
Design Document

for

Fleet

1.0

Prepared by

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Date:

07/02/2025



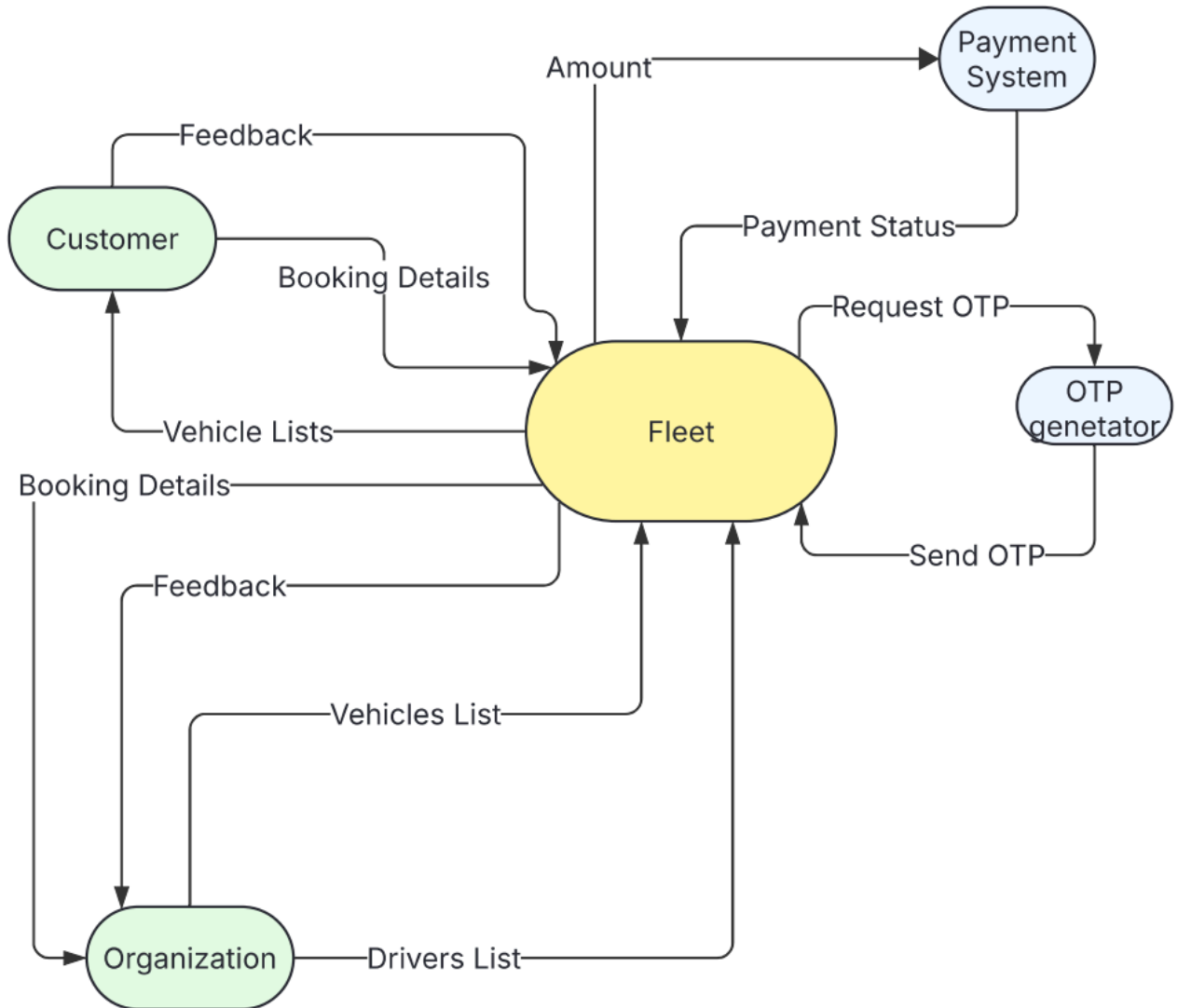
CONTENTS.....	II
REVISIONS.....	III
1 CONTEXT DESIGN.....	1
1.1 CONTEXT MODEL.....	1
1.2 HUMAN INTERFACE DESIGN.....	2
2 ARCHITECTURE DESIGN.....	12
3 OBJECT-ORIENTED DESIGN.....	14
3.1 USE CASE DIAGRAM.....	14
3.2 CLASS DIAGRAM.....	17
3.3 SEQUENCE DIAGRAM	18
3.4 STATE DIAGRAM	22
4 PROJECT PLAN.....	28
APPENDIX A - GROUP LOG.....	29

Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Habeeb Ramith Kumar Reddi Pallavi Pasala Bosu Akil Teja Shashi Bhidodiya Manam Amara Gayathri Saiprabhav Koneti Karthik Poorvie Sadagopan Pittala Sruti Jyothika Seru	First version of Design Document	07/02/25

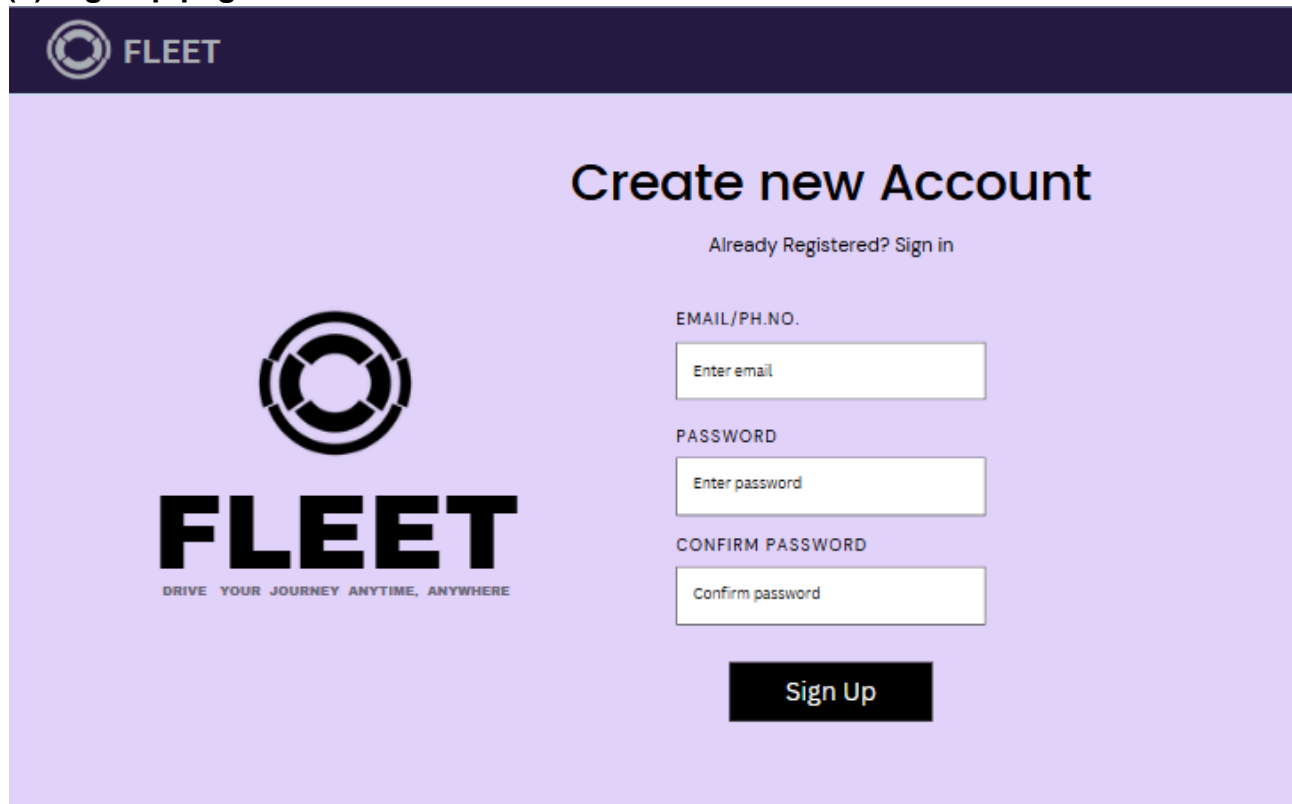
1 Context Design

1.1 Context Model



1.2 Human Interface Design

(a) Sign up page



The sign up page features a dark blue header with the Fleet logo and name. The main content area has a light purple background. On the left is the Fleet logo with the tagline "DRIVE YOUR JOURNEY ANYTIME, ANYWHERE". On the right, the heading "Create new Account" is followed by a link "Already Registered? Sign in". Below this are three input fields for "EMAIL/PH.NO.", "PASSWORD", and "CONFIRM PASSWORD", each with a placeholder text. A dark blue "Sign Up" button is at the bottom right.

FLEET
DRIVE YOUR JOURNEY ANYTIME, ANYWHERE

Create new Account

[Already Registered? Sign in](#)

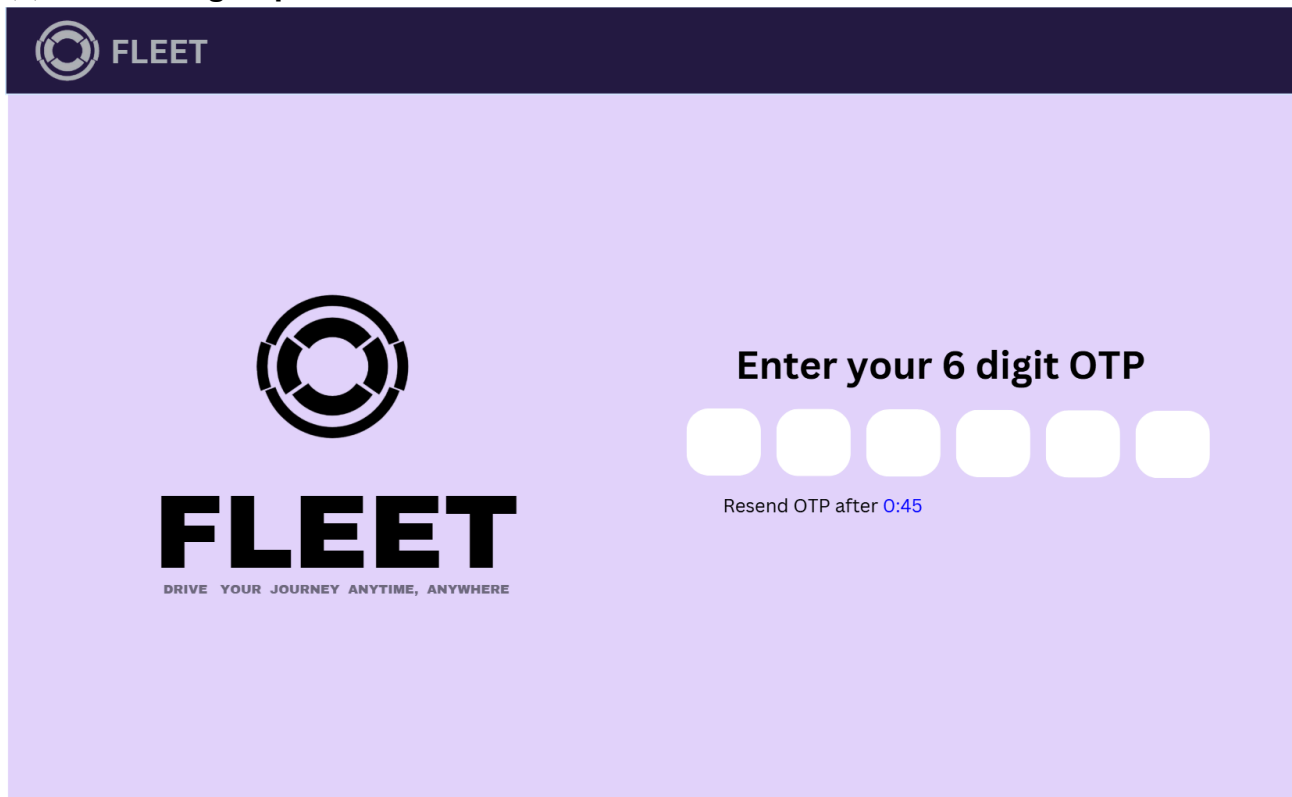
EMAIL/PH.NO.
Enter email

PASSWORD
Enter password

CONFIRM PASSWORD
Confirm password

Sign Up

(b) OTP for sign up




The OTP page features a dark blue header with the Fleet logo and name. The main content area has a light purple background. On the left is the Fleet logo with the tagline "DRIVE YOUR JOURNEY ANYTIME, ANYWHERE". On the right, the heading "Enter your 6 digit OTP" is followed by six white input boxes. Below the boxes is a link "Resend OTP after 0:45".

FLEET
DRIVE YOUR JOURNEY ANYTIME, ANYWHERE

Enter your 6 digit OTP

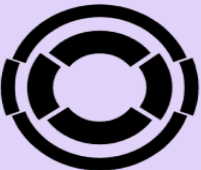
Resend OTP after 0:45

(c) Enter your details page

 FLEET

HelpBookingsA


Enter Your Details


FLEET
DRIVE YOUR JOURNEY ANYTIME, ANYWHERE

First Name


Last Name

Phone Number

 Date of Birth

Submit

(d) Sign in page

 FLEET

Sign In

EMAIL/PH.NO.

Enter email

PASSWORD


Enter password

forgot password ?

Sign In

New customer ? Sign Up

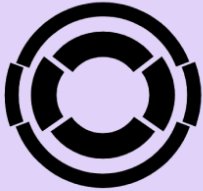
(e) User home page

 FLEET

Help

Bookings

A


FLEET
DRIVE YOUR JOURNEY ANYTIME, ANYWHERE

Select City

Pickup Date

Pickup Time

Return Date


Return Time

☒ With Driver

☐ Own Driving

Search Results

(f) Search results page

 FLEET

Help

Bookings

A

☒ All

☐ Bikes

☒ Price


☐ Rating


☐ Cars


☐ Vans


☐ Available


☐ Not available



KTM RC 360
price : 1800INR day
Availability status : No
[view details](#) 4.4/5


Duke 200
price : 1900INR day
Availability status : Yes
[view details](#) 4.1/5



Fiat 500
price : 2500INR day
Availability status : Yes
[view details](#) 4.8/5


Kia Picanto
price : 3000INR day
Availability status : Yes
[view details](#) 4.2/5


Volkswagen Polo
price : 3400INR day
Availability status : No
[view details](#) 4.0/5



Nissan Qasqhai
price : 3600INR day
Availability status : Yes
[view details](#) 3.8/5

(g) Use of filter option

 FLEET

HelpBookingsA

AllBikesPriceRatingCarsVansAvailableNot available




Kia Picanto

price : 3000INR day

Availability status : Yes

view details 4.2/5




Fiat 500

price : 2500INR day

Availability status : Yes

view details 4.8/5




Nissan Qasqhai

price : 3600INR day

Availability status : Yes

view details 3.8/5




Volkswagen Polo

price : 3400INR day

Availability status : No

view details 4.0/5


(h) View details page

 FLEET


HelpBookingsA

Sri Sai Travels

Vehicle Details



Hyundai i30

 Size : 4+1

Vehicle ID : 10

Availability : Yes

Driver Details

Name : Prabhav

Age : 30

Gender : Male

Driver ID : 100

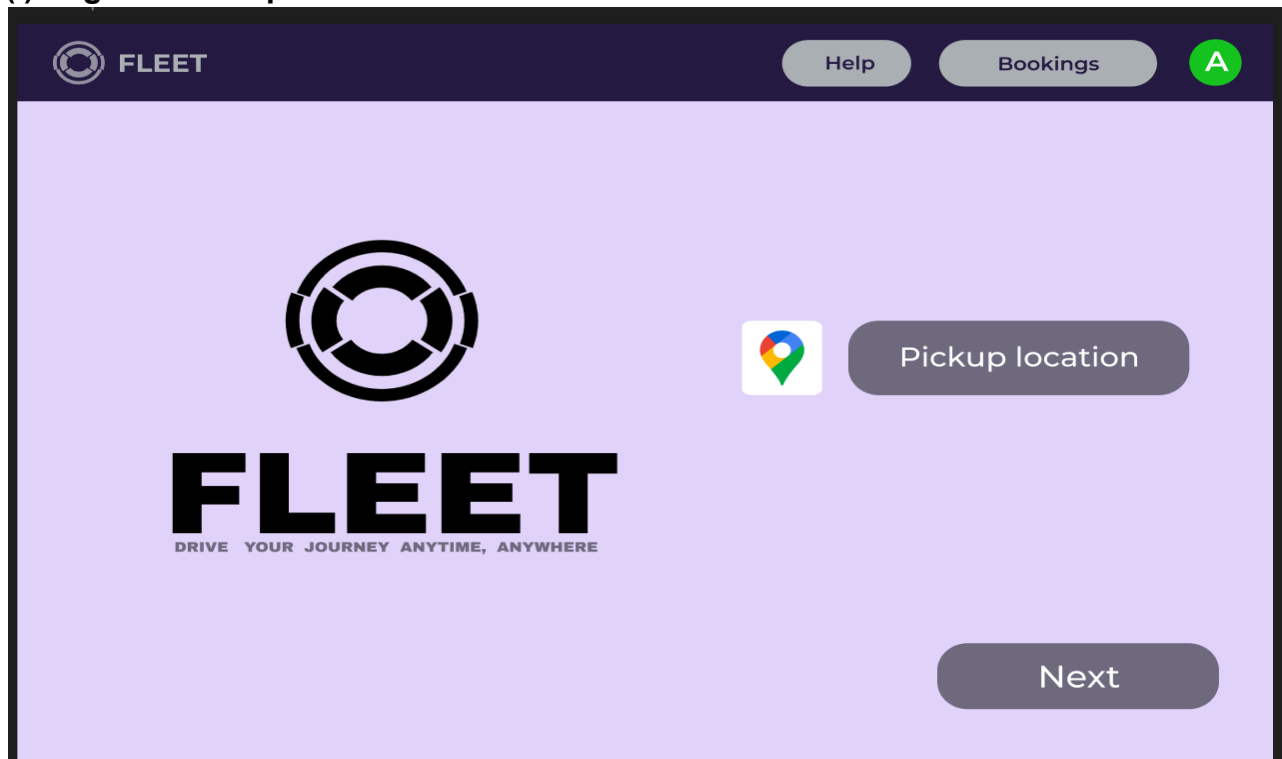
License ID : 1000

Rating : 4.50

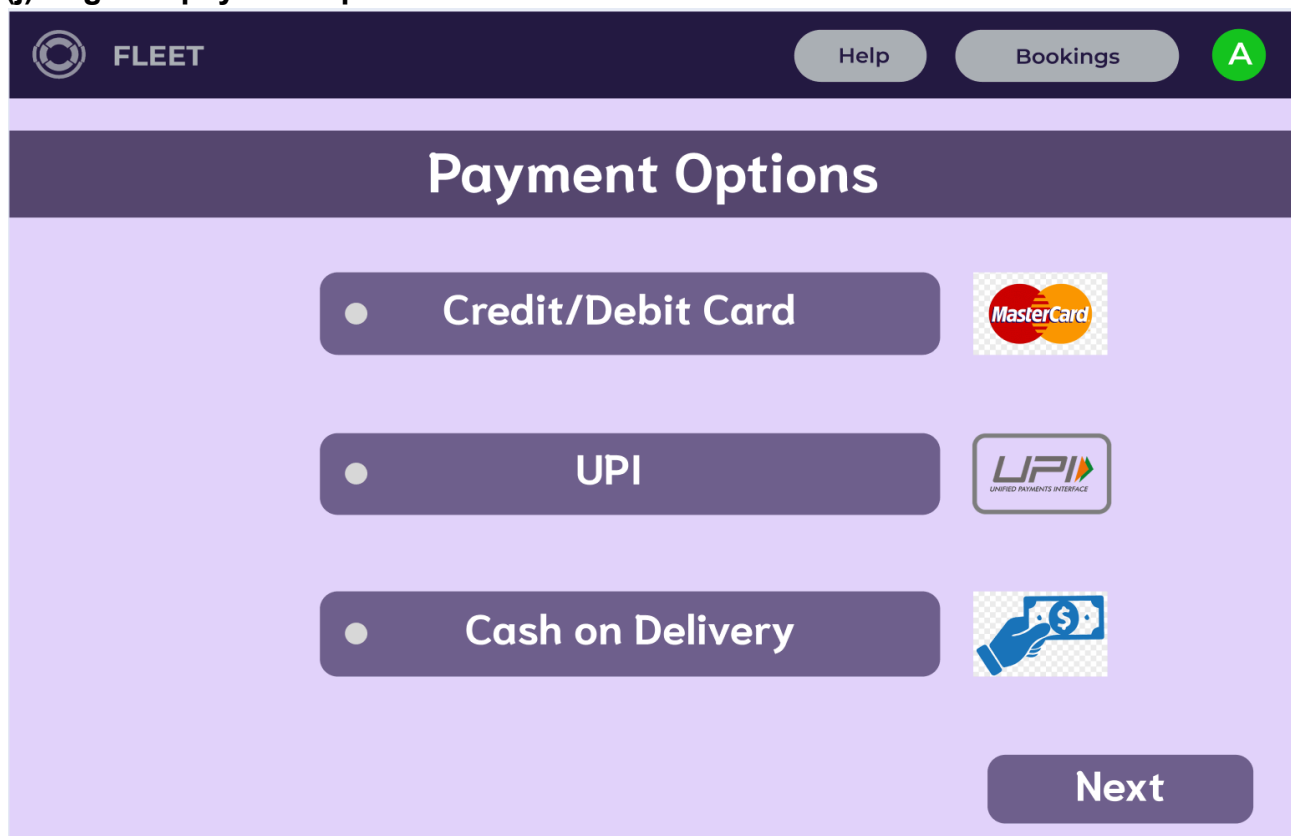
Comments

C Great trip experience

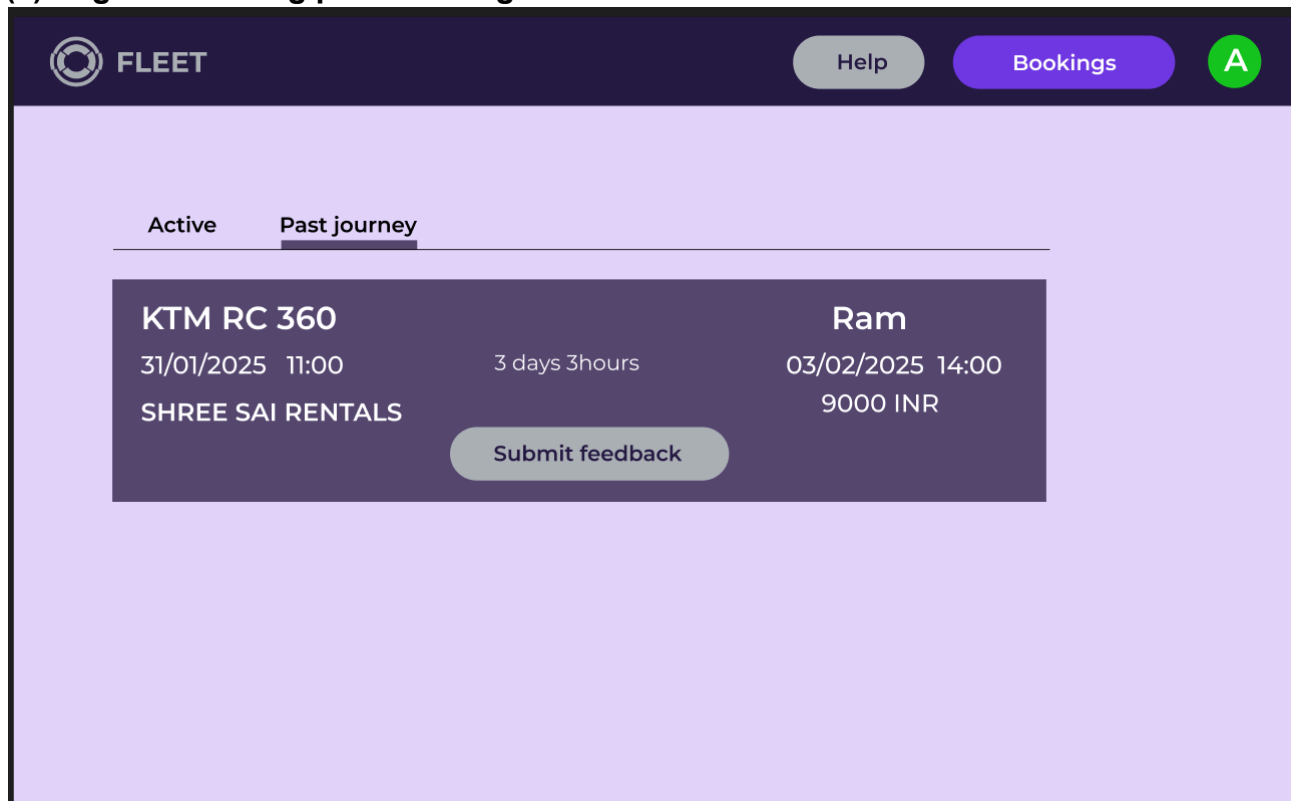
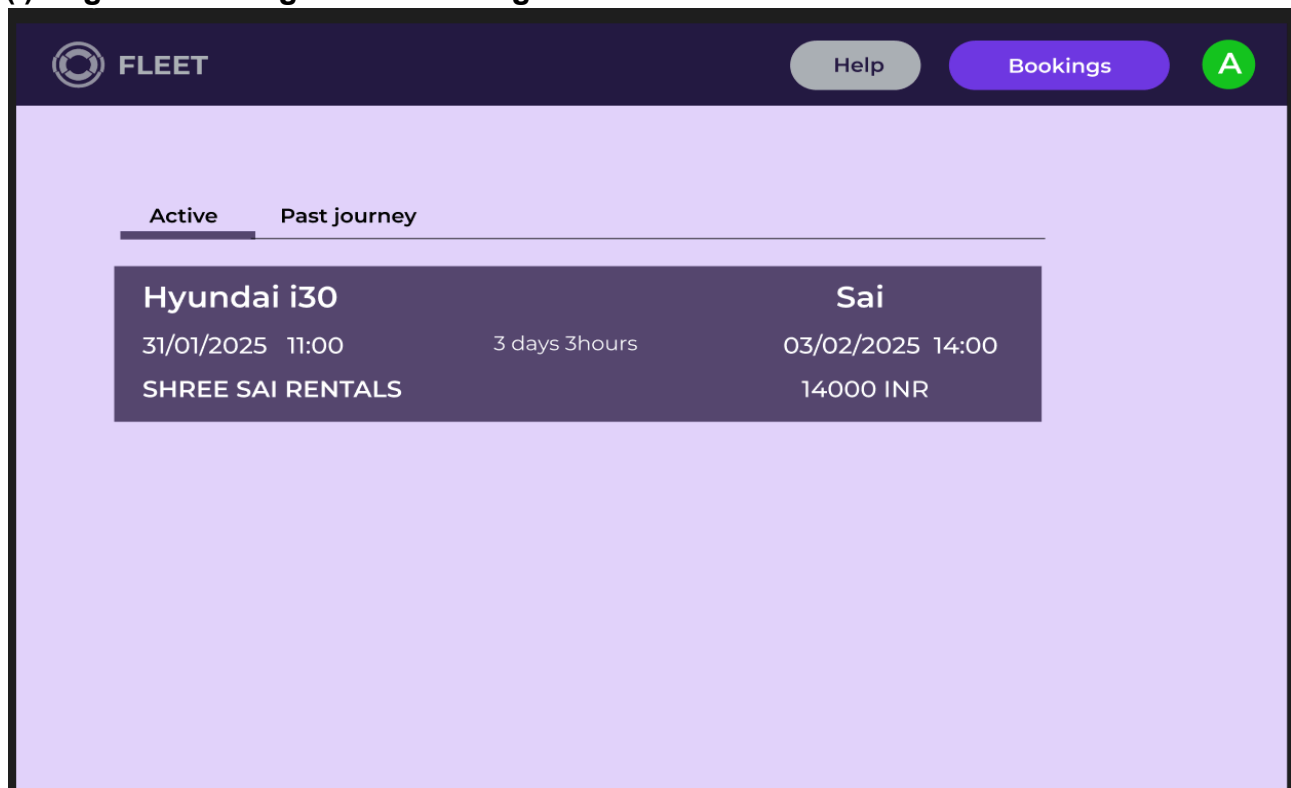
Book

(i) Page for Pickup address

The screenshot shows the 'Pickup address' page of the Fleet app. The top navigation bar is dark purple with the Fleet logo on the left, and 'Help' and 'Bookings' buttons on the right. A green circular profile icon with the letter 'A' is in the top right corner. The main content area has a light purple background. On the left, there is a large circular logo with a stylized 'C' and the word 'FLEET' in bold, with the tagline 'DRIVE YOUR JOURNEY ANYTIME, ANYWHERE' below it. To the right of the logo is a Google Maps icon and a button labeled 'Pickup location'. At the bottom right, there is a 'Next' button.

(j) Page for payment options

The screenshot shows the 'Payment Options' page of the Fleet app. The top navigation bar is dark purple with the Fleet logo on the left, and 'Help' and 'Bookings' buttons on the right. A green circular profile icon with the letter 'A' is in the top right corner. The main content area has a light purple background. At the top, there is a dark purple header with the text 'Payment Options' in white. Below this, there are three payment options, each with a radio button, a text label, and an icon: 'Credit/Debit Card' with a MasterCard icon, 'UPI' with a UPI icon, and 'Cash on Delivery' with a hand holding a dollar bill icon. At the bottom right, there is a 'Next' button.

(k) Page for viewing past bookings**(l) Page for viewing active bookings**

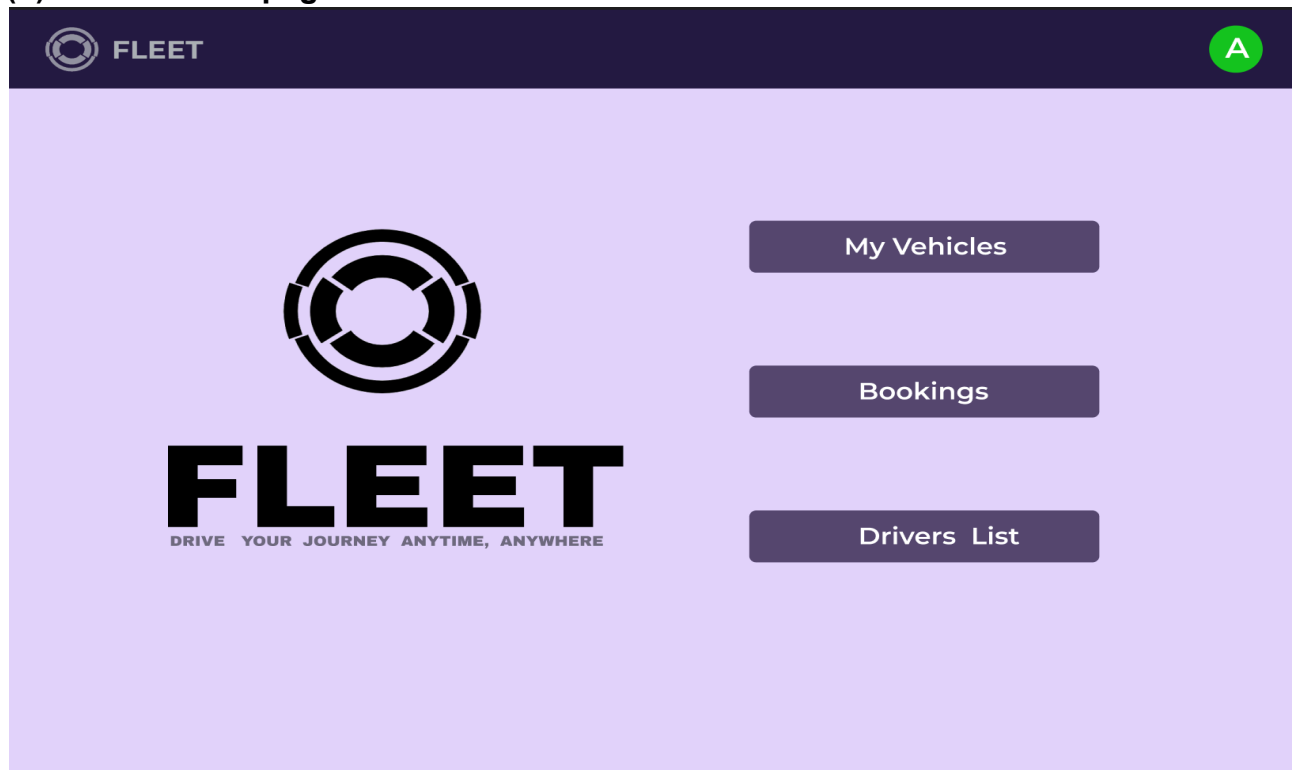
(m) Page to view Active booking details

The screenshot displays the 'Active booking details' page. At the top, there is a dark purple header with the 'FLEET' logo, a 'Help' button, a 'Bookings' button, and a user profile icon labeled 'A'. The main content area is divided into two columns. The left column, titled 'Vehicle Details', features a white Hyundai i30 car image, the text 'Hyundai i30', a person icon followed by 'Size : 4+1', and 'Vehicle ID : 10'. The right column, titled 'Driver Details', lists 'Name : Prabhav', 'Age : 30', 'Gender : Male', 'Driver ID : 100', 'License ID : 1000', and 'Rating : 4.50'. A red 'Cancel' button is located at the bottom right of the page.

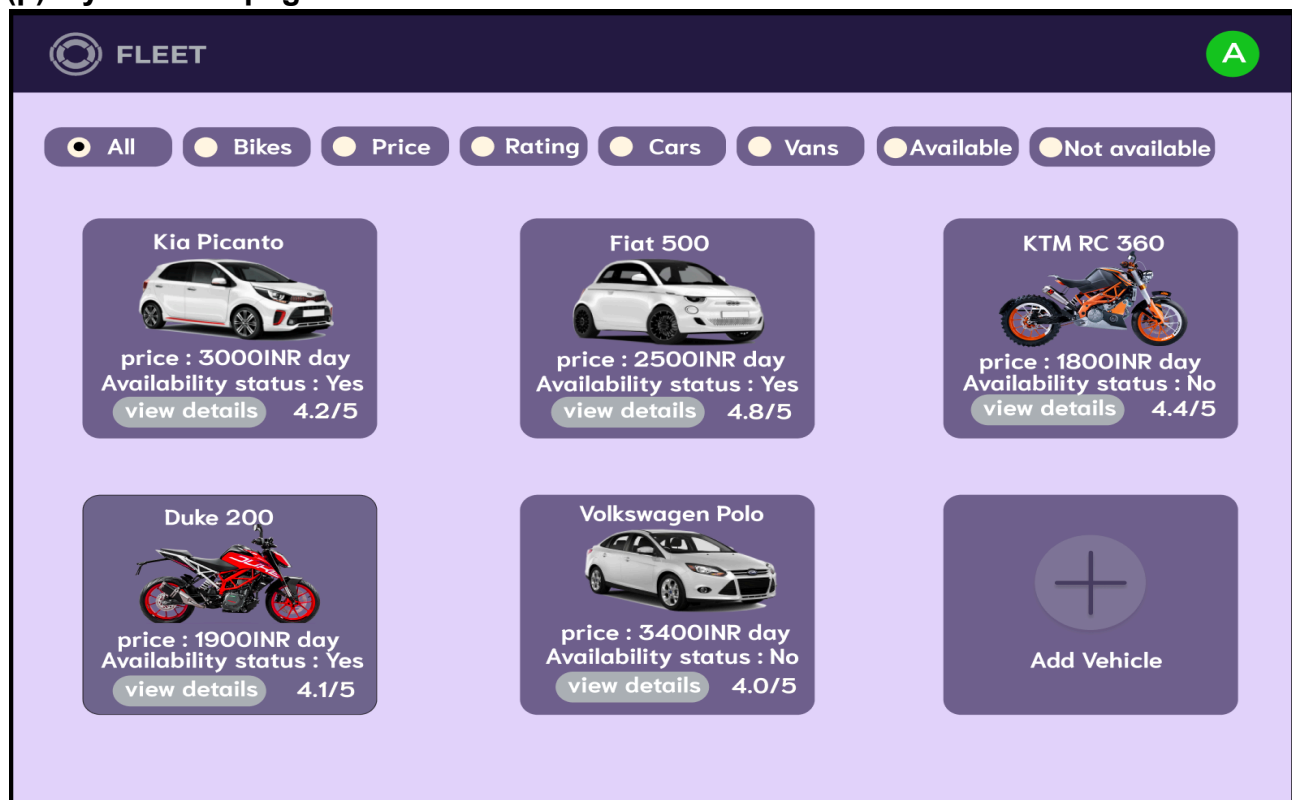
(n) Booking confirmed pop-up

The screenshot shows a 'Booking confirmed pop-up' dialog box. The dialog is a light purple rectangle with the text 'Your booking has been confirmed' and an 'ok' button at the bottom. In the background, the FLEET application interface is visible but dimmed. It includes the 'FLEET' logo, a 'Select City' dropdown menu, and buttons for 'Pickup Time', 'Return Time', and 'Own Driving'.



(o) Admin Home page



(p) My vehicles page for Admin



(q) Bookings page for Admin

 FLEET 

Bookings

February 2025

S	M	T	W	T	F	S
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	1

Today

Tomorrow

Yesterday

Today started

Today ended

Hyundai i30
31/01/2025 11:00
SHREE SAI RENTALS

5 days 3hours

Sai
05/02/2025 14:00
20000 INR

KTM RC 360
04/02/2025 17:00
SHIVA RENTALS

2 days 21hours



06/02/2025 14:00
5000 INR


Mahindra XUV 700
05/02/2025 11:00
REKHA TRAVELS

1 days 3hours

Sai
06/02/2025 14:00
14000 INR


(r) My drivers page for Admin

 FLEET 




Driver name: Raju
Driver Age: 41
Driver Address: xxxxxx
Driver Phone No: 1234567890

License No: abcd1234
Vehicle Id: 45678
Driver Id: 24567





Driver name: ramu
Driver Age: 52
Driver Address: yyyyyyy
Driver Phone No: 5674832901

License No: bgut5437
Vehicle Id: 87906
Driver Id: 89076



Add Driver

(s) Add driver page for Admin

 FLEET 

Enter Driver Details

Name :

Age :


Address :

Phone No :



License No :

Vehicle Id :

Driver Id :

 Upload photo(*.jpg only)

(t) Add vehicles page for Admin

 FLEET 

Enter Vehicle Details

Vehicle model :

Fuel type :


Seating capacity :

Price per day :

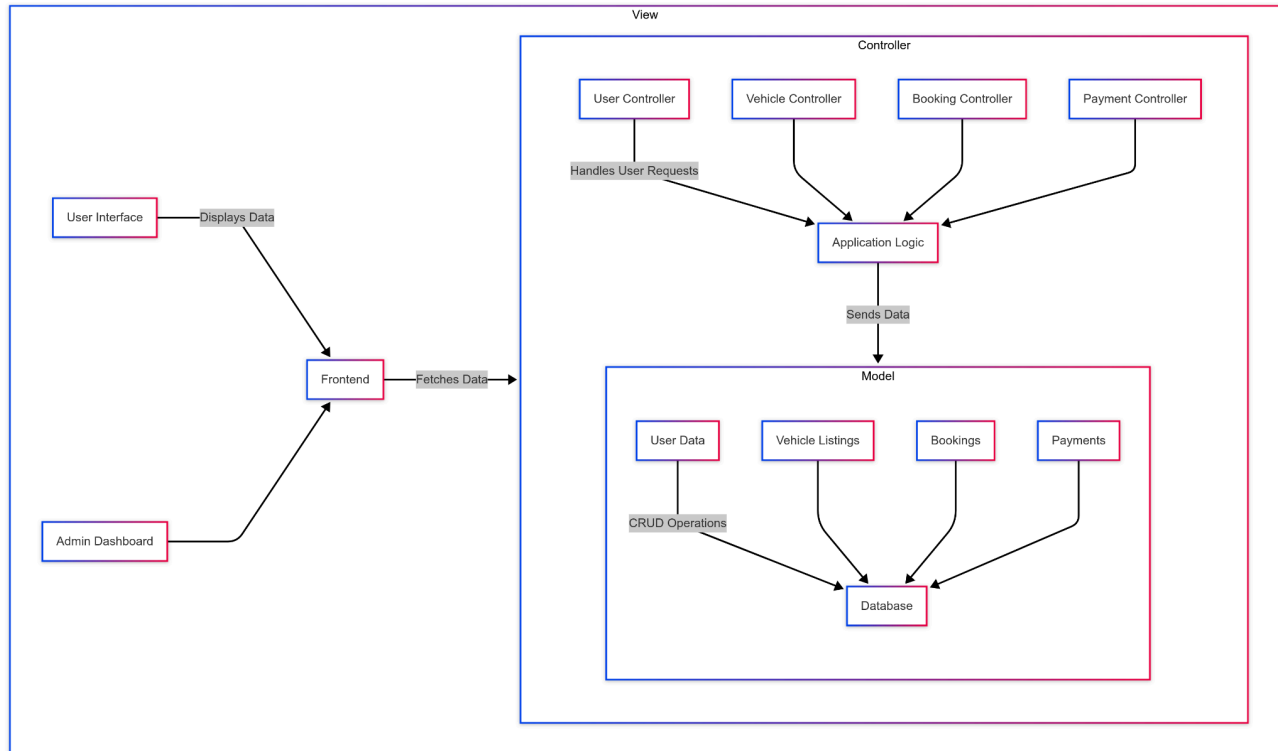
Registration plate :

Vehicle Id :

...

 Upload photo(*.jpg only)

2 Architecture Design



Fleet is a web-based application implementing a **Model-View-Controller model**.

Why Are We Using MVC?

We chose Model-View-Controller (MVC) for Fleet because it provides a structured and modular way to develop the application. By separating concerns between the Model (business logic & database management), View (user interface & presentation), and Controller (handles user inputs and requests), we ensure that the system remains scalable, maintainable, and easy to modify. This will help us as we integrate new features, such as improved search filters or AI-based recommendations.

Advantages of Using MVC in Fleet

1. **Modularity & Maintainability** – Code is organized in separate layers, making it easier to debug, update, and scale.
2. **Scalability** – New features like payment integrations, user reviews can be added without modifying the entire codebase.
3. **Parallel Development** – We can work on different parts of the software simultaneously (e.g., frontend team works on UI while backend team manages database operations).
4. **Reusability** – Components like the booking system, authentication, and payment processing can be reused in different parts of the application.

Disadvantages of Using MVC in Fleet

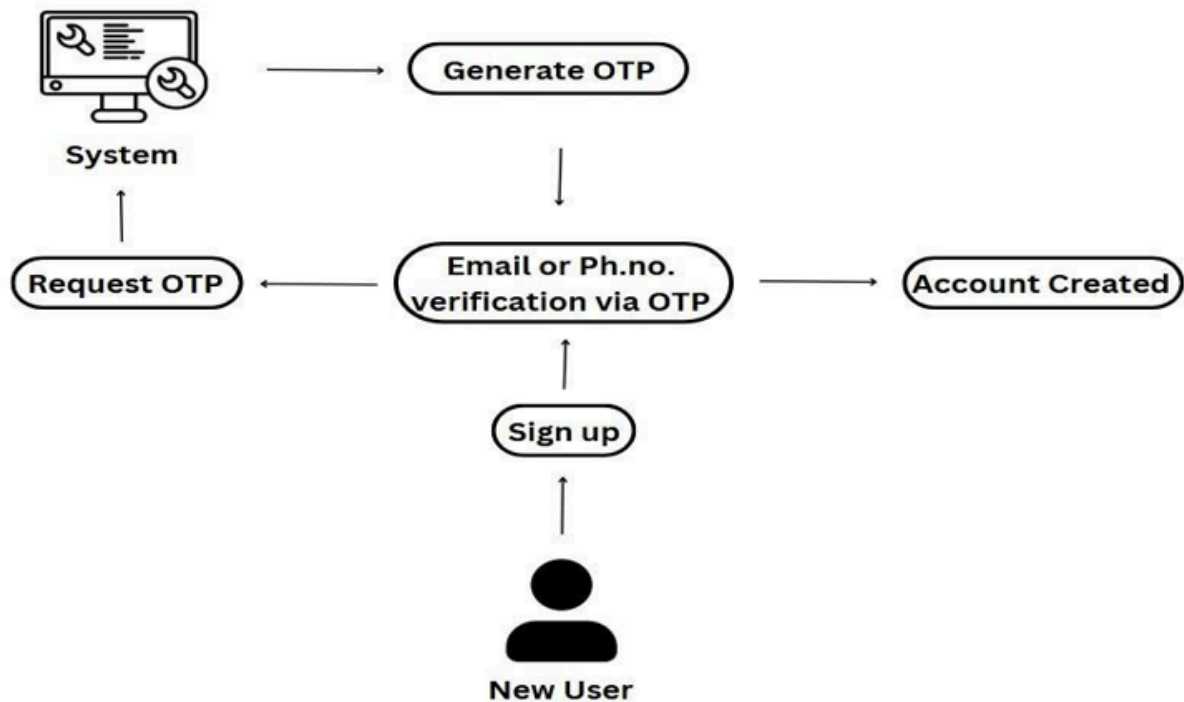
1. For a relatively small application, MVC might introduce unnecessary overhead.
2. While MVC separates concerns, poorly designed controllers might become too dependent on Views, making modifications more difficult.

Non Functional Requirement	Will MVC Meet It?	Why?
Performance	Yes	MVC improves performance by organizing database queries in the Model, preventing inefficient data retrieval in Views. Using caching techniques within the Model layer can further optimize speed.
Security	Yes	MVC enforces separation of concerns, meaning security logic is handled in the Model, reducing exposure to frontend attacks.
Usability	Yes	Since Views are separate from business logic, developers can create clean, user-friendly interfaces without affecting backend logic.
Maintainability	Yes	The modular structure of MVC ensures that features can be updated or replaced without affecting the entire system.
Portability	Yes	The frontend (View) is independent, making it easier to design responsive UIs for different devices.
Interoperability	Yes	MVC allows easy integration of APIs within the Controller and Model, making it flexible for external services.
Reusability	Yes	Components like authentication, booking, and payment logic can be reused in different modules.

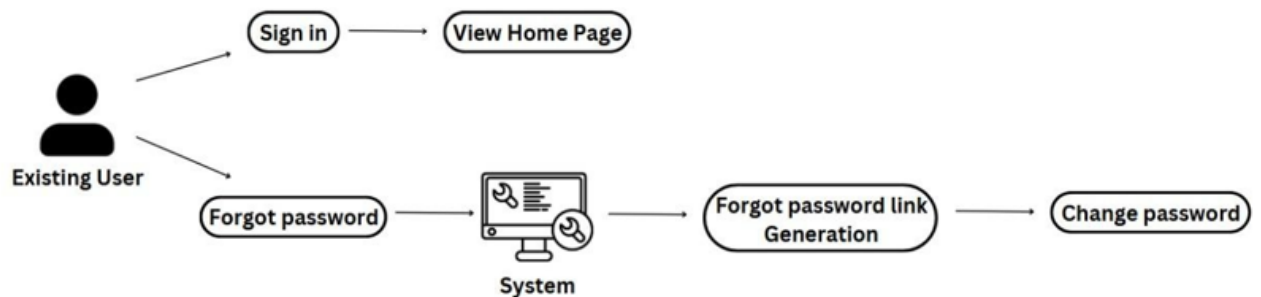
3 Object Oriented Design

3.1 Use CaseDiagrams

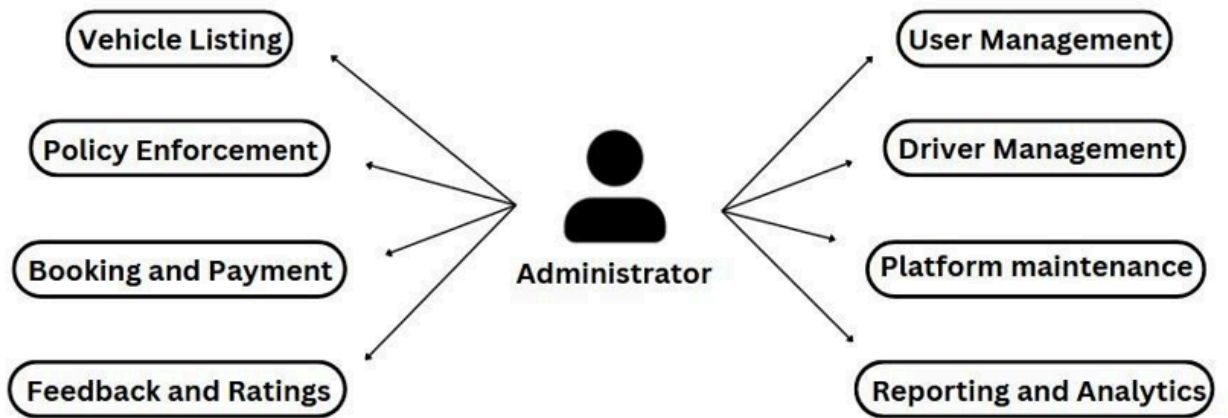
3.1.1 Use Case #1 (UC-1 User Sign Up)



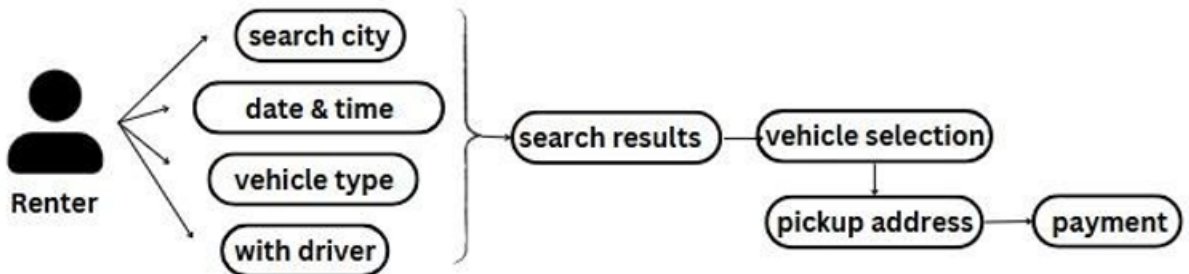
3.1.2 Use Case #2 (UC-2 User Sign In)



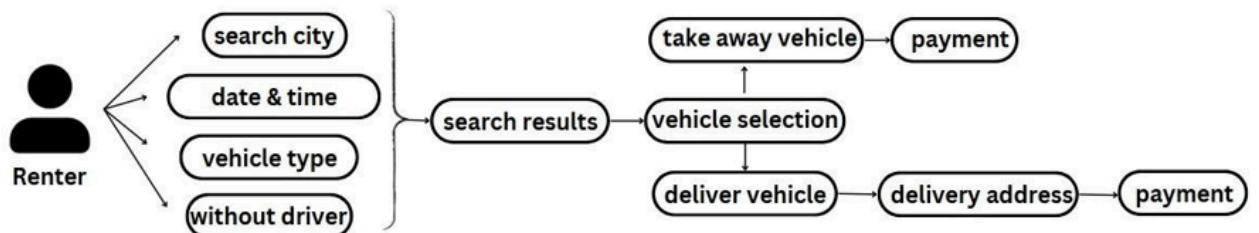
3.1.3 Use Case #3 (UC-3 Administrator)



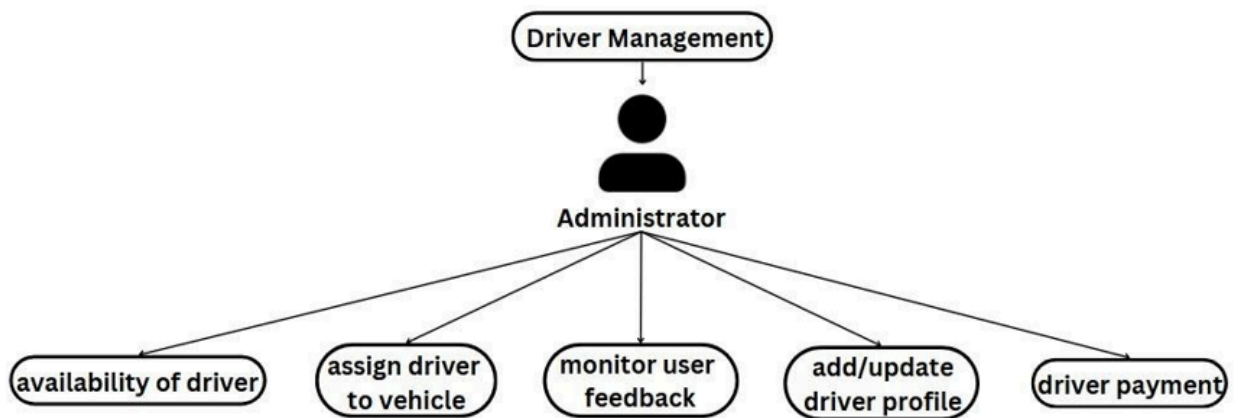
3.1.4 Use Case #4 (UC-4 Renter with driver)



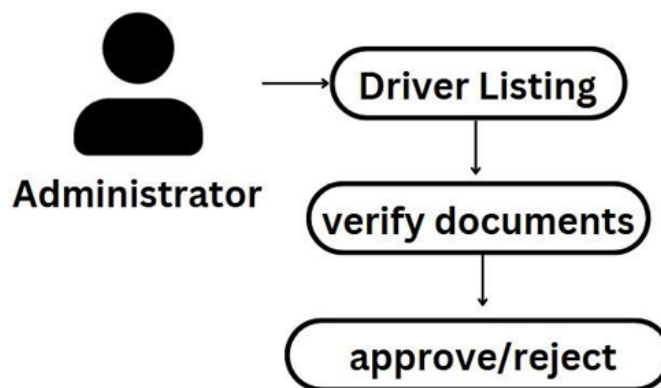
3.1.5 Use Case #5 (UC-5 Renter without driver)



3.1.6 Use Case #6 (UC-6 Administration - Driver Management)



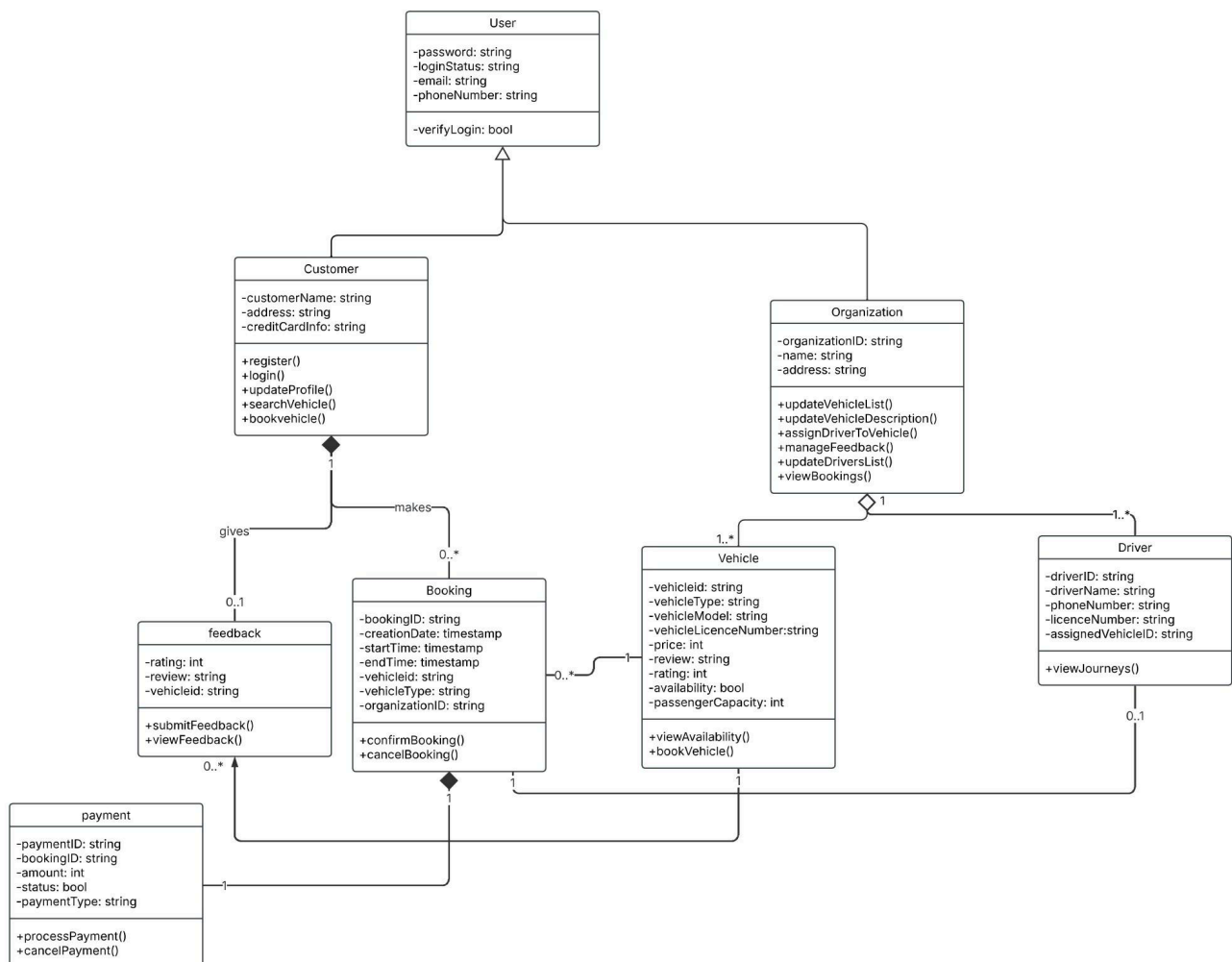
3.1.7 Use Case #7 (UC-7 Administrator - Driver Listing)



3.1.8 Use Case #8 (UC-8 Feedback)

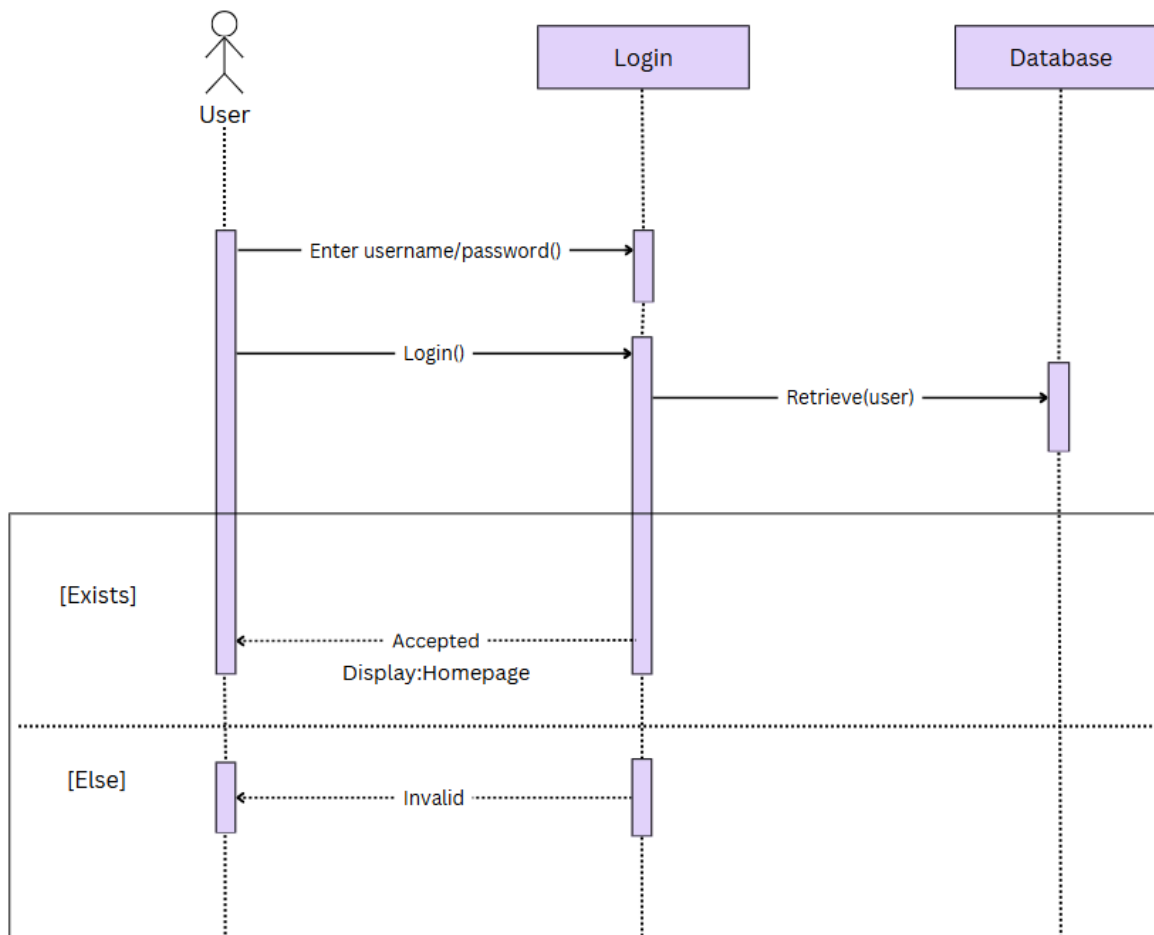


3.2 Class Diagrams

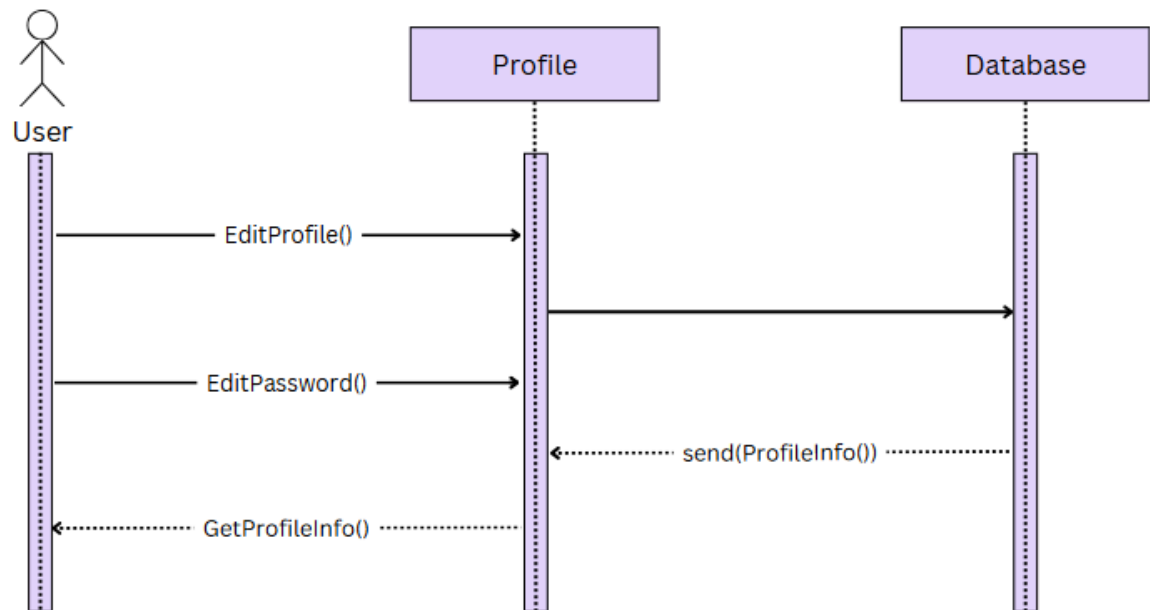


3.3 Sequence Diagrams

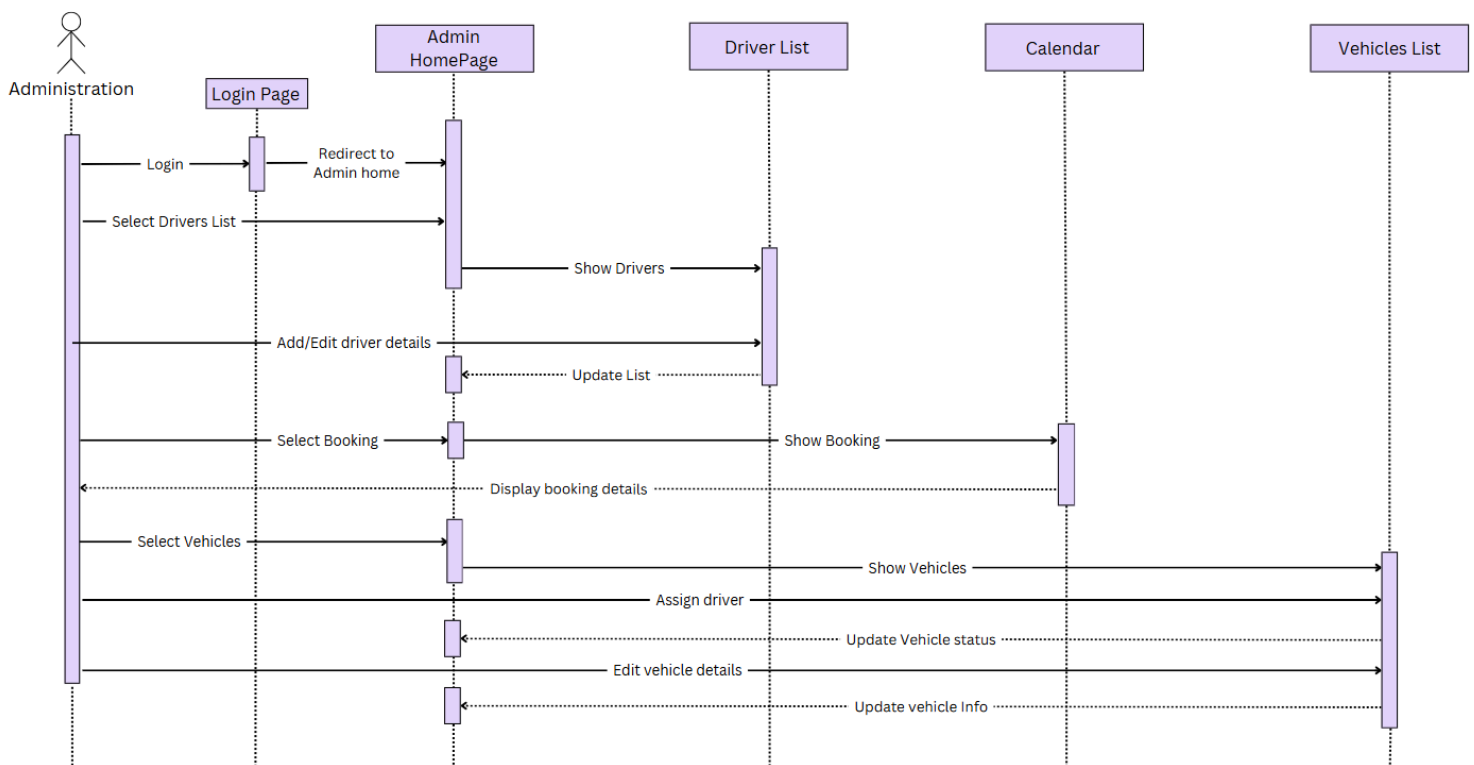
3.3.1 Authentication



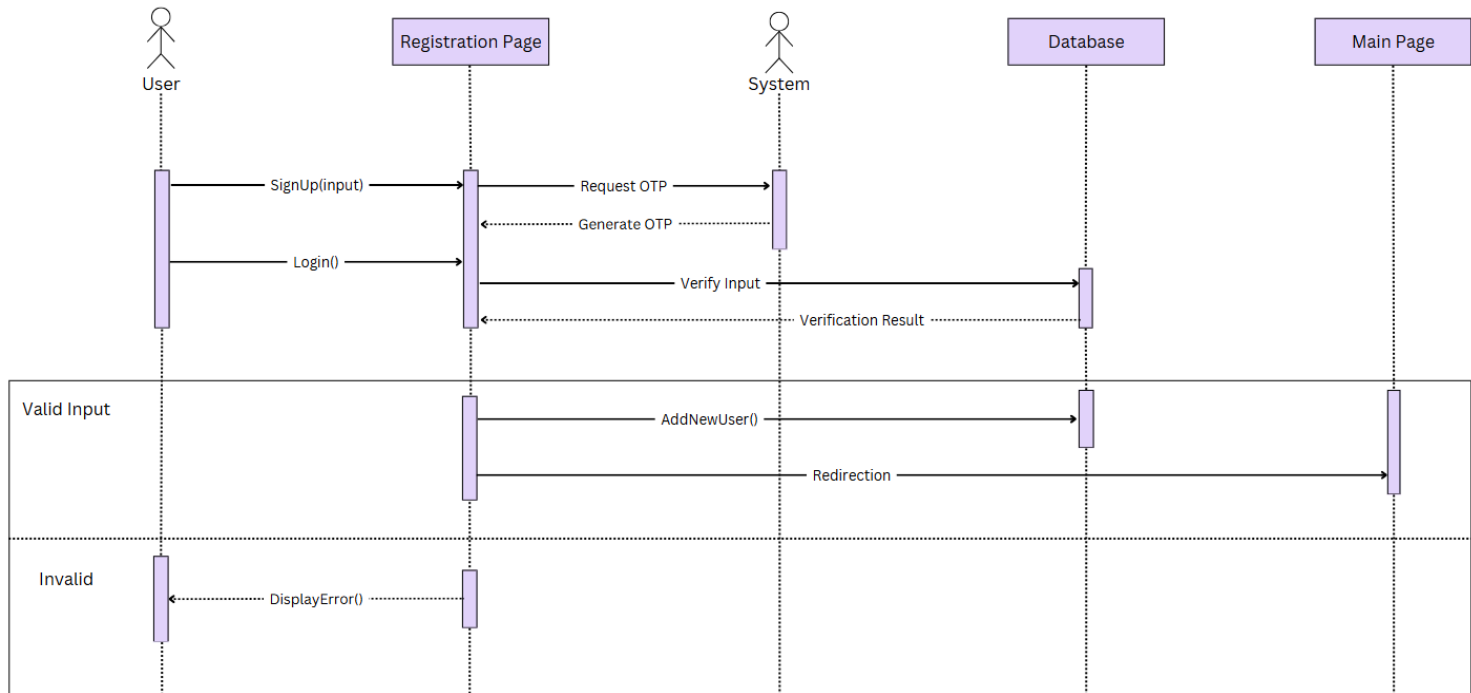
3.3.2 Edit Profile



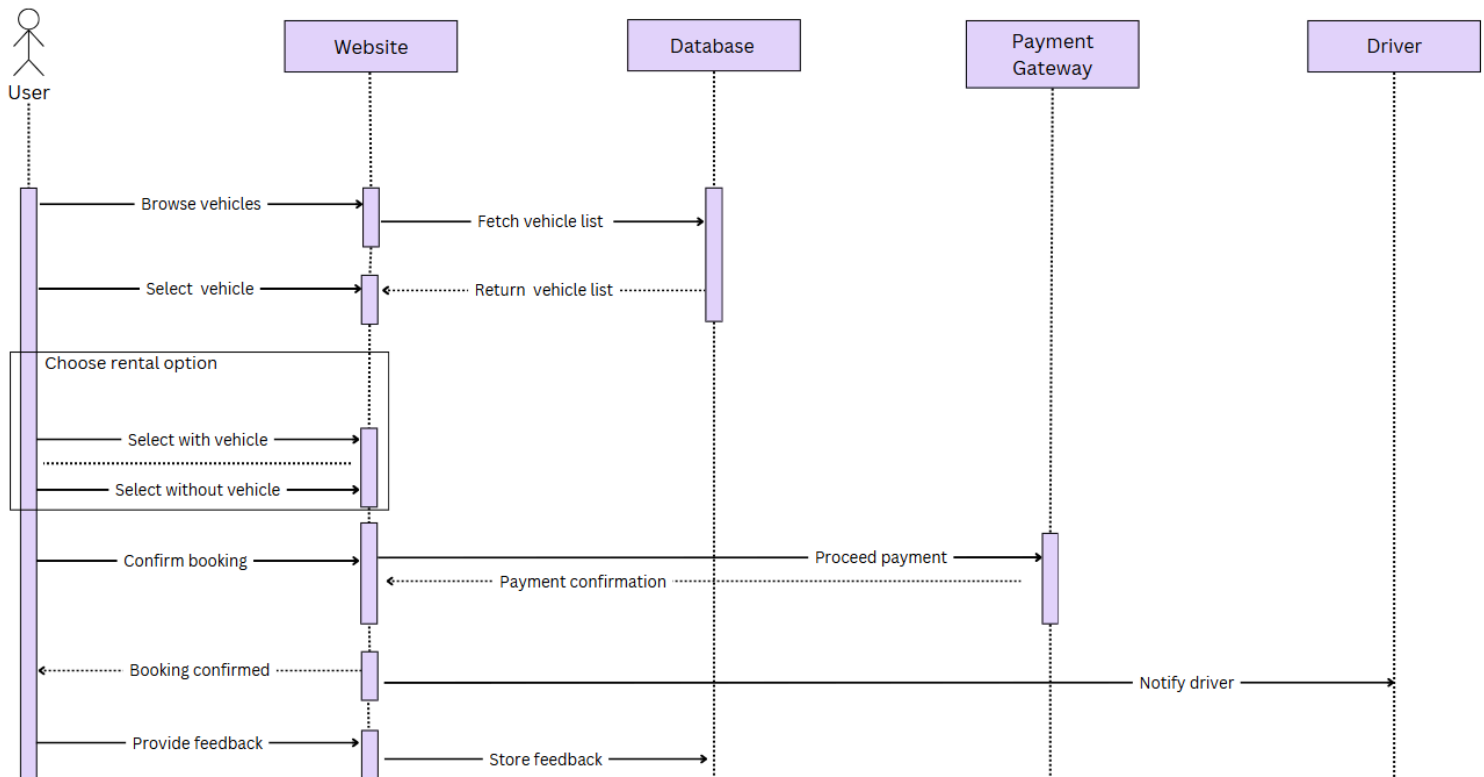
3.3.3 System - Admin Interaction



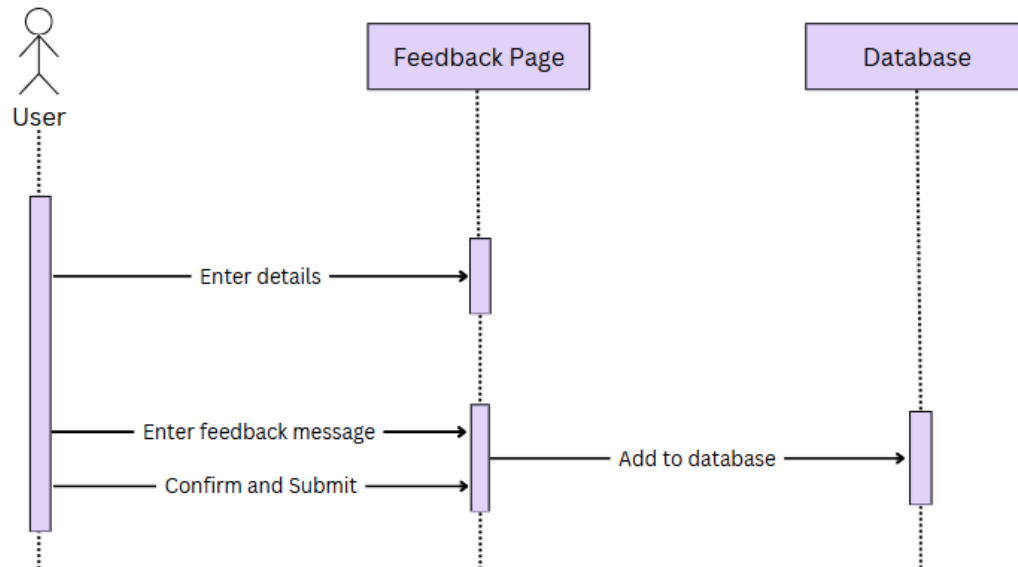
3.3.4 User Registration



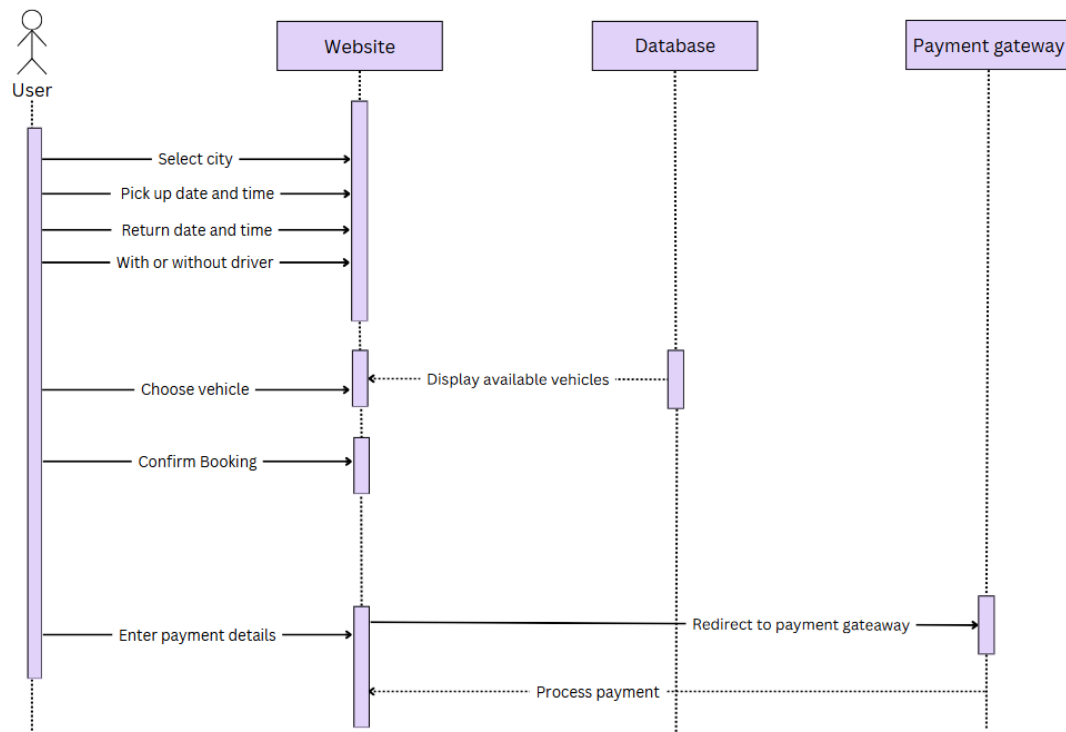
3.3.5 User - System Interaction



3.3.6 User Feedback

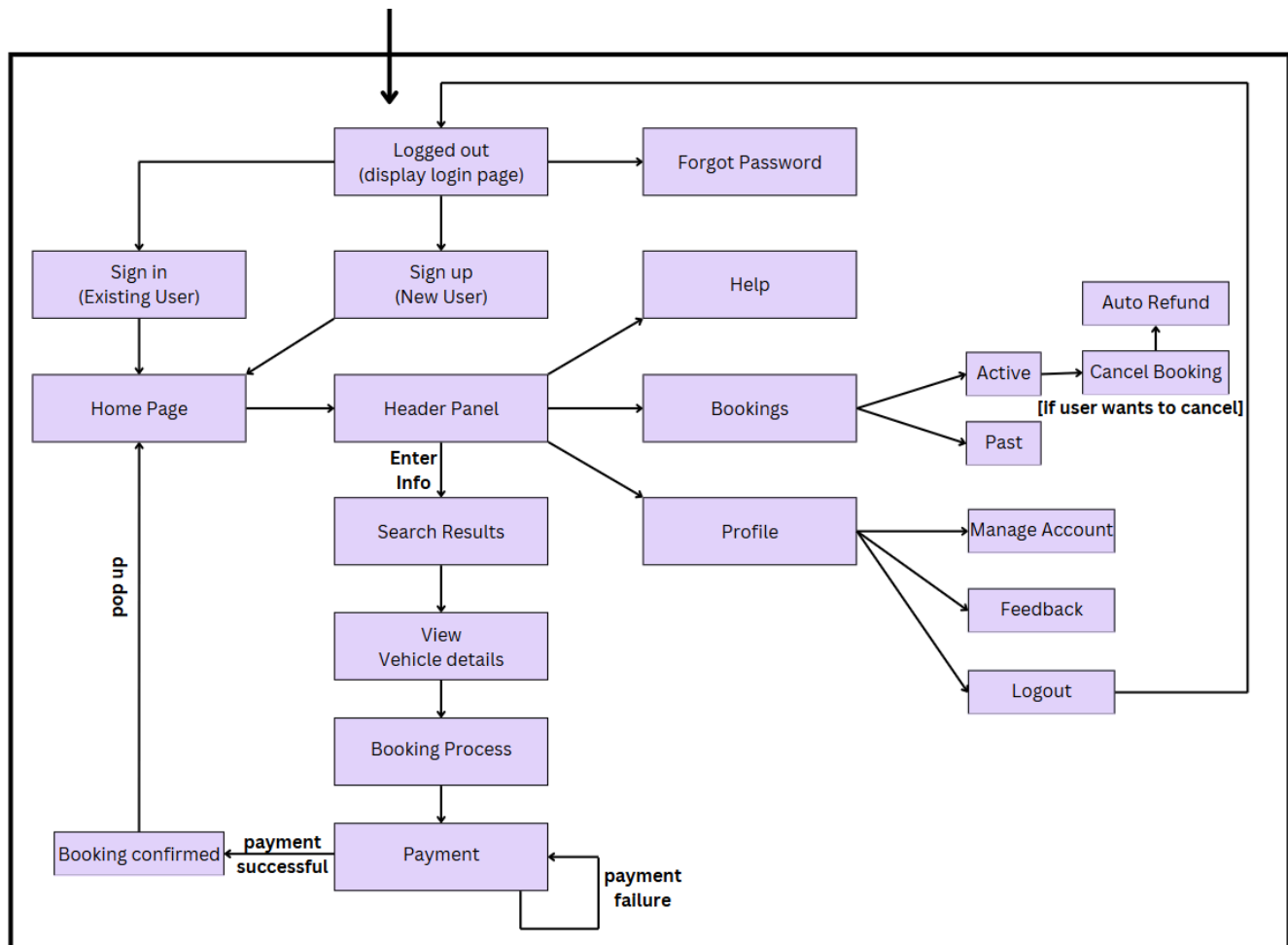


3.3.7 Payment Gateway

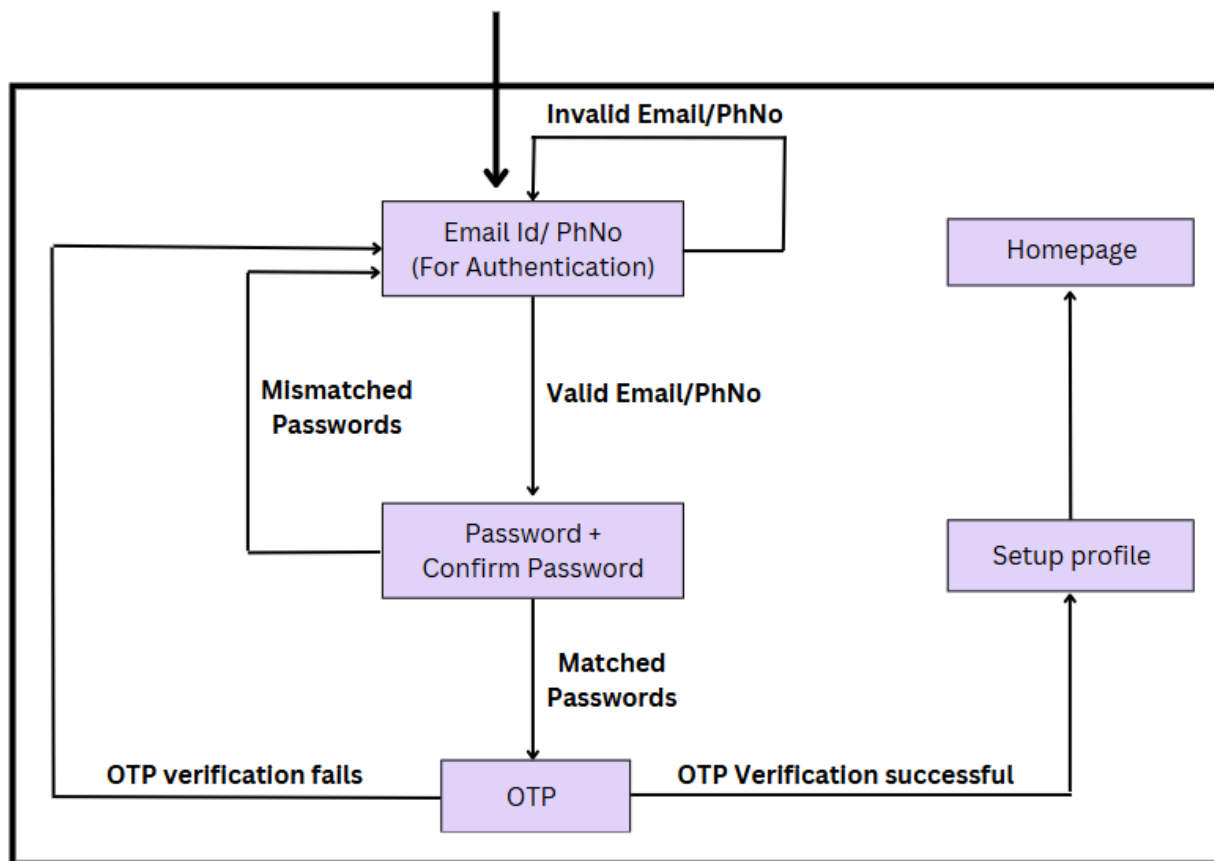


3.4 State Diagrams

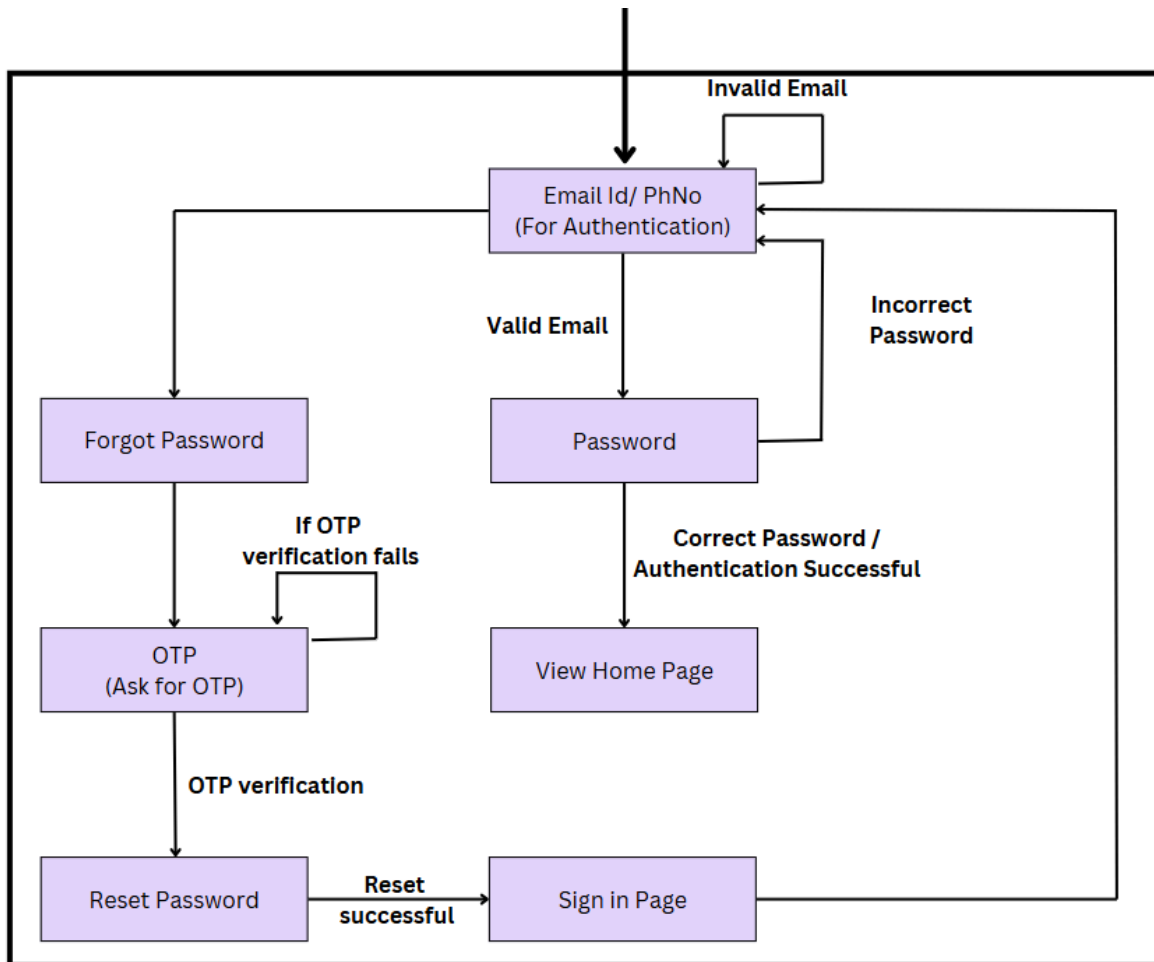
3.4.1 Overall State Diagram



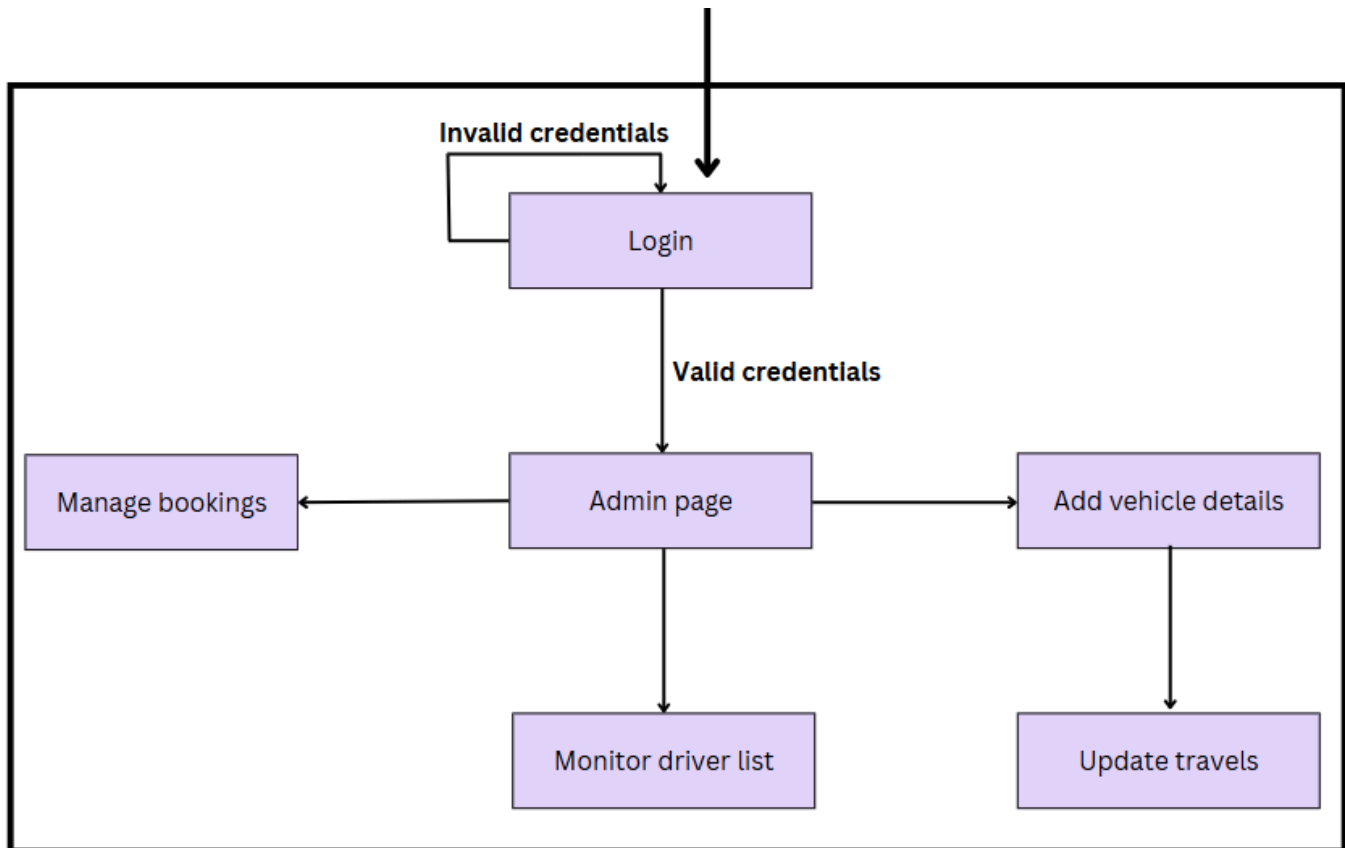
3.4.2 Sign Up (New User)



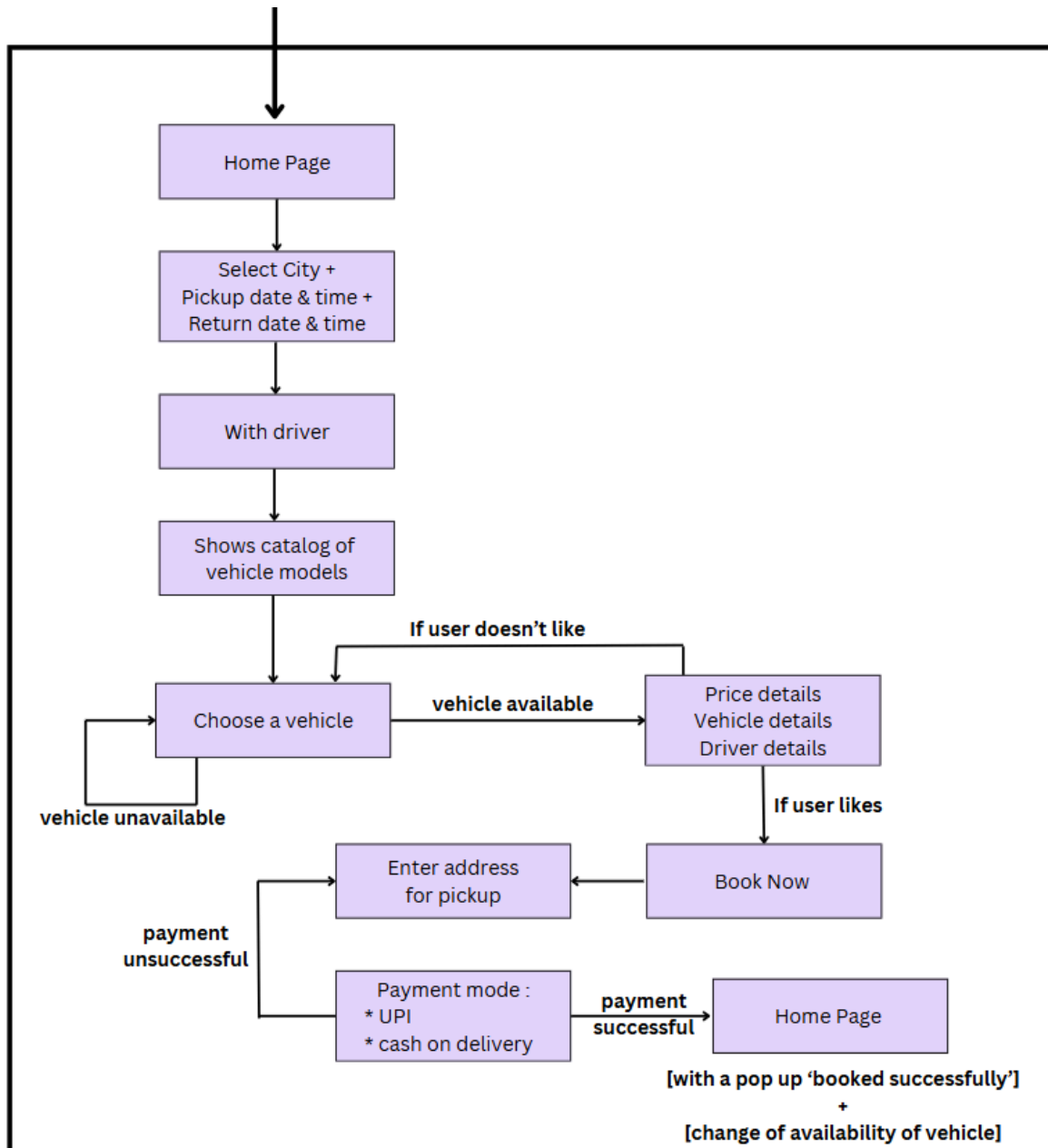
3.4.3 Sign In (Existing User)



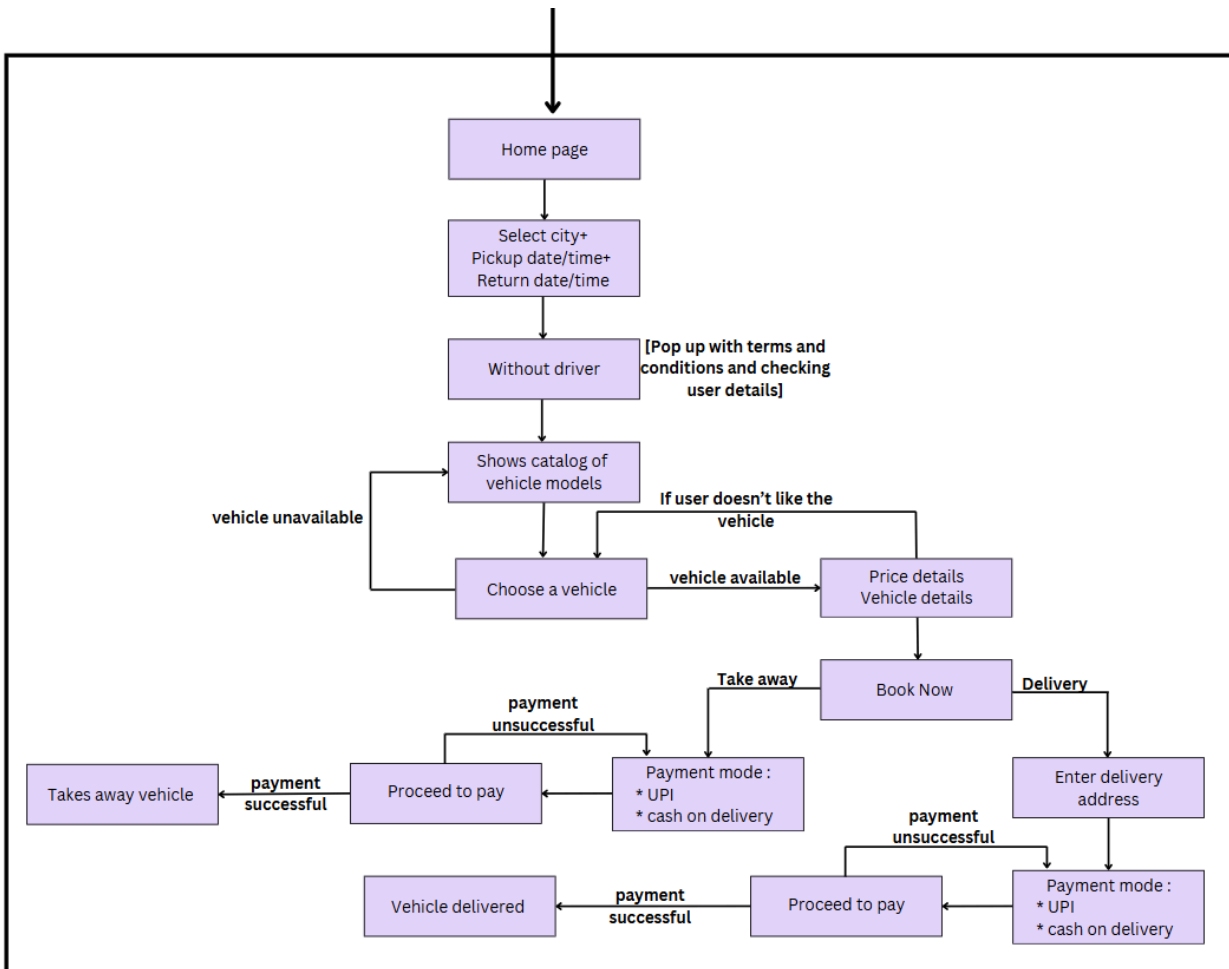
3.4.4 Administrator



3.4.5 User With driver

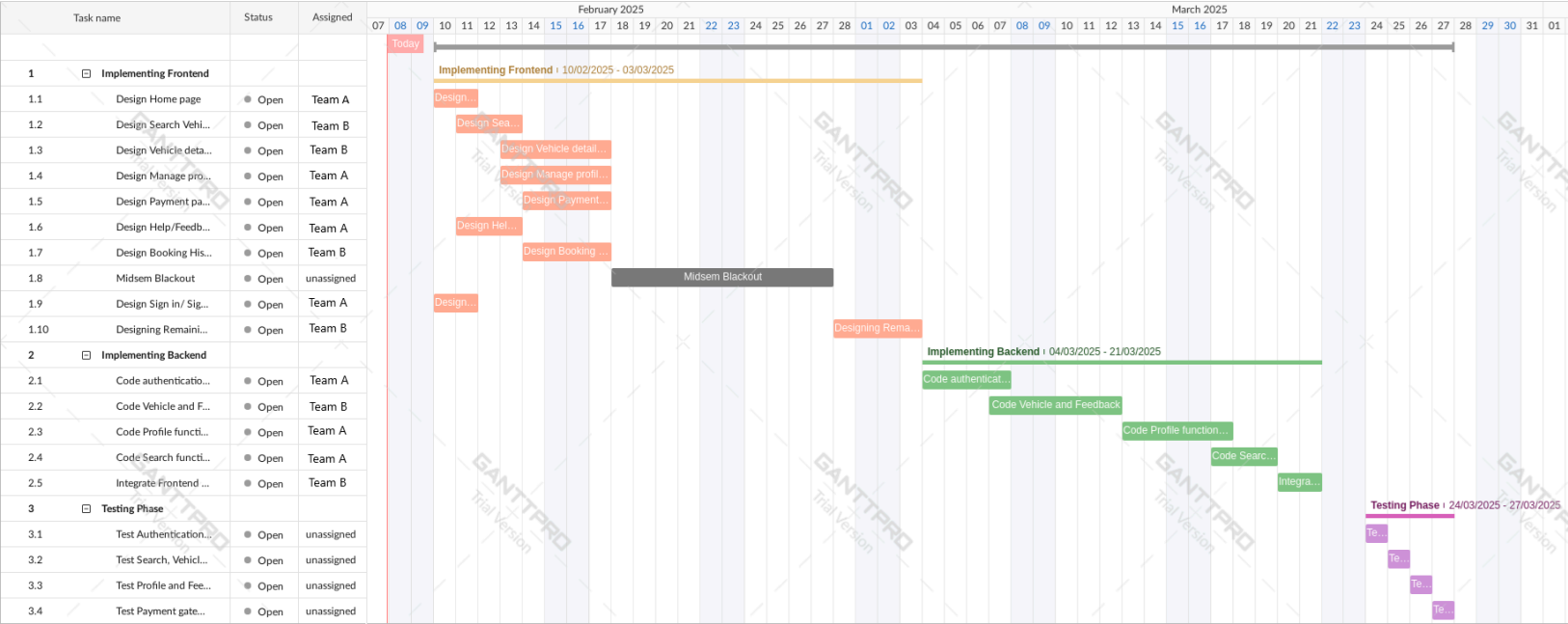


3.4.6 User Without driver



4 Project Plan

Fleet | Fleet



Frontend -

- Team A - Pallavi, Jyothika, Poorvie
- Team B - Prabhav, Shashi

Backend -

- Team A - Akhil, Karthik, Ramith
- Team B - Sruthi, Gayathri

Appendix A - Group Log

Meet Date	Topic Discussed	Duration
27/01/2025	We discussed prerequisites we need for the document	90 min
29/01/2025	We have divided work for the document	90 min
01/02/2025	We discussed doubts regarding our work	120 min
04/02/2025	We have divided work for project implementation	90 min
06/02/2025	We have combined our work and finalized our document	120 min
07/02/2025	Final submission	-