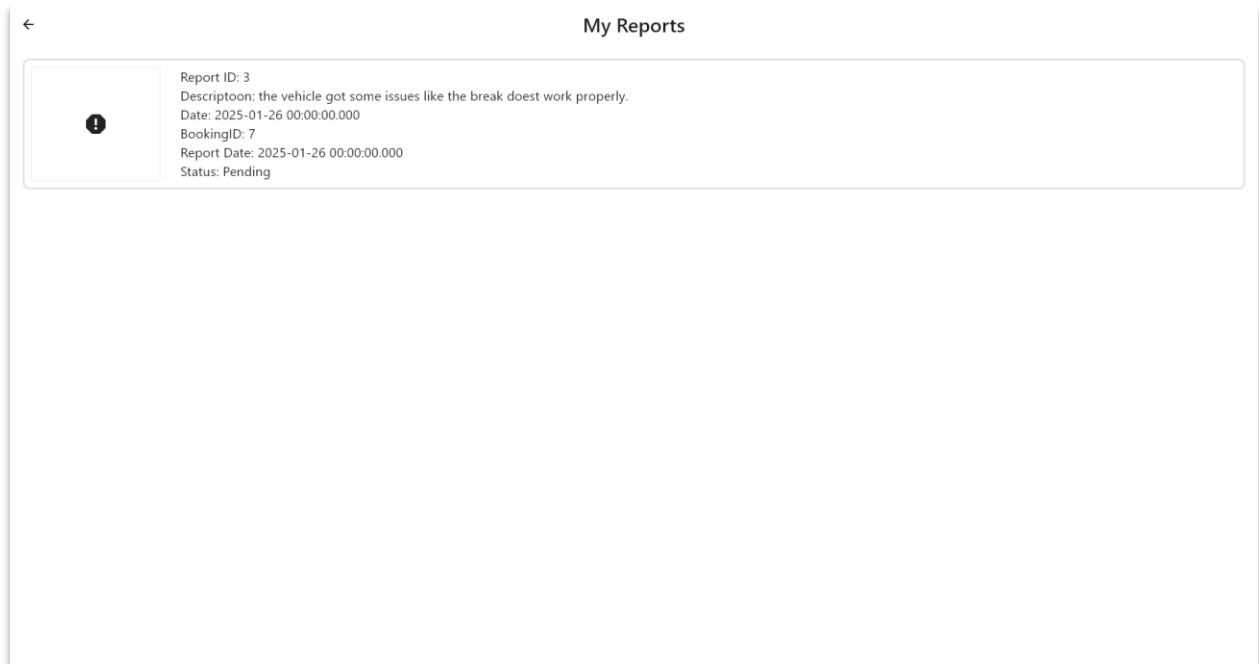


Figure 6.7:

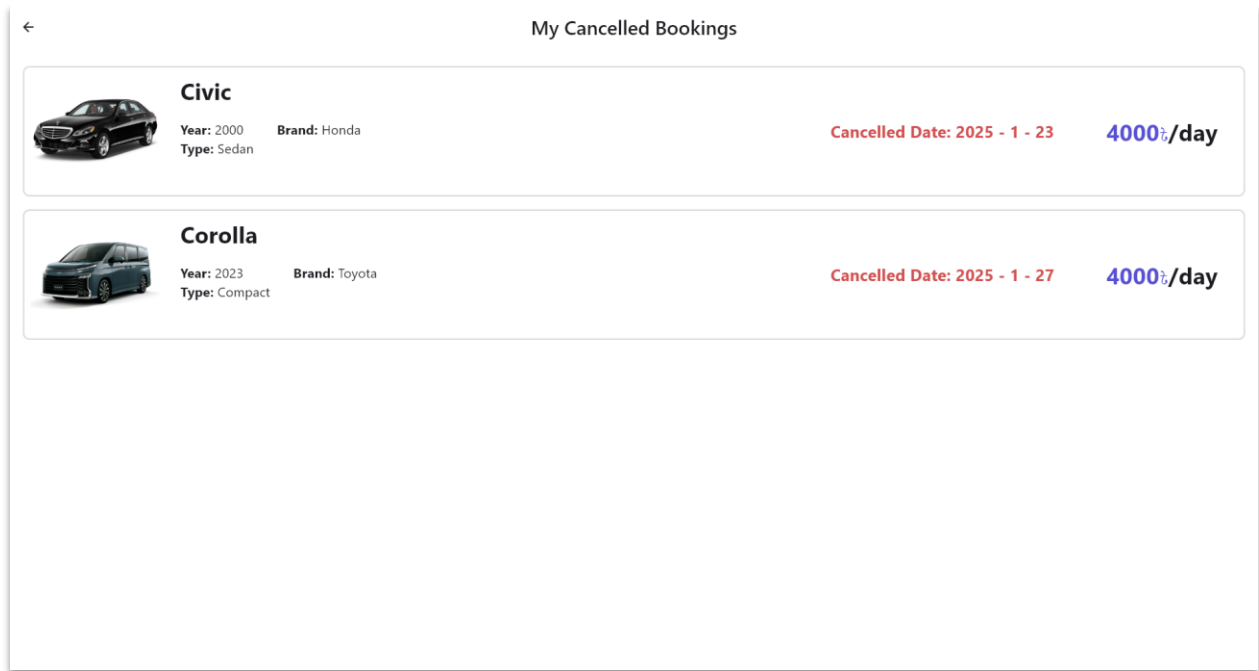
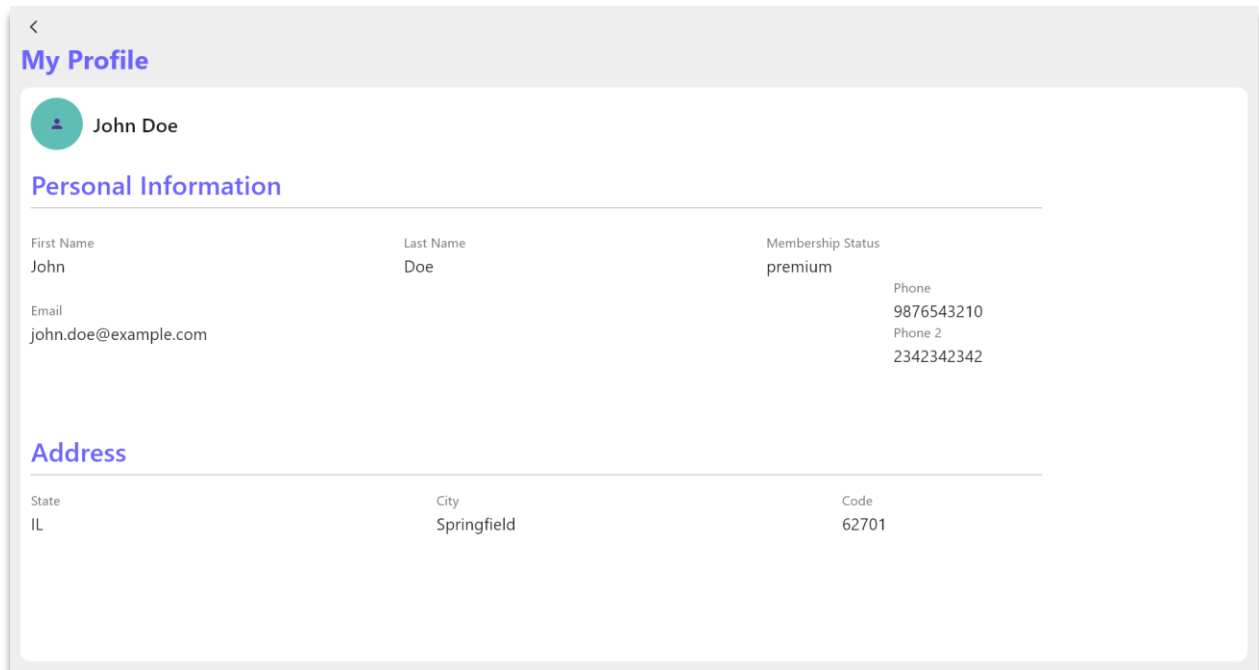



Figure 6.8:
(Customer Profile)



(Driver Profile)

[<](#)

My Profile

 **David Brown**

Personal Information

First Name	Last Name	Driving Licence
David	Brown	DL67890
Email		Phone
david.brown@example.com		32424234234


Address

State	City	Code
CT	Bridgeport	06604

(Staff Profile)

[<](#)

My Profile

 **Saif Islam**

Personal Information

First Name	Last Name	Staff Role
Saif	Islam	Admin
Email		Phone
saif@example.com		23423423443
		Phone 2
		32423423424

Address

State	City	Code
FL	Riverview	33578

Figure 6.9:



Figure 6.10:

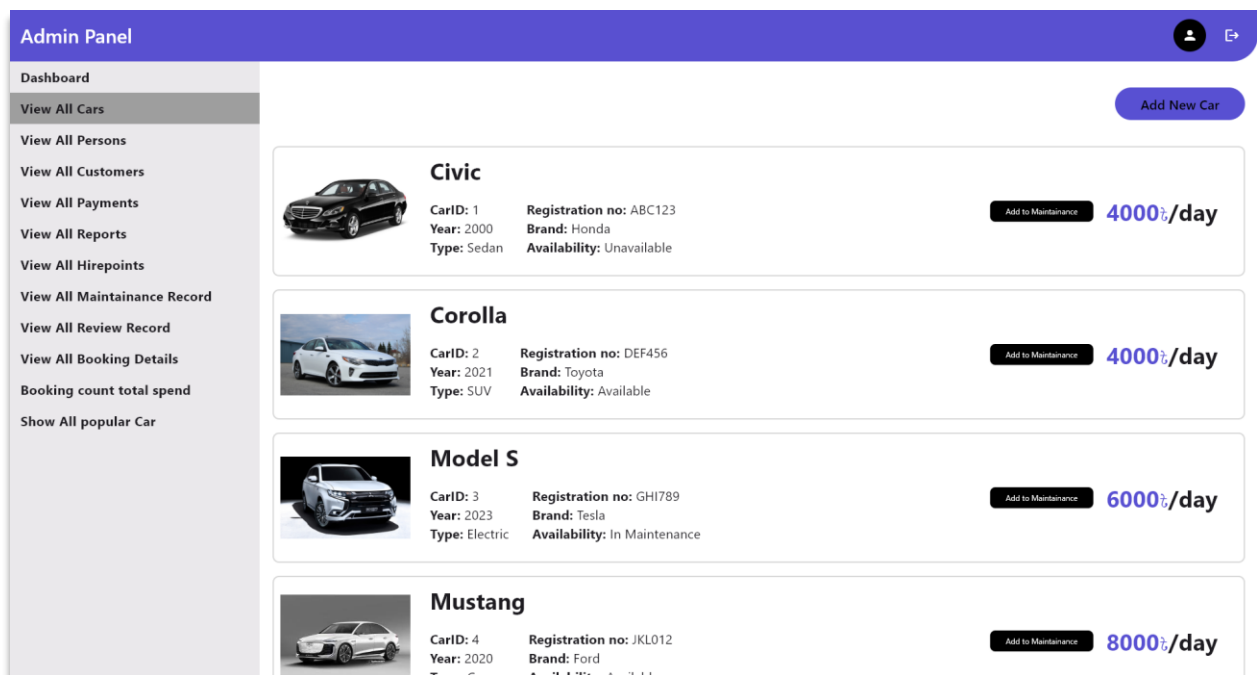


Figure 6.11:

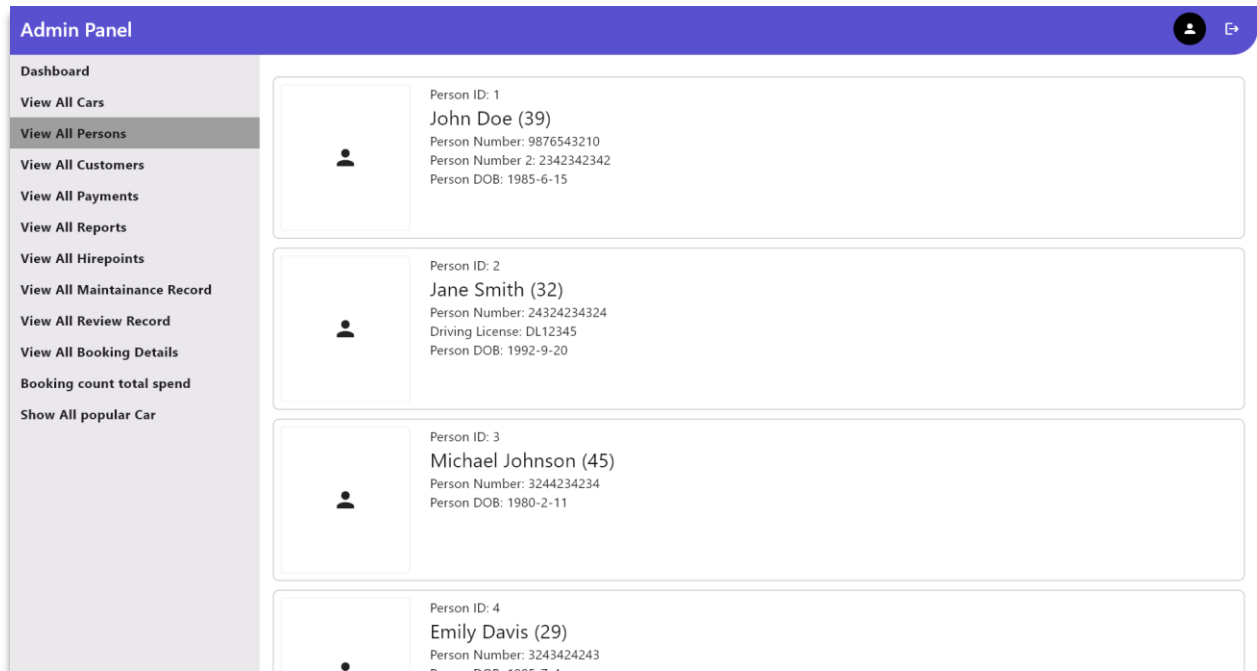


Figure 6.12:

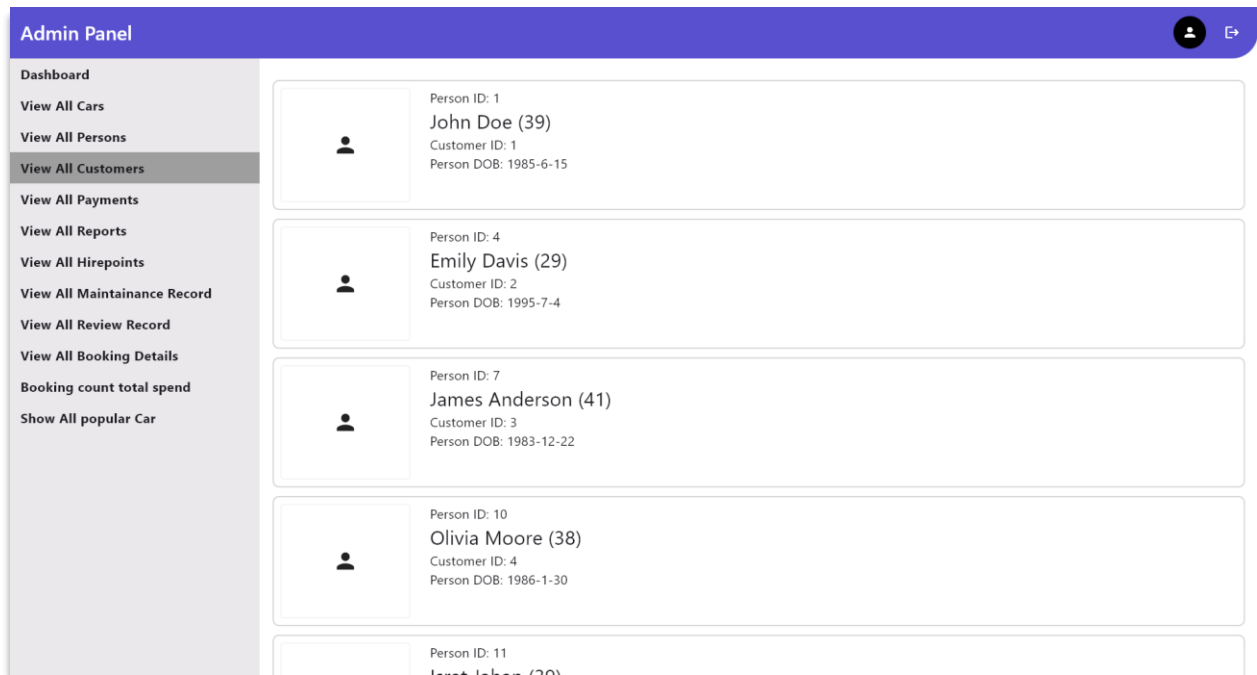


Figure 6.13:

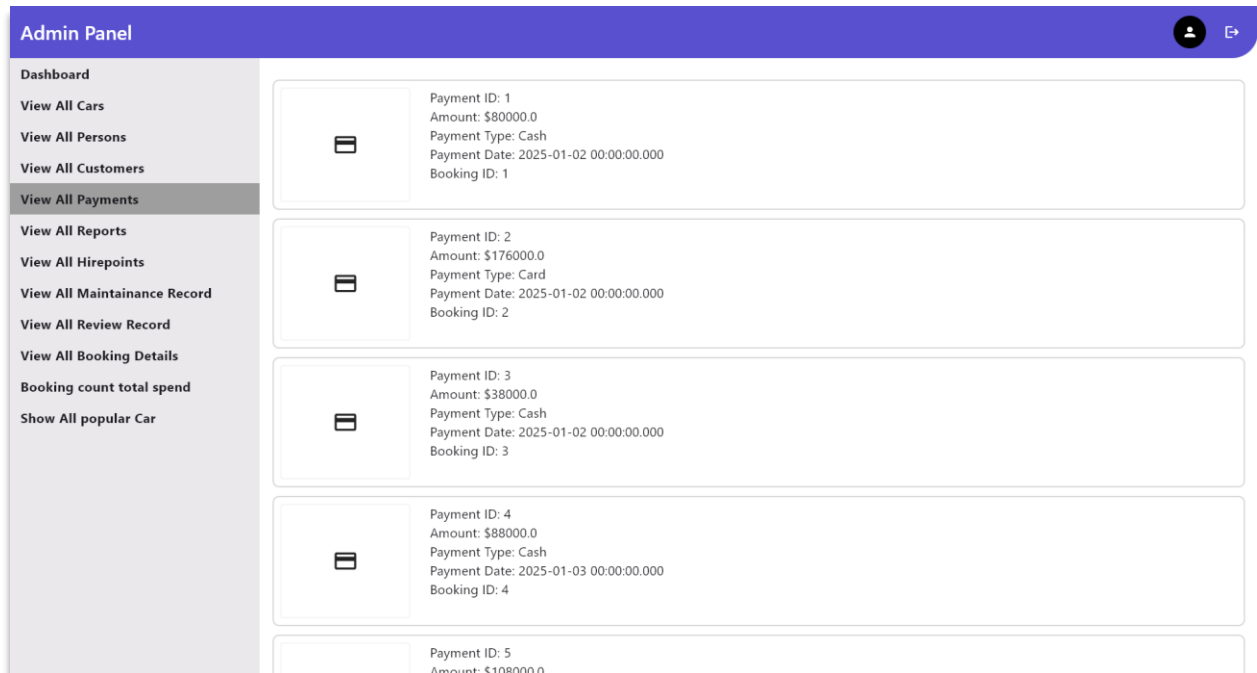


Figure 6.14:

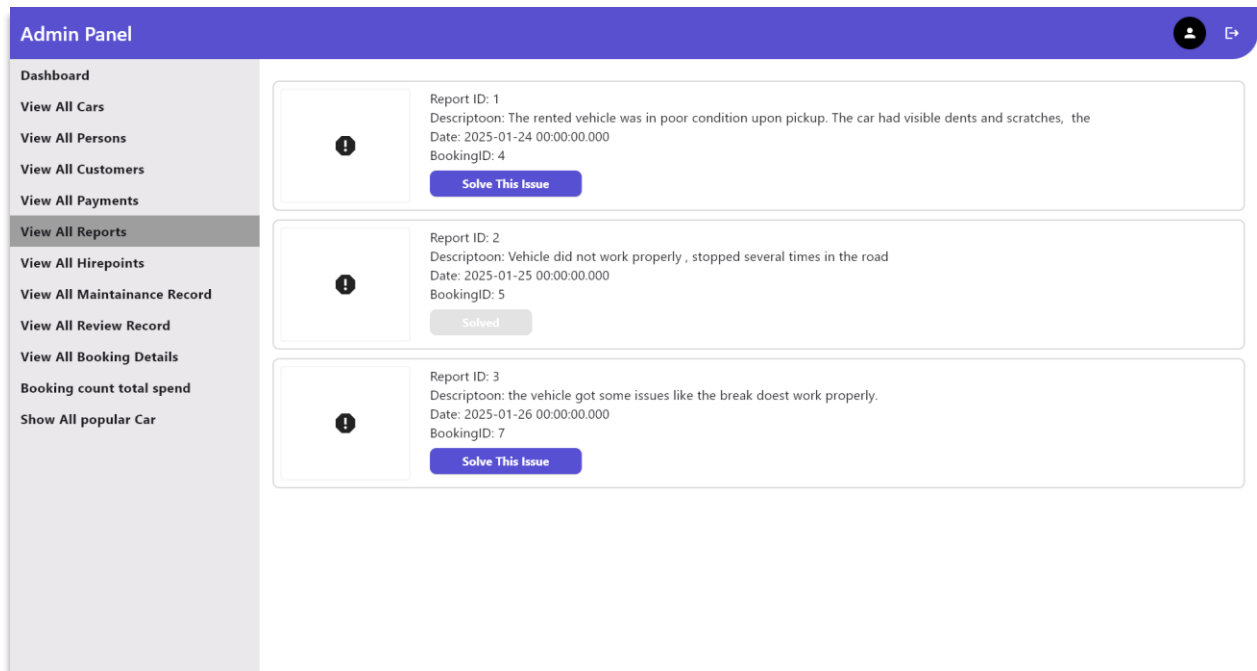


Figure 6.15:

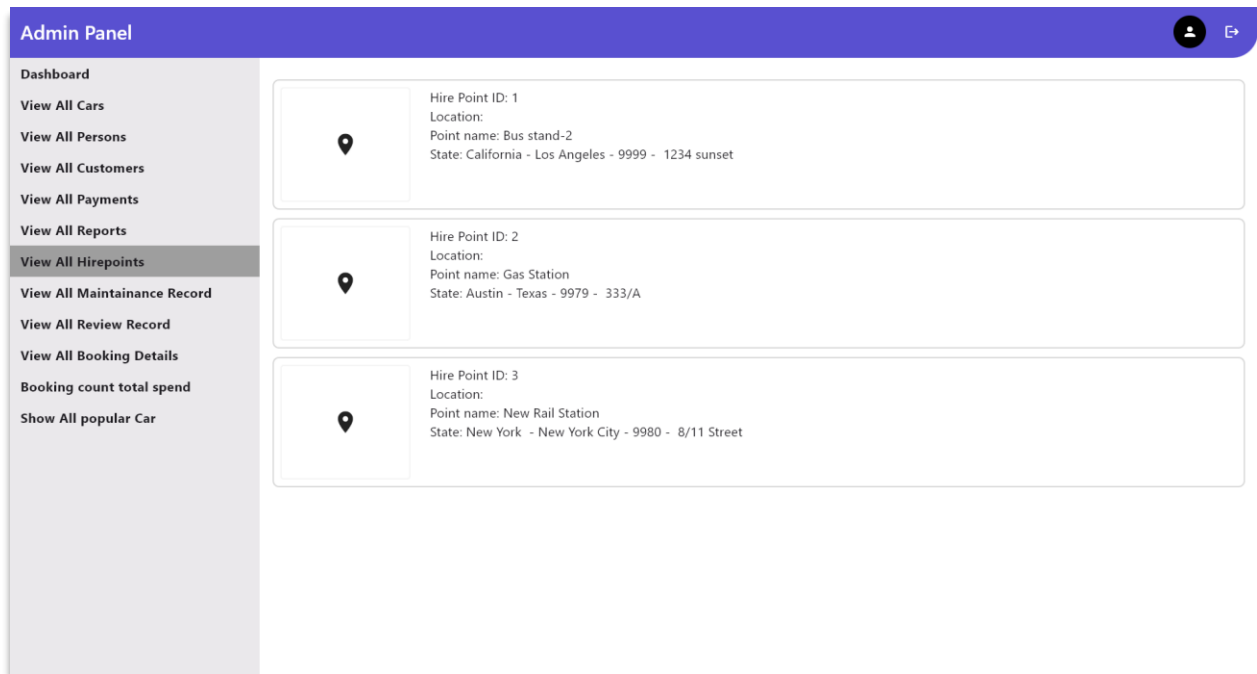


Figure 6.17:

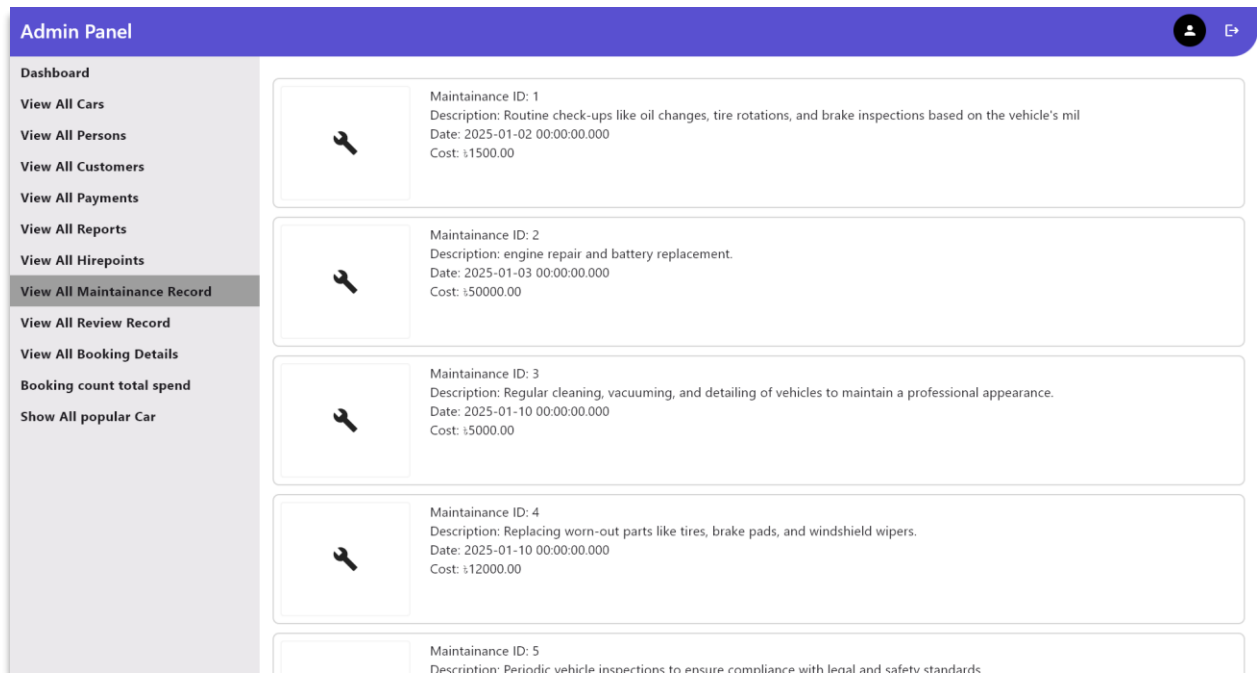


Figure 6.18:

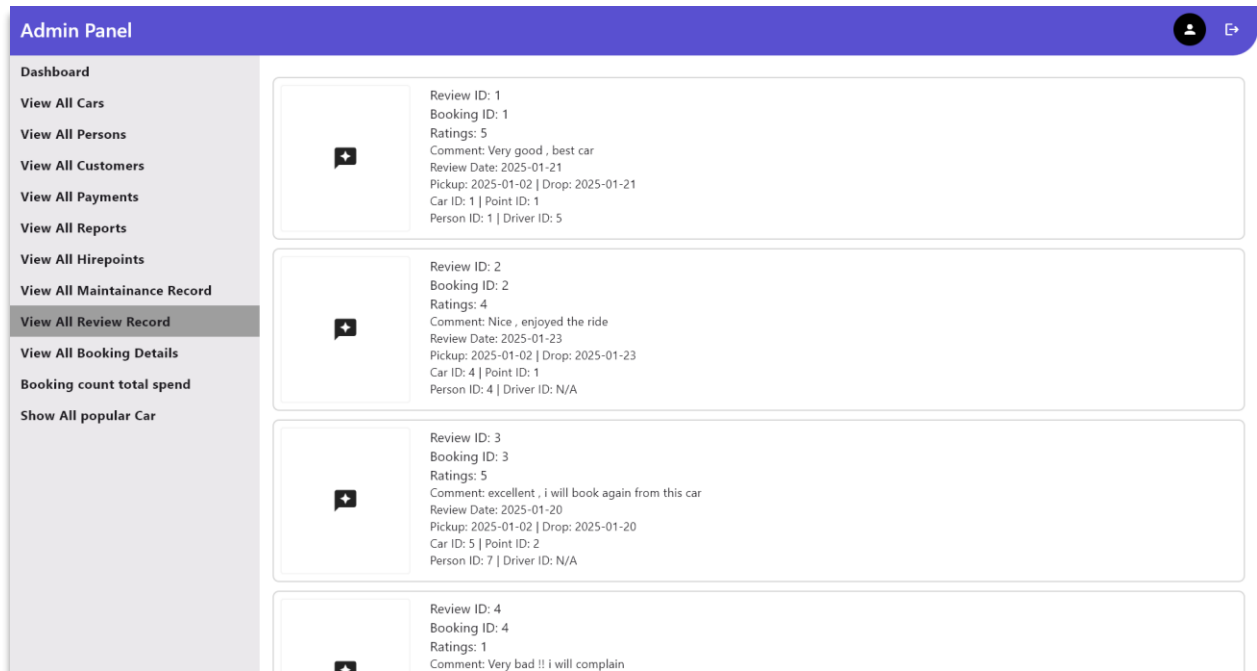


Figure 6.19:

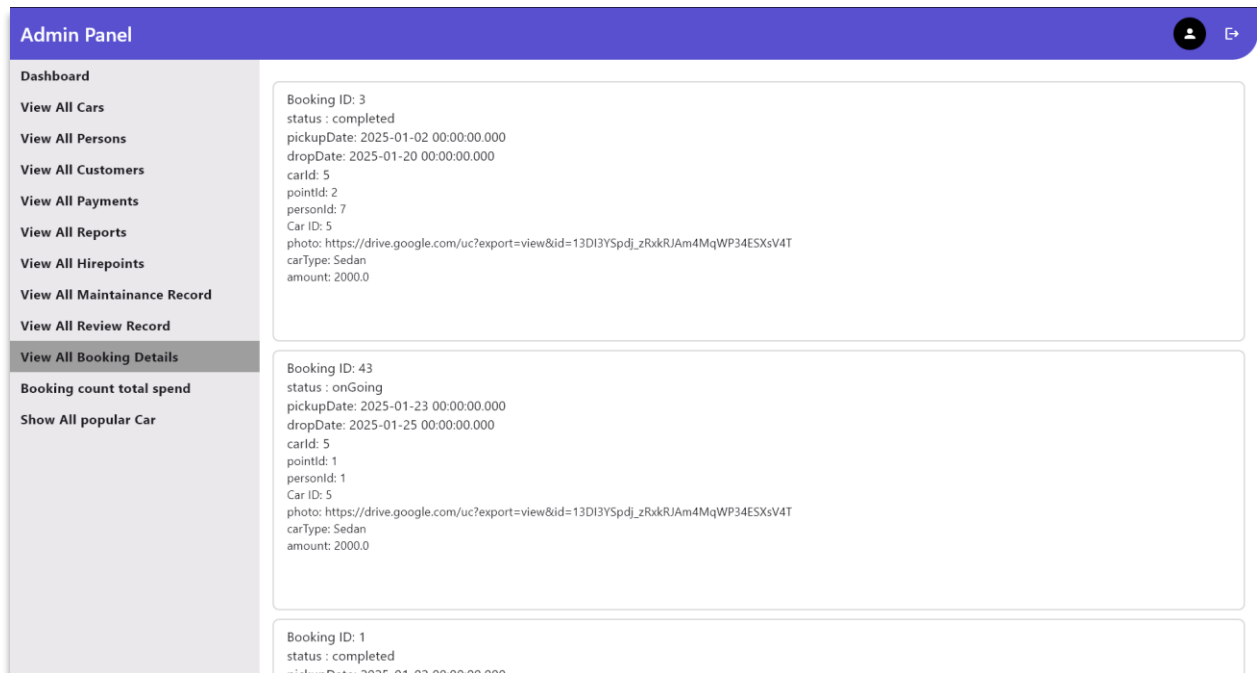


Figure 6.20:

Admin Panel	
Dashboard	
View All Cars	Person ID: 1 Name: John Doe Total Booking : 4 Total spend : 200000.0
View All Persons	
View All Customers	
View All Payments	
View All Reports	Person ID: 4 Name: Emily Davis Total Booking : 1 Total spend : 176000.0
View All Hirepoints	
View All Maintainance Record	
View All Review Record	
View All Booking Details	
Booking count total spend	Person ID: 7 Name: James Anderson Total Booking : 1 Total spend : 38000.0
Show All popular Car	
	Person ID: 10 Name: Olivia Moore Total Booking : 1 Total spend : 88000.0
	Person ID: 11 Name: Israt Jahan

Figure 6.21:

Admin Panel	
Dashboard	
View All Cars	Car ID: 1 Model Name: Civic Rating : 5.0
View All Persons	
View All Customers	
View All Payments	Car ID: 5 Model Name: Camry Rating : 5.0
View All Reports	
View All Hirepoints	Car ID: 4 Model Name: Mustang Rating : 4.0
View All Maintainance Record	
View All Review Record	
View All Booking Details	Car ID: 3 Model Name: Model S Rating : 3.0
Booking count total spend	
Show All popular Car	Car ID: 19 Model Name: F-150 Rating : 3.0
	Car ID: 10 Model Name: Corolla Rating : 1.0
	Car ID: 16 Model Name: Model S Rating : 1.0

6. Authorization and User Role Assignment

User Role Assignment

User name	Password	Role
xhafa	1234	Admin
michael	1234	Admin
sarah	1234	Admin
john	1234	Customer
nayna	1234	Customer
muabsshir	1234	Customer
israt	1234	Customer
laura	1234	Driver
david	1234	Driver

There are more users in our database.

7. Concluding Remarks

During building this project we have seen the real-life implementation of database & learned how it works & database management procedure.

We also learned about building windows application with database in backend.

Overall experience was good but due to shortage of time we couldn't show our proper potential & creativity but eventually we manage to finish our project.

Thank you for the encouragement- this journey has been worth every moment.