

Title: Transport Hub

Prepared By:

Aneeqa Waheed (F20-BSE-063)

Aqsa (FA20-BSE-079)

Fatima Bibi (FA20-BSE-125)

Dated: 15-12-2023

Table of Contents:**Contents**

1	Introduction.....	1
1.1	System Introduction	1
1.2	Background of the System	1
1.3	Objectives of the System.....	1
1.4	Significance of the System.....	2
2	Overall Description.....	3
2.1	Product Perspective.....	3
2.2	Product Scope	3
2.3	Product Functionality.....	3
2.4	Users and Characteristics	4
2.4.1	End User:	4
2.4.2	Driver:.....	4
2.4.3	Transporter:.....	4
2.4.5	Admin:	4
2.5	Operating Environment.....	5
2.6	Functional Requirements	5
2.6.1	User Authentication and Registration:.....	5
2.6.2	Services:.....	5
2.6.3	Subscribe offers:	5
2.6.4	Profile:	5
2.6.5	Career:.....	5
2.6.6	Car Rentals Booking:.....	6
2.6.7	Receipt:	6
2.6.8	Extend Car rental:	6
2.6.9	Goods Shipment Booking:.....	6
2.6.10	Bidding:	6
2.6.11	Notification:	7
2.6.12	Tracking:	7
2.6.13	Trip Packages:	7
2.6.14	Custom Trip:	7
2.6.15	Parcel Pickup:	7
2.6.16	Loyalty Program:	8

2.6.17 Payment:	8
2.6.18 Rating:.....	8
2.6.19 Driver's Request:	9
2.6.20 Manage Bookings:	9
2.6.21 Account statements:.....	10
2.6.22 Manage Salaries:.....	10
2.6.23 Manage Users:	10
2.6.24 Manage Employees:.....	10
2.6.25 Manage Transport:.....	11
2.7 Behaviour Requirements.....	12
2.7.1 Car Rental Use Case	13
2.7.2 Recreational Trip Use case	14
2.7.3 Good Shipment Use Case	15
2.7.4 Parcel Pickup	16
2.8 External Interface Requirements	17
2.8.1 User Interfaces:	17
2.8.2 Hardware Interfaces	25
2.8.3 Software Interfaces.....	25
2.8.4 Communications Interfaces.....	25
3 Other Non-functional Requirements	26
3.1 Performance Requirements.....	26
3.1.1 User Authentication and Registration:.....	26
3.1.2 Services:.....	26
3.1.3 Car Rentals:	26
3.1.4 Goods Shipment:	26
3.1.5 Bidding:	26
3.1.6 Notification:.....	26
3.1.7 Tracking:.....	26
3.1.8 Trip Packages:	27
3.1.9 Loyalty Program:	27
3.1.10 Payment:	27
3.1.11 Rating:.....	27
3.1.12 Manage Bookings:	27
3.1.13 Account Statements:	27
3.1.14 Feedback, Manage Salaries, Manage Users, Manage Employees, Manage Transport:	27
3.2 Safety and Security Requirements	28

3.2.1 Safety Requirements:.....	28
3.2.2 Security Requirements:.....	28
3.3 Software Quality Attributes.....	28
3.3.1 Reliability:	28
3.3.2 Performance:.....	28
3.3.3 Maintainability:.....	29
3.3.4 Security:.....	29
3.3.5 Usability:.....	29
3.3.6 Portability:	29
4 Design Description	30
4.1 Composite Viewpoint	30
4.2 Logical Viewpoint.....	31
4.3 Information Viewpoint.....	33
4.4 Interaction Viewpoint	33
4.4.1. Car Rental	33
4.4.2. Good Shipment	36
4.4.3. Recreational Trip	40
4.4.4. Parcel pickup	43
4.5 State Dynamics Viewpoint.....	46
4.6 Algorithm Viewpoint	52
4.6.1 User Authentication and Registration:.....	52
4.6.2 Services:.....	53
4.6.3 Subscribe offers:	54
4.6.4 Profile:	55
4.6.5 Career:.....	56
4.6.6 Car Rentals Booking:.....	57
4.6.7 Receipt:	59
4.6.8 Extend Car rental:	59
4.6.9 Goods Shipment Booking:.....	61
4.6.10 Bidding	62
4.6.11 Notification:	63
4.6.12 Tracking:	64
4.6.13 Trip Packages.....	65
4.6.14 Custom Trip	67
4.6.15 Parcel Pickup	69
4.6.16 Loyalty Program	70

4.6.17 Payment	71
4.6.18 Rating:.....	72
4.6.19 Driver's Request	73
4.6.20 Manage Bookings	74
• Manage Trip Packages Bookings:.....	74
• Manage Car Rental Bookings:	76
• Manage Shipment Bookings:	76
• Manage Parcel Bookings:	77
• View Records:.....	78
• Manage All Services:	79
• Cancel Delayed Shipment Booking:	79
4.6.21 Account statements	79
4.6.22 Manage Salaries.....	81
4.6.23 Manage Users	81
4.6.24 Manage Employees.....	81
4.6.25 Manage Transport.....	82

1 Introduction

1.1 System Introduction

Transport Hub is a multi-purpose platform that facilitates various services, including Car Rentals, Recreational Trip Packages, Good Shipment Management, and Pickup Parcels. Users can search, book, track, and manage their bookings, while administrators oversee operations, manage resources, and handle notifications. Drivers and pickup personnel are integrated into the respective modules to fulfill service requests and receive feedback. This versatile system combines diverse functionalities, offering convenience and efficiency for transportation, recreation, logistics, and parcel pickup, all accessible through user-friendly interfaces and seamless online payment and tracking options.

1.2 Background of the System

Transport Hub is a robust solution, it allows a bidding system for good shipment, providing cost optimization for users. The integration of a pickup module also sets it apart, offering users the convenience of having parcels picked up from their preferred locations. Additionally, the inclusion of a registration feature for drivers and vehicle owners enhances collaboration and inclusivity within the platform.

1.3 Objectives of the System

Transport Hub is designed with the primary objective of creating a unified and streamlined platform for managing a variety of services, including car rentals, recreational trip packages, goods shipment, and parcel pickups. The system aims to offer users a seamless and user-centric experience by allowing easy search, booking, tracking, and management of services through intuitive interfaces, complemented by online payment options. Administrators are empowered with tools for efficient oversight, ensuring smooth operations, timely notifications, and effective resource management. The integration of drivers and pickup personnel into the system is a key focus, enabling them to fulfill service requests, receive feedback, and contribute to the overall efficiency of transportation, recreation, and logistics processes. Through its versatile functionality, Transport Hub aims to provide a comprehensive solution that enhances overall convenience and efficiency for users across diverse service domains.

1.4 Significance of the System

Transport Hub's significance lies in its ability to offer a one-stop solution for diverse services, improving convenience and efficiency for users while optimizing operations and resource management for service providers. Additionally, Transport Hub's versatility and functionality make it suitable for a wide range of applications, helping businesses and organizations in various industries enhance their transportation, logistics, and service management capabilities.

2 Overall Description

2.1 Product Perspective

This project revolutionizes transportation by consolidating various services into a single platform. With four modules catering to goods shipment, recreational trips, parcel pickup, and car rentals, users can easily access the specific transport solution they need. Our system includes a unique bidding feature for cost optimization in truck transport services. Users, whether drivers, pickup personnel, or end users, can seamlessly register, creating a dynamic and inclusive ecosystem. This streamlined approach enhances user convenience and marks a significant advancement in the transport industry.

2.2 Product Scope

TransportHub will facilitate multiple services, including car rentals, recreational trip packages, goods shipment, and parcel pickups, all accessible through a single platform. Users will be able to search, book, track, and manage their chosen services, give feedback, receive notifications, resources through user-friendly interfaces. This system will also provide online payment options. The users will register as drivers, transporter and pickup personnel into their respective modules, will fulfill service requests, receive user feedback, and contribute to the overall efficiency of transportation, recreation, and logistics processes. This system has a bidding system for truck transport services and car rental services, providing users with cost optimization.

2.3 Product Functionality

- User Registration and Authentication with different roles
- Car Booking
- Trip Booking
- Goods Shipment Booking
- Bidding for Goods Shipment
- Parcel Pickup request
- Custom trip creation
- Notifications
- Manage Bookings
- Payment
- Subscribe Offers

- Loyalty Program
- Profile
- Receipt
- Rating
- Online Tracking
- Admin Services Management
- Admin Salary Management
- User Reviews and Rating
- Account Statement
- User management
- Manage Employees
- Manage Transport

2.4 Users and Characteristics

2.4.1 End User:

This user can view, update, request, book, track, cancel, and rate transport services through a user-friendly interface.

2.4.2 Driver:

This user will register as a driver and does not own a personal vehicle. For “with-driver” service requests, the admin sends requests to the driver, the driver can accept, reject, view bookings. Drivers can also manage their booking.

2.4.3 Transporter:

This user will register as a transporter and own a registered vehicle such as a truck. Transporters can view, bid on end user requests. The transporter can communicate with end-users via tracking, update status. Transporters can also manage their booking.

2.4.5 Admin:

Admin manages booking requests, view service status, and manages salaries through the admin dashboard.

2.4.6 Pickup Boy:

This user will register as a pickup boy for parcel collection and drop on delivery-services centers. The pickup boy can view/accept/reject pickup requests.

2.5 Operating Environment

This project is designed for cross-platform compatibility, supporting both Windows and macOS operating systems. The application is versatile, running seamlessly on personal computers as well as various mobile devices, including Android and iOS. This project is accessible through popular web browsers such as Chrome, Firefox, Edge, and others.

2.6 Functional Requirements

2.6.1 User Authentication and Registration:

- Users must be able to register into the system.
- Users must be able to login into the system with valid credentials (Email, Password).
- System must allow Admin to login into the system.

2.6.2 Services:

- Users shall be able to explore different services (car rentals, trip packages, good shipment, parcel pickup) before login.

2.6.3 Subscribe offers:

- Users shall be able to avail different subscribe offers with email to get updated.

2.6.4 Profile:

- Users (drivers, transporters, pickup boys, end-user), Admin shall be able to view and update their profiles.

2.6.5 Career:

- Users shall be able send requests for registration to admin for careers options including driver, transporter, and pickup-boy.
- Admin must accept/reject the career request's registration based on the test.

2.6.6 Car Rentals Booking:

- Users shall be able to search the car based on pickup location, return location, pickup date and return date.
- Users shall be able to view available cars based on their search result.
- Users shall be able to select any upgrade (driver, toddler, infant, protect the car LDW, pickup service, Wi-Fi).
- Users shall confirm booking for a specific car after login.

2.6.7 Receipt:

- Users shall be able to request a receipt for the bookings of cars.

2.6.8 Extend Car rental:

- Users shall be able to request for extended car rentals.
- Drivers and Admin shall be able to view extended car booking requests.
- Driver and Admin shall be able to accept or reject extended car booking requests.
- If Driver rejects the extended car booking request, then the request will return to Admin and Admin will resend request to other Drivers.

2.6.9 Goods Shipment Booking:

- Users shall be able to book a shipment after login.
- Users shall be able to view the status (cancelled, pending, bidding, delayed shipment) of the booked shipment.
- Users shall be able to accept or cancel the shipment booking that has been serviced by admin.
- Users shall be able to confirm shipment booking after bidding.

2.6.10 Bidding:

- User shall be able to create request for the bidding.
- Transporters shall be able to view shipment bids.
- Transporters shall be able to reject or bid on the shipment bookings.
- Users shall be able to select one of the bided transporters.

2.6.11 Notification:

- Users must receive notifications when there is a delay in their service request and when the admin intervenes to resolve the delay.
- Users must receive notification about the status (accept/reject) for their extended car request.
- Users, Drivers, and Admin shall be able to receive notification about the update in bookings.
- Admin shall be able to receive update notification.

2.6.12 Tracking:

- Users shall be able to track the shipment through a GPS.
- Admin shall be able to track cars and shipment through a GPS.

2.6.13 Trip Packages:

- Users shall be able to explore different trip packages.
- Users shall be able to select the categories (family, group, individual, custom) of the trip packages.
- Users shall be able to search family trip packages based on location.
- Users shall be able to search group trip packages based on location and date.
- Users shall be able to search individual trip packages based on location and date.
- Users shall be able to view trip packages.
- Users shall be able to book a trip package after login.
- Users shall be able to confirm booking for the trip package.

2.6.14 Custom Trip:

- Users shall be able to request for the creation of a custom trip package.
- Users shall be able to view custom trip packages.
- Users shall be able to join a custom trip package.
- Users shall be able to confirm booking for the custom trip package.
- Users shall be able to update and delete the custom trip package.
- Users shall be able to leave the custom trip package.
- Admin shall be able to accept or reject custom trip package requests.

2.6.15 Parcel Pickup:

- Users shall be able to create parcel requests.

- Pickup-boy shall be able to view parcel requests.
- Pickup-boy shall be able to accept or reject parcel requests.
- The parcel pickup boy should be capable of tracking the distance of parcel requests.
- Admin shall be able to view parcel requests.

2.6.16 Loyalty Program:

- Users shall be able to select “Loyalty program”.
- Users must be able to fill the form for the Loyalty program.
- Users shall have the ability to choose from various subscription packages, including one month, six months, and one year.
- Corresponding to each package selection, users shall be eligible for different discounts.
- Users shall be able to become a member after payment.
- Users shall be able to resubscribe the package.
- User shall be no longer a member if he fails at resubscribing the package before expiration.
- Admin shall be able to manage loyalty programs.
- Admin shall be able to view loyalty members.

2.6.17 Payment:

- Users shall be able to make payment through different payment methods (cash-in-hand, Easy Paisa, bank transfer).
- Admin shall be able to view fine for the failed shipments.
- Admin shall be able to manage payments.
- Admin shall be able to view paid and unpaid payments.
- System will automatically calculate drivers fare by subtracting the 40% form the original amount.

2.6.18 Rating:

- Users shall be able to give ratings when car booking status is done.
- Users shall be able to give ratings to the trip packages.
- Users shall be able to give ratings to the shipment service.
- Users shall be able to give ratings for the delivered parcel.
- Drivers shall be able to view ratings for the done rentals.
- Transporter shall be able to view his ratings.

-
- Parcel pickup boy shall be able to view ratings for the delivered parcel.
 - Admin shall be able to view ratings of all types of ratings (Driver's, Parcel Pickup, Transporter's) by users.

2.6.19 Driver's Request:

- Drivers shall be able to receive requests for booking.
- Driver shall be able to accept and reject the request.

2.6.20 Manage Bookings:

- Users shall be able to manage different bookings after login.
- Users shall be able to select different booking (trip packages, car rentals, parcel pickup, good shipments).
- Users shall be able to view the status (accept, reject, pending, done, cancelled) of the booking of all time.
- Users shall be able to view custom trip packages after approval from the Admin.
- Users shall be able to update, delete the custom trip packages details.
- Users shall be able to view joined persons for the custom trip packages.
- Users shall be able to view the status (accepted, pending, returned, on the way, delivered) of the parcel.
- Users shall be able to request again or cancel the parcel request for the returned status.
- Drivers shall be able to view bookings.
- Drivers shall be able to view status (upcoming, cancelled, updated, done) of the bookings.
- Transporters shall be able to view shipments.
- Transporters shall be able to view records (new, upcoming, done, cancelled, failed) shipments.
- Transporters shall be able to view the status of the bided bookings.
- Parcel pickup-boy shall be able to view status (accept, pending, on the way, delivered, returned) of the parcel.
- Parcel pickup-boy shall be able to update status (accept, pending, on the way, delivered, returned) of the parcel.
- Parcel pickup-boy shall be able to view requested again or cancelled status for the returned parcel.
- Admin shall be able to manage all services (car rentals, trip packages, good shipment, parcel pickup)
- Users shall be able to cancel the delayed shipment booking.
- Users shall be able to rebid for the delayed shipment booking.
- Admin shall be able to view car rental bookings.
- Admin shall be able to view car rental booking history.

- Admin shall be able to view any update in the user details enrolled in a car package. Admin shall be able to view users who cancelled car packages.
- Admin shall be able view any update in the user details enrolled in the trip package.
- Admin shall be able view users who cancelled the trip packages.
- Admin shall be able to view new trip packages bookings.
- Admin shall be able to view custom trip packages requested.
- Admin shall be able to manage custom trip packages.
- Admin shall be able to view joined custom trip users.
- Admin shall be able to view the new package added.
- Admin shall be able to view Booking Shipments.
- Admin shall be able to view the status (booked, confirmed, cancelled, delivered, failed) of the booking shipments.
- Admin shall be able to view status (bided, pending, cancelled, serviced by Admin) of the booked shipments.
- Admin shall be able to view status of failed shipments (pending, cancelled, bid again)
- Admin shall be able to manage Parcels.
- Admin shall be able to view parcel status (accept, pending, on the way, returned, delivered).
- Admin shall be able to view status (requested again or cancelled) for the returned parcel. Admin shall be able to view (drivers, transporters, pickup boy) records.

2.6.21 Account statements:

- Driver, Transporter, Pickup-boy and Admin shall be able to view account statements.
- Drivers, Transporter, Pickup-boy and Admin shall be able to view paid or unpaid payments.
- Driver, Transporter, Pickup-boy and Admin shall be able to view fine in case of cancelled bookings.
- Admin shall be able to manage account statements.

2.6.22 Manage Salaries:

- Admin shall be able to manage salaries.

2.6.23 Manage Users:

- Admin shall be able to manage users.

2.6.24 Manage Employees:

- Admin shall be able to manage employees.
- Admin shall be able to call for an interview to employees.
- Admin shall be able to update employee's interview progress.

2.6.25 Manage Transport:

- Admin shall be able to select Transport for the shipment service.
- Admin shall be able to manage transport.
- Admin shall be able to add, view, update, delete transport.
- Admin shall be able to view the status (reserved, free) of the transport.

2.7 Behaviour Requirements

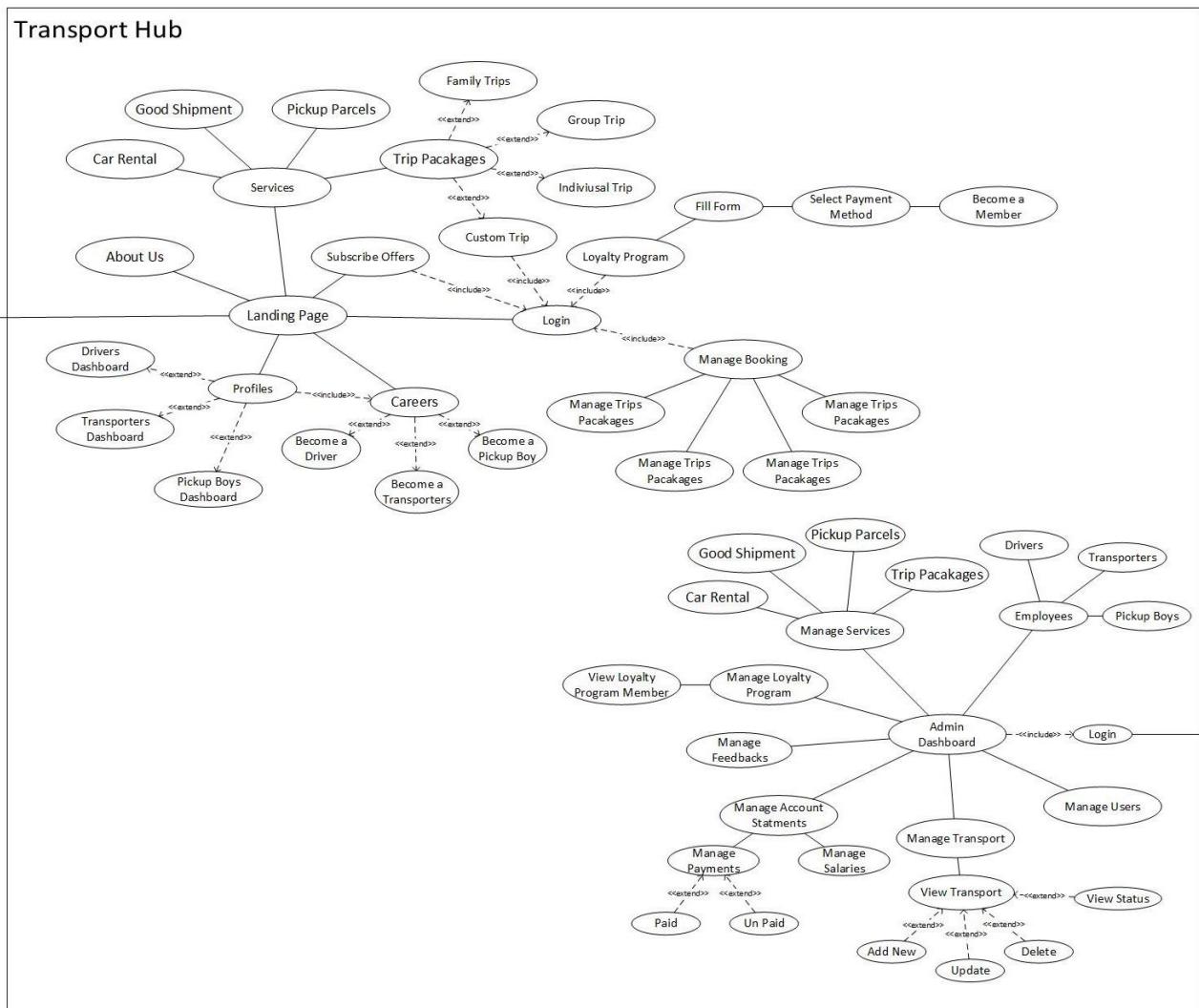


Fig 2.7 General Use-case

This use-case represents the whole system's general view. There are two actors, users and admin user can use services or can choose career option to become a driver, transporter, pickup boy. User can also add in loyalty program for discounts on services or can manage their bookings after login. Admin can mange all services, employees, transport, and account statements after login.

2.7.1 Car Rental Use Case

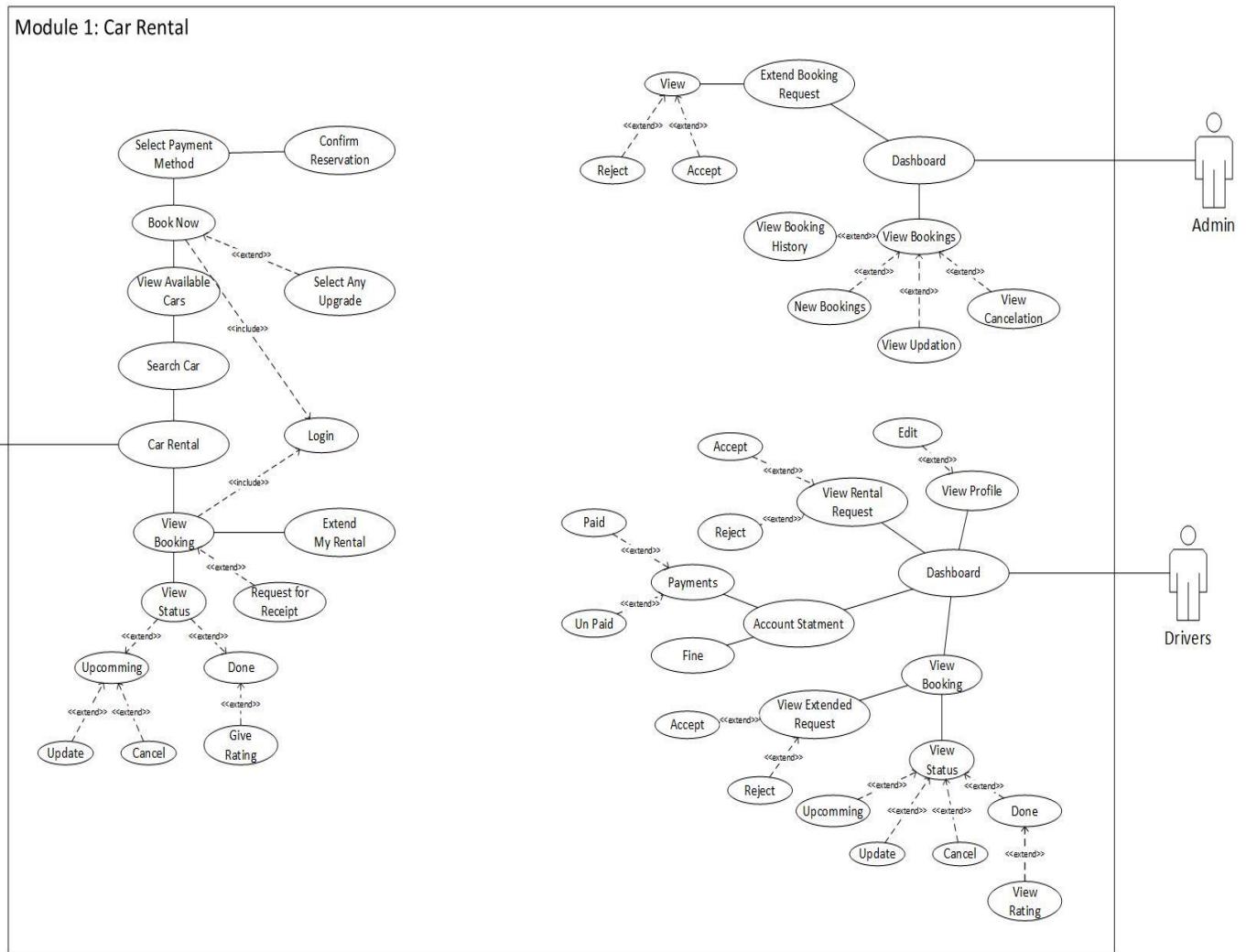


Fig 2.7.1 Car rental use-case

This module represents the working of a car rental module user can search, explore or book a car. Users can also manage their booking or can request for extended rental requests. Admin can manage user booking. Drive can accept or reject requests or can manage his profile or can view his account statements.

2.7.2 Recreational Trip Use case

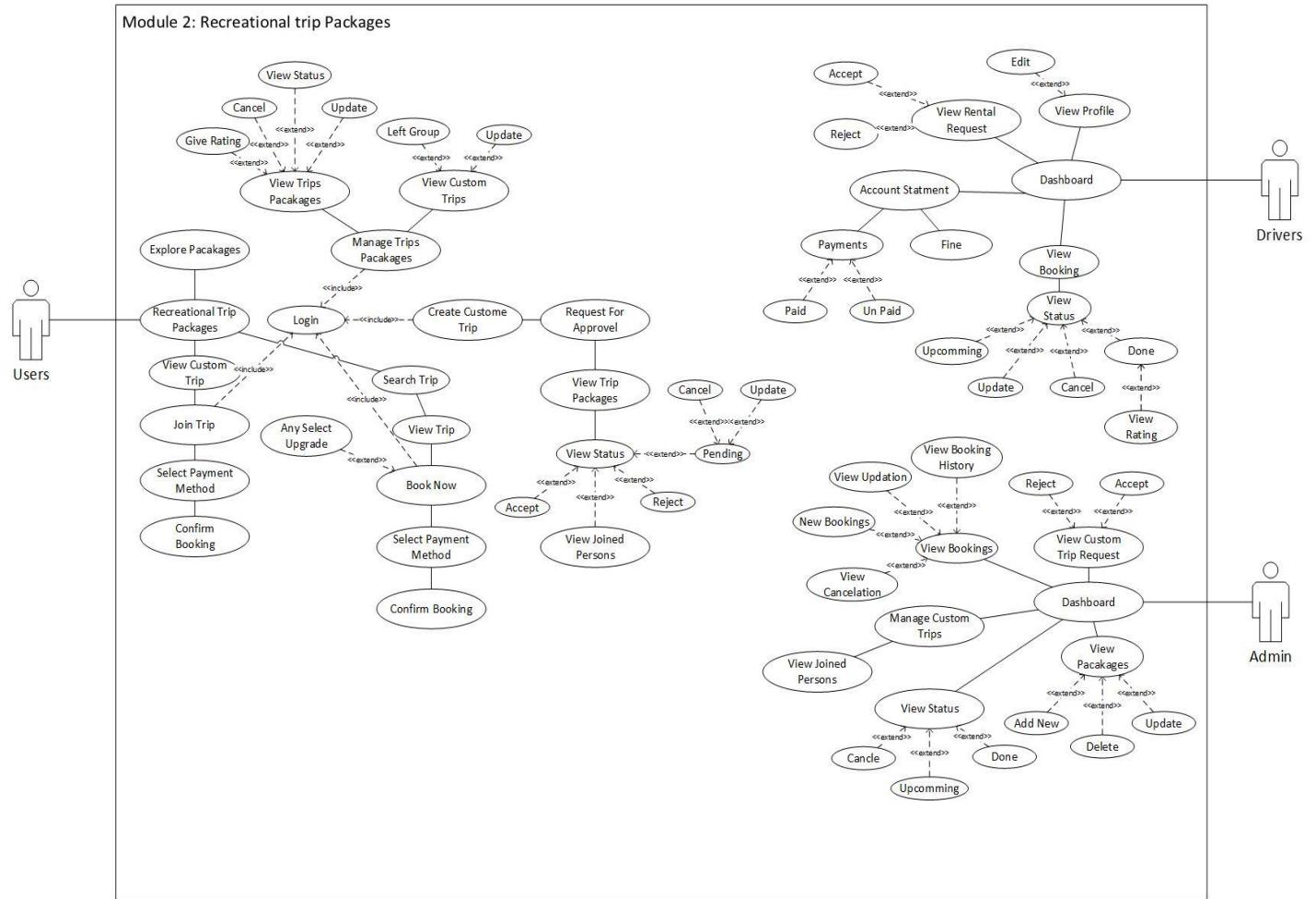


Fig 2.7.2 Recreational Trip Packages use

This module represents the working of a recreational trip packages module user can search, explore or book a trip. Users can also create custom other users can join this trip. Users can also manage their booking. Admin can manage user booking. Drive can accept or reject requests or can manage his profile or can view his account statements.

2.7.3 Good Shipment Use Case

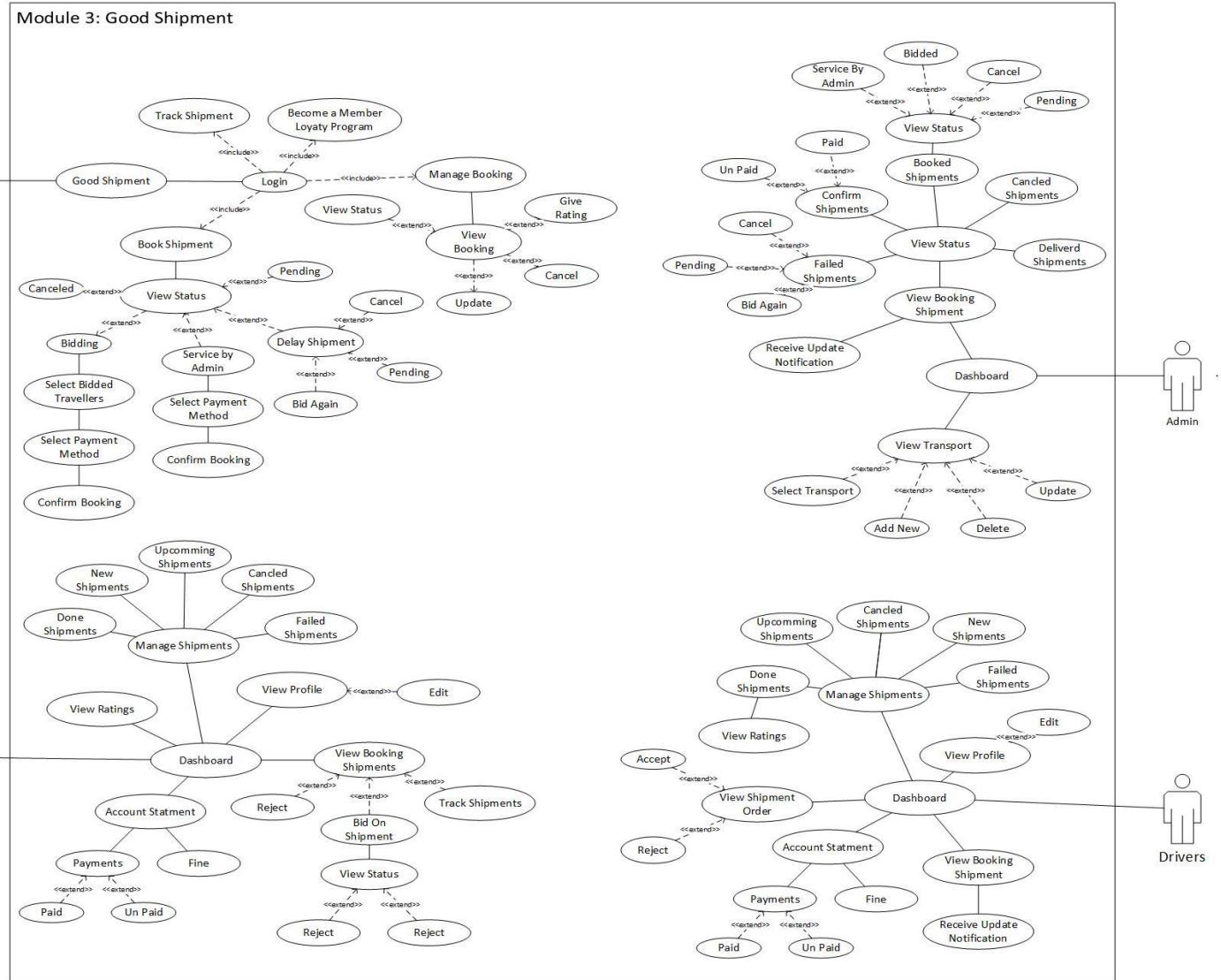


Fig 2.7.3 Good Shipment use-case

This module represents the working of a good shipment module user can create shipment. Transporters can view and bid on user shipment. Users can select the bided transporter. Users can also manage their booking. Transporter can manage his profile and account statement. Admin can manage user shipment or can serve if the transporter will not respond on shipment. Drive can accept or reject requests or can manage his profile or can view his account statements.

2.7.4 Parcel Pickup

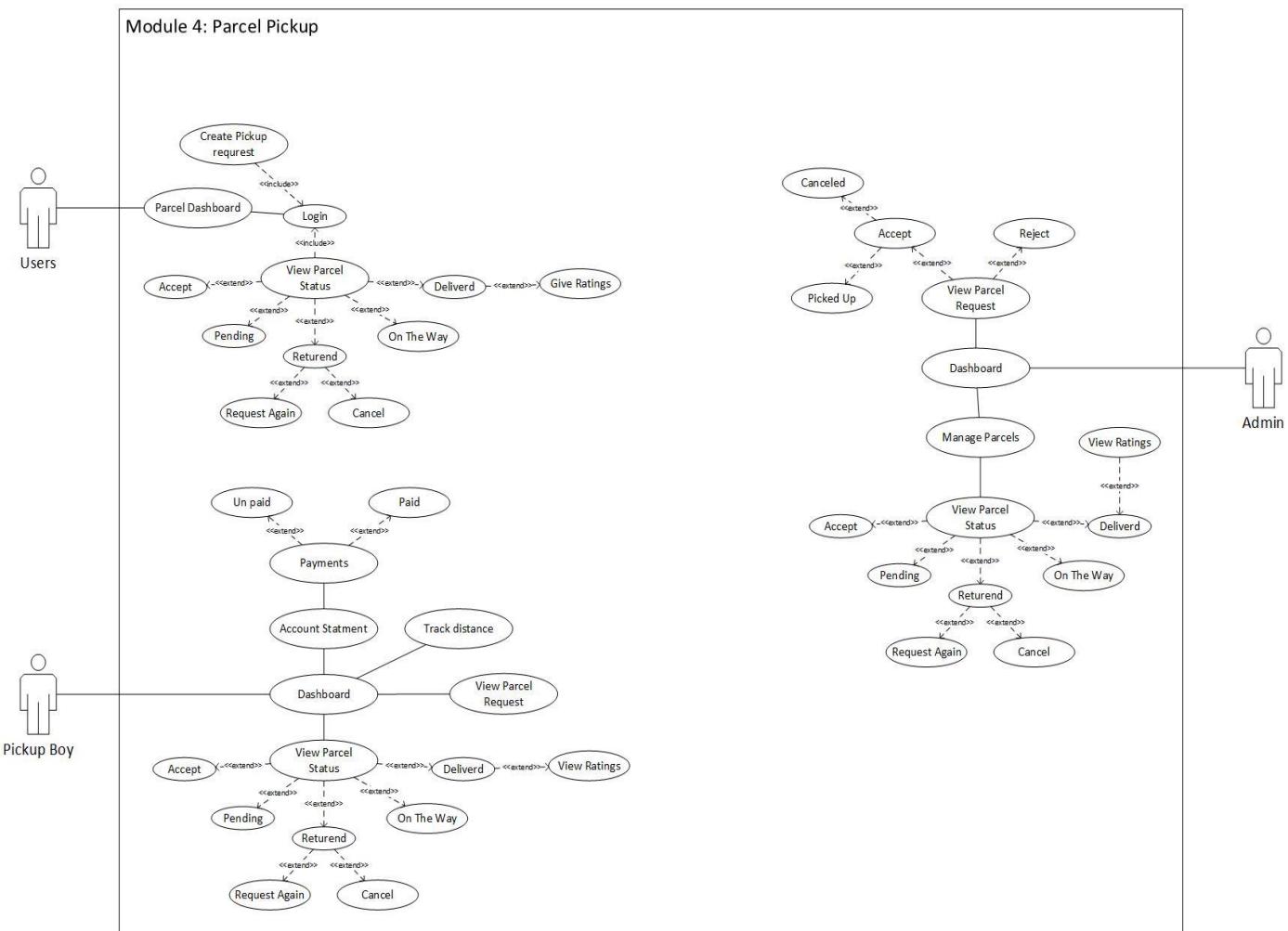


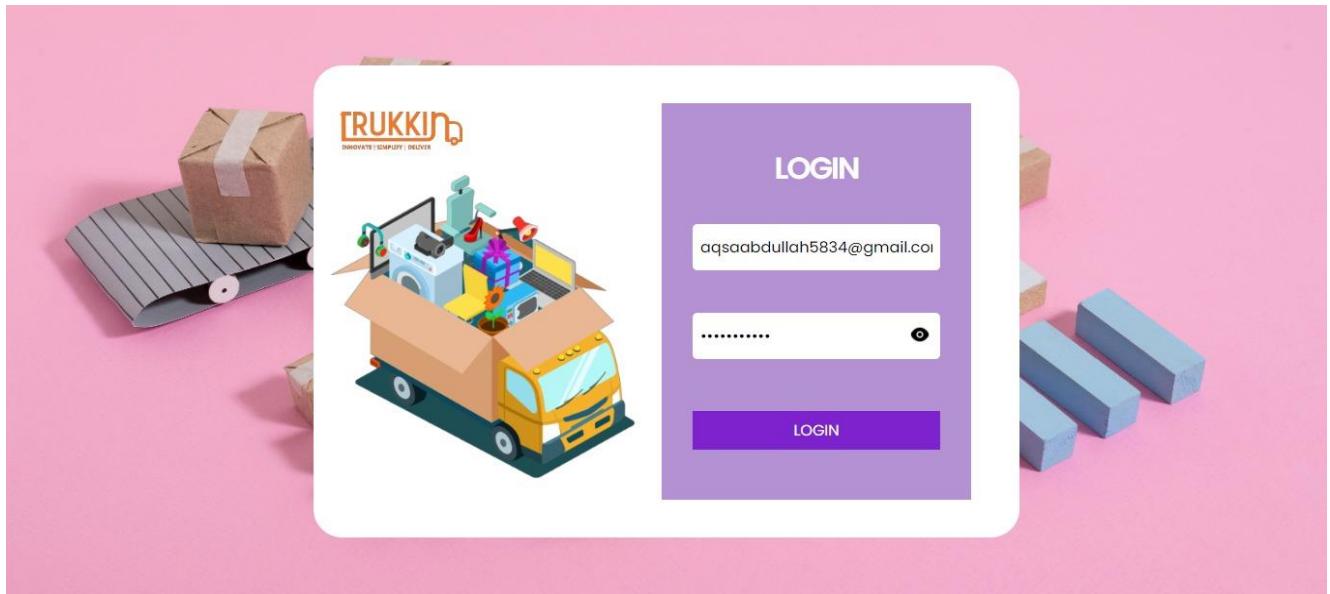
Fig 2.7.4 Parcel Pickup use-case

This module represents the working of a parcel pickup module user can create parcel pickup requests. Pickup boys accept and reject requests or can track the distance of requests. Pickup boys can update status based on progress. He can also manage his profile and account statement. Admin can manage user booking.

2.8 External Interface Requirements

2.8.1 User Interfaces:

- Admin Login



- Login Failed Message:

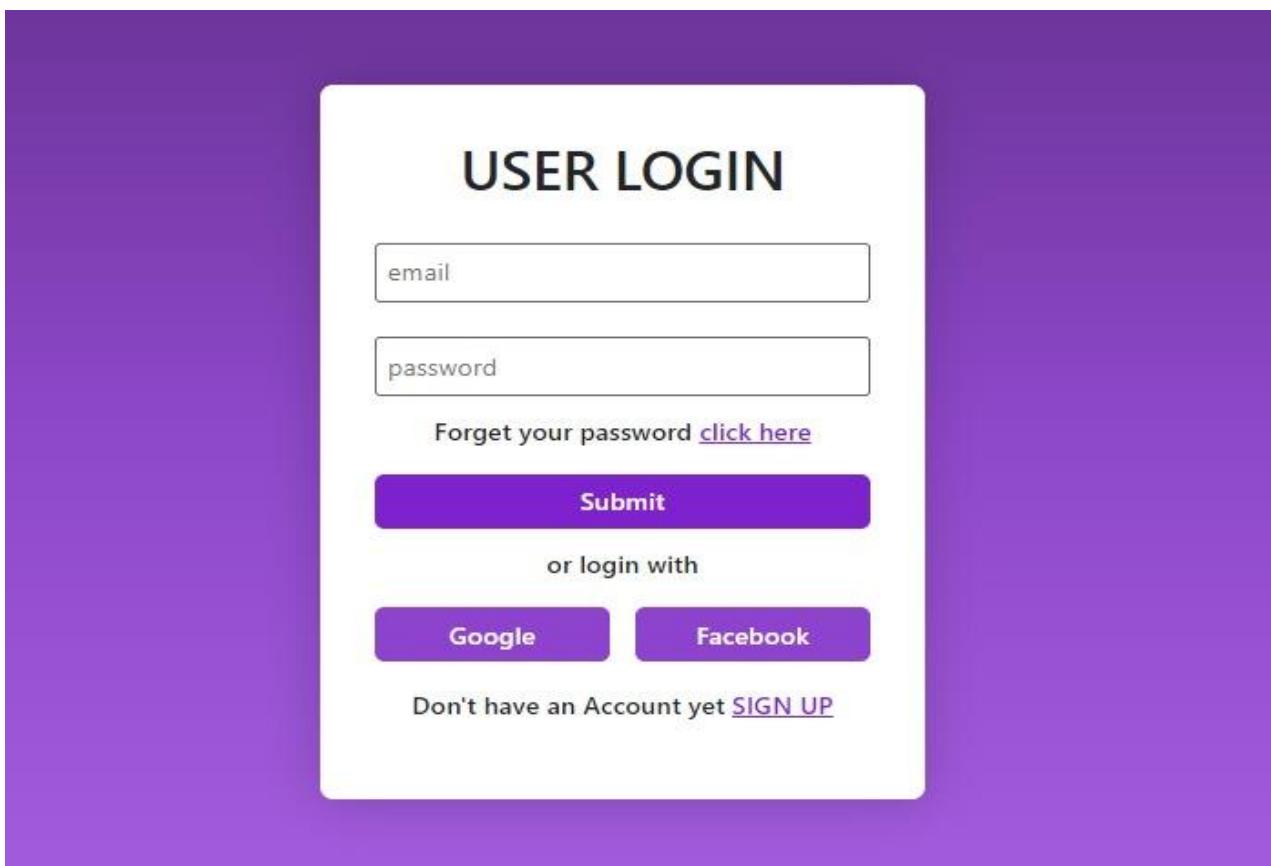


Login failed!

An exception occurred.

OK

- User Login



- User Signup

A screenshot of a mobile application's user sign-up screen. On the left side of the screen, there is a decorative image showing a yellow toy truck on a map, with several cardboard boxes and a white truck on a road, all set against a purple background. To the right of the image, the word "SIGN UP" is displayed in a large, bold, black font. Below this, there are six input fields arranged in a grid-like fashion. The first row contains "Full Name" and "Phone No". The second row contains "Email" and "Password". The third row contains "city" and "Zip Code". Below these rows is a larger input field labeled "Address". At the bottom of the screen is a large, purple rectangular button with the word "Submit" in white text. In the bottom right corner of the screen, there are three small, semi-transparent icons: a gear, a person, and a settings gear.

- Main Landing Page:

TransportHub

AboutUs Services Loyalty Program Blogs and News FAQs Career Login

Transportation and Logistics

Open Sandbox

TransportHub

Lore ipsum dolor sit amet consectetur adipisicing elit. Obcaecati minima harum aut autem iste, a sapiente architecto ad, beatae, odit rem eos animi? Corrupti ab dolore perspiciatis error assumenda earum.

Our Services

Car Rentals

Lore ipsum dolor sit amet consectetur adipisicing elit. Quo tenetur nemo quam voluptatibus hic non impedit, ad placeat debitis laudantium?

Recreational Trips

Lore ipsum dolor sit, amet consectetur adipisicing elit. Beatae autem vero quam non expedita quia iure deleniti est quos! Nam.

Parcel Pickup

Lore ipsum dolor sit, amet consectetur adipisicing elit. Beatae autem vero quam non expedita quia iure deleniti est quos! Nam.

Goods Shipment

Lore ipsum dolor sit, amet consectetur adipisicing elit. Beatae autem vero quam non expedita quia iure deleniti est quos! Nam.

Newsletter

Subscribe to our newsletter for updates.

Quick Links

- > Home
- > About Us
- > Services
- > Contact

Services

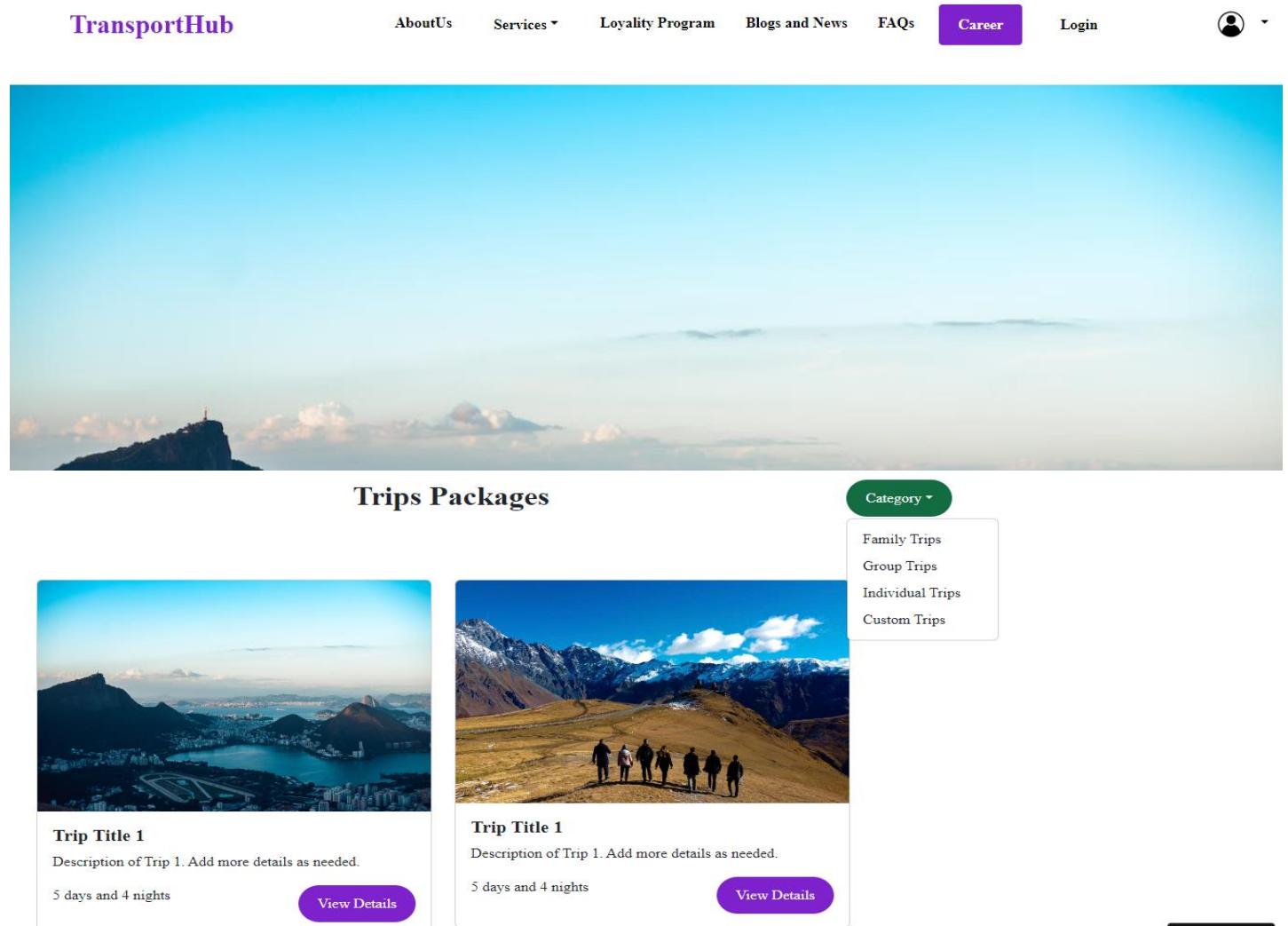
- > Car Rentals
- > Recreational Trips
- > Goods Shipments
- > Parcel Pickup
- > Drivers
- > Transporters
- > Pickup-boys

Contact Us

123 Second Street Fifth Avenue,
Manhattan, New York +00 41 258 489
6587

aneeqawaheed@gmail.com
Share this on social media..

Trip Landing Page:



The screenshot shows a trip landing page with a large header image of a mountain peak under a clear blue sky. Below the header, the page title "Trips Packages" is displayed. To the right, there is a dropdown menu labeled "Category" with options: Family Trips, Group Trips, Individual Trips, and Custom Trips. The main content area features two trip packages. Each package includes a thumbnail image, a title, a brief description, the duration, and a "View Details" button.

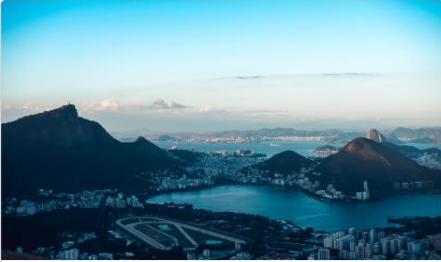
TransportHub

AboutUs Services ▾ Loyalty Program Blogs and News FAQs Career Login

Trips Packages

Category ▾

- Family Trips
- Group Trips
- Individual Trips
- Custom Trips



Trip Title 1
Description of Trip 1. Add more details as needed.
5 days and 4 nights [View Details](#)



Trip Title 1
Description of Trip 1. Add more details as needed.
5 days and 4 nights [View Details](#)

Already Have A Reservation?

Search reservation
 Started out with a fleet of just three vehicles. As one of the first and most influential

Edit Reservation
 Started out with a fleet of just three vehicles. As one of the first and most influential

[Look Up for Reservation](#) [Manage Here](#)

Newsletter

Subscribe to our newsletter for updates.

Subscribe

Quick Links

- > Home
- > About Us
- > Services
- > Contact

Services

- > Car Rentals
- > Recreational Trips
- > Goods Shipments
- > Parcel Pickup
- > Drivers
- > Transporters
- > Pickup-boys

Contact Us

123 Second Street Fifth Avenue,
Manhattan, New York +00 41 258 489
6587
aneeqawaheed@gmail.com
Share this on social media..

[Open Sandbox](#)

- **Car Rental Landing Page:**

TransportHub
AboutUs
Services ▾
Loyality Program
Blogs and News
FAQs
Career
Login

Pickup Location:

Return Location:

Pickup Date:

Return Date:

Show Cars




**Rent
Your
Cars**




Car Rental Deals



Start your week in style

Book now and save up to 3 0% on midweek rentals

[> Book Now](#)



Rental cars for corporate customers

Secure exclusive advantages and up to 15% discount

[> Book Now](#)



Luxury and looks for less

Book now and save up to 25% on luxury vehicles

[> Book Now](#)

● ●

Already Have A Reservation?

 **Search reservation**
Started out with a fleet of just three vehicles. As one of the first and most influential

[Look Up for Reservation](#)

 **Edit Reservation**
Started out with a fleet of just three vehicles. As one of the first and most influential

[Manage Here](#)

Car Types



SUVs
SUV's



Pickup Trucks



Passenger Van



Guaranteed Models



Mini Vans



Four Wheel Drive

- **Enhance our Car:**

Enhance Your Car

 **Car Seat (Infant)**
Choose an infant seat for a safer trip. Suitable for babies up to 12 months old.

RS 320 Per Day Add

 **Car Seat (Infant)**
Choose an infant seat for a safer trip. Suitable for babies up to 12 months old.

RS 320 Per Day Add

 **Car Seat (Infant)**
Choose an infant seat for a safer trip. Suitable for babies up to 12 months old.

RS 320 Per Day Add

GAC GS8 320T i4x4 Model 2023 (Turbo)
Vechical Type || SUV

Included Third party insurance

Included Loss Damage Waiver up to AED 7,000.00 (approx. \$1,906.11) financial responsibility

Drive up to 800 km, pay \$1.08 per additional km

Drivers must have held their driver's license for at least 1 year(s)

Total	RS 450
--------------	---------------

Continue

Activate Windows
Go to Settings to activate Windows.

 **Car Seat (Infant)**
Choose an infant seat for a safer trip. Suitable for babies up to 12 months old.

RS 320 Per Day Add

 **Car Seat (Infant)**
Choose an infant seat for a safer trip. Suitable for babies up to 12 months old.

RS 320 Per Day Add

 **Car Seat (Infant)**
Choose an infant seat for a safer trip. Suitable for babies up to 12 months old.

RS 320 Per Day Add

- **Terms and Conditions**

Enhance Your Car

The screenshot shows a user interface for enhancing a car rental. On the left, there are two identical options for "Car Seat (Infant)" with a price of "RS 320 Per Day" and an "Add" button. A central modal window titled "Car Features" lists three options: "Theft Protection", "Clean Interior/Exterior", and "Cancellation Policies". Below these is a section titled "Term & Conditions" which contains the following text:

Chauffeur Rest The chauffeur should be given a break for lunch and dinner, in addition, the chauffeur should be given a minimum break of eight consecutive hours during 24 hours on duty. This is a necessary safety requirement.

At the bottom of the modal, there is a note: "You have the right to complain against the driver." and a purple "Continue" button.

On the right side of the interface, there is a summary for the "GAC GS8 320T i4x4 Model 2023 (Turbo)". It includes the vehicle type ("SUV"), insurance details ("Included Third party insurance", "Included Loss Damage Waiver up to AED 7,000.00 (approx. \$1,906.11) financial responsibility"), driving conditions ("Drive up to 800 km, pay \$1.08 per additional km"), and a note about drivers ("Drivers must have held their driver's license for at least 1 year(s)"). The total cost is listed as "Total RS 450" with a "Continue" button below it.

- User Booking Form:

Note Please enter correct details for your booking. These details are necessary to verify your identity.

CUSTOMER DETAILS:

First Name:	Last Name:
<input type="text"/>	<input type="text"/>
Phone No:	Email:
<input type="text"/>	<input type="text"/>
CNIC:	Zip Code:
<input type="text"/>	<input type="text"/>
Address:	
<input type="text"/>	

Delivery Address

Please provide correct delivery address (In case of need delivery):

Submit

GAC GS8 320T i4x4 Model 2023 (Turbo)

Vechical Type || SUV

Included Third party insurance
 Included Loss Damage Waiver up to AED 7,000.00 (approx. \$1,906.11) financial responsibility
 Drive up to 800 km, pay \$1.08 per additional km
 Drivers must have held their driver's license for at least 1 year(s)

Total **RS 450**

Continue

- Admin Panel:



INNOVATE | SIMPLY | DELIVER

- [!\[\]\(d9a5d74e83e177bde1818115aedf50bc_img.jpg\) Dashboard](#)
- [!\[\]\(b8ff4a03c64ab8fcdd9b1250cdc6be38_img.jpg\) Services](#)
- [!\[\]\(6886593b2bd8a515e8d330235c1a3188_img.jpg\) Blogs & News](#)
- [!\[\]\(17b88f9228e62533950a267a5699c111_img.jpg\) Transport Management](#)
- [!\[\]\(94ee2694a72cac6430beb56c8f4573c1_img.jpg\) Manage Trips](#)

General Settings

- [!\[\]\(df55f4993bd86d8fcec8942f6fadb627_img.jpg\) Website Content](#)
- [!\[\]\(30607c9034b53c3eaa37543456aff89b_img.jpg\) Profile Settings](#)

Logout

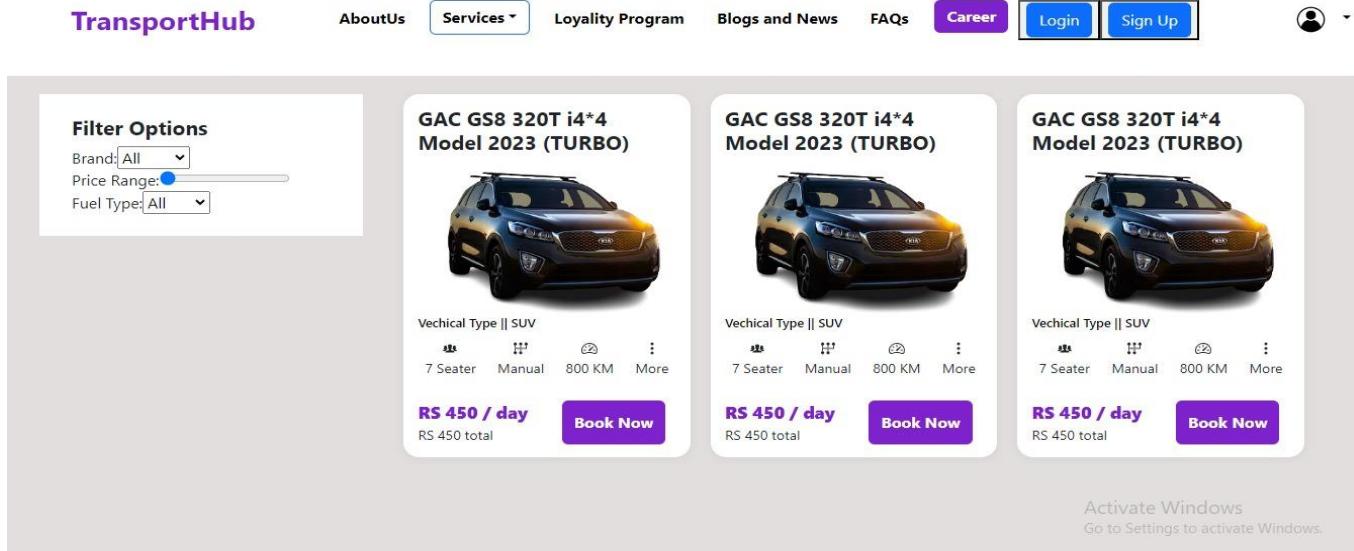


Welcome to Admin Panel

[View Messages](#)

Activate Windows
Go to Settings to activate Windows.

- **Car Rental Filter Page:**



2.8.2 Hardware Interfaces

No specific Hardware Interface for Transport Hub.

2.8.3 Software Interfaces

The project utilizes ReactJS for the frontend, Node.js for server-side logic, and MongoDB for data storage, with development in Visual Studio. ReactJS communicates with Node.js through HTTP for user inputs and processed data. Node.js interacts with MongoDB for data operations. The project is designed to run on Windows browsers (Chrome, Firefox, Opera). The interaction involves smooth data flow through HTTP, with ReactJS and Node.js as the primary interfaces for frontend and backend operations.

2.8.4 Communications Interfaces

2.8.4.1 HTTP/HTTPS (Web):

Users shall interact with the website through a web browser, and data will be exchanged using the Hypertext Transfer Protocol (HTTP) or its secure version (HTTPS).

2.8.4.2 Email Communication:

Transport Hub will use Email for sending notifications, updates, and alerts to users. This can include booking confirmations, password resets, and other important information.

3 Other Non-functional Requirements

3.1 Performance Requirements

3.1.1 User Authentication and Registration:

The system should handle at least 1000 concurrent user registration and login requests within a response time of 2 seconds.

3.1.2 Services:

Service requests (car rentals, trip packages, shipment, parcel pickup) should be processed within 3 seconds, even during peak usage times.

3.1.3 Car Rentals:

The car search and booking process should be completed within 5 seconds, and the system should be able to handle at least 500 simultaneous booking requests.

3.1.4 Goods Shipment:

Shipment booking and confirmation processes should have a response time of 3 seconds. The system should be capable of handling 800 concurrent shipment booking requests.

3.1.5 Bidding:

The bidding process should be executed within 4 seconds, and the system should support at least 600 simultaneous bidding transactions.

3.1.6 Notification:

Notifications should be sent to users, drivers, and admins within 1 second of any relevant system updates or interventions.

3.1.7 Tracking:

The GPS tracking system should provide real-time updates with a latency of no more than 2 seconds.

3.1.8 Trip Packages:

Searching, selecting, and booking trip packages should be completed within 5 seconds. The system should support 400 concurrent trip package booking requests.

3.1.9 Loyalty Program:

Processing loyalty program requests, including form filling and payment, should take no longer than 4 seconds. The system should handle at least 300 concurrent loyalty program requests.

3.1.10 Payment:

Payment processing should have a response time of 2 seconds. The system should handle at least 1000 concurrent payment transactions.

3.1.11 Rating:

Rating submissions should be processed within 2 seconds. The system should handle at least 800 concurrent rating submissions.

3.1.12 Manage Bookings:

Viewing and managing bookings should have a response time of 3 seconds. The system should support 500 concurrent booking management requests.

3.1.13 Account Statements:

Retrieving account statements should have a response time of 4 seconds. The system should handle at least 400 concurrent account statement requests.

3.1.14 Feedback, Manage Salaries, Manage Users, Manage Employees, Manage Transport:

These administrative tasks should be completed within 5 seconds, and the system should handle at least 300 concurrent administrative requests.

3.2 Safety and Security Requirements

3.2.1 Safety Requirements:

- **Prevention of Unauthorized Access:**

Unauthorized access to sensitive user information must be prevented. We will enforce strong user authentication mechanisms to ensure only authorized users access the system.

- **User Notification for Service Delays:**

Users must be promptly notified in case of delays or issues with their service requests. We Implement a notification system that alerts users about any delays or disruptions in the services they have requested.

3.2.2 Security Requirements:

- **Data Encryption:**

Sensitive user data, including passwords and financial information, must be encrypted during transmission and storage.

- **Access Control and User Identity Authentication:**

Access to system functionalities must be controlled based on user roles, and user identity authentication must be enforced. For this, we will implement strong password policies and user authentication.

- **Secure Payment Transactions:**

Payment transactions must be secure. The system to ensure the confidentiality, integrity, and availability of user data and services.

3.3 Software Quality Attributes

3.3.1 Reliability:

- **Availability:** System must be available to all users requests.

- **Error Handling:** System must implement robust error-handling mechanisms.

3.3.2 Performance:

- **Response Time:** System must define acceptable response times for different operations.

3.3.3 Maintainability:

- **Code Maintainability:** There should be clean, modular, and well-documented code.
- **Ease of Updates:** System must allow easy updates and modifications.
- **Version Control:** There should be version control systems to track changes and manage codebase versions.

3.3.4 Security:

- **Data Encryption:** System must implement encryption for sensitive data during transmission and storage.
- **Authentication and Authorization:** System must ensure secure user authentication and proper access controls.

3.3.5 Usability:

- **User Interface (UI) Design:** There should be an intuitive and user-friendly interface.
- **Accessibility:** System must ensure the application is accessible to users with disabilities.
- **Responsiveness:** System must be responsive to all devices.

3.3.6 Portability:

- **Deployment Flexibility:** System must ensure the application can be deployed on different platforms and environments.

4 Design Description

4.1 Composite Viewpoint

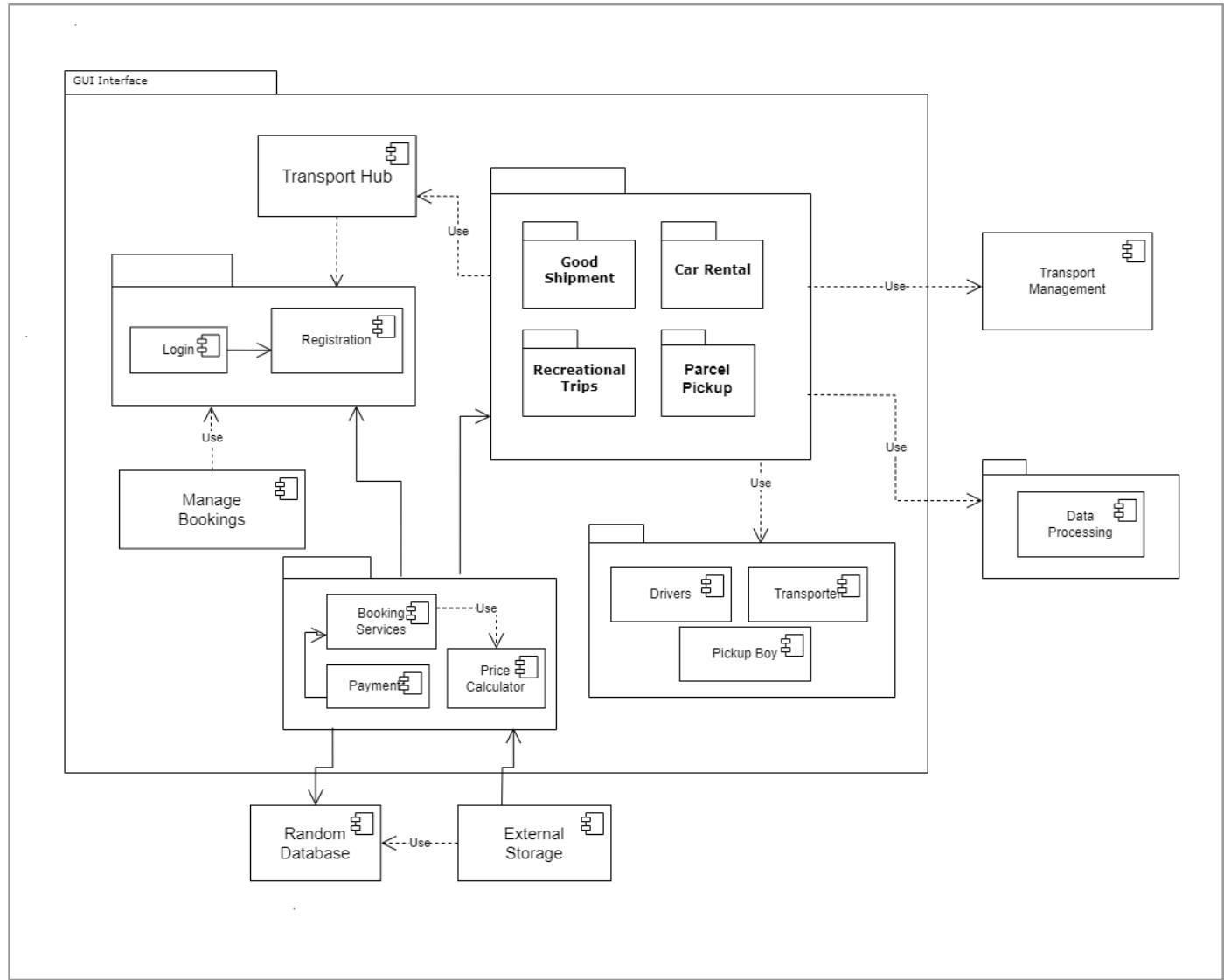


Fig 4.1.1 Package Diagram

This is a structural diagram representing a static implementation view of our system. It maps different Interfaces, collaborators with each other. Transport Hub is a main interface other interface like Car rental, Recreational trip

packages, Good Shipments, Parcel pickup expands from these components. Users can book different services using these interfaces but they must be logged in before booking. Booking details of the user will store in a random database after user confirmation it will save external storage (Database) of the system. System will provide services to users using transports, employees and after data processing.

4.2 Logical Viewpoint

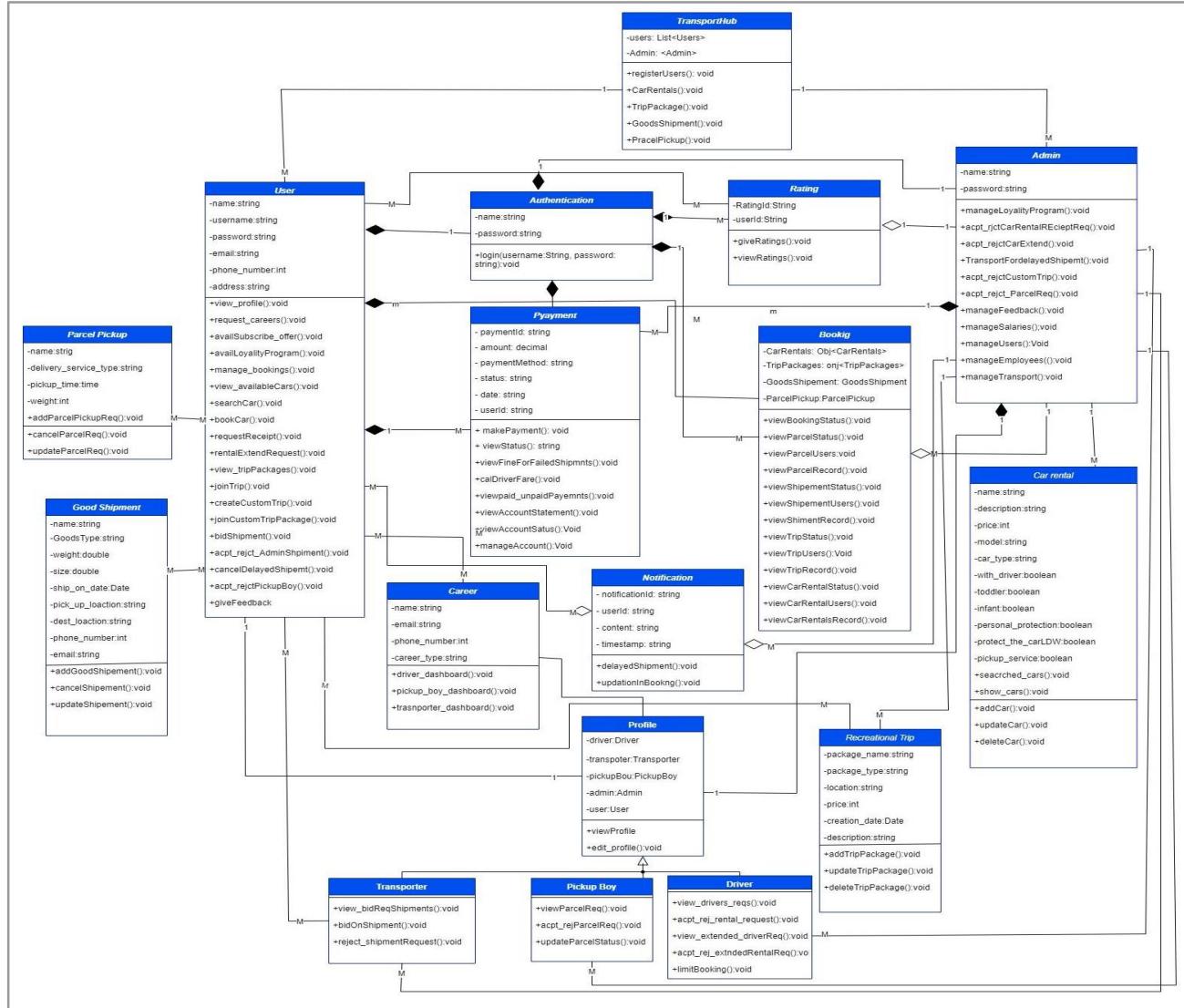


Fig 4.2.1 Class Diagram

The main class is Transport Hub, which has users and admin as attributes and all the services as methods. Transport Hub is associated with the User class in a one-to-many relationship, as many users can avail

services from the Transport Hub, and there is only one admin for managing all services. There is a simple association between User and Authentication class because users can view services without logging in. There is a composition between User and Payment class because a user is required for payment. Similarly, there is a composition between User and Booking class because a user is required for booking. There is a many-to-many relationship between User and Career class, as many users can avail of various career options such as becoming a driver, transporter, or pickup-boy. Users have a many-to-many relationship with Parcel Pickup and Goods Shipment classes as they can avail many services for Parcel Pickup and Goods Shipment simultaneously.

There is a many-to-many association between User and Notification class as users can receive many notifications, and a notification can be sent to many users. User and Profile have a one-to-one association because a user can view only one of their profiles at a time. Users can give many ratings, so there is a many-to-many association between User and Rating. There is a many-to-many association between User and Transporter because many users can bid with many transporters. Similarly, many-to-many relationships exist with recreational trips.

There is a composition between Rating and Authentication because login is necessary for ratings. Similarly, there is a composition between Payment and Authentication because authentication is necessary for payment. Additionally, there is a composition between Authentication and Booking because authentication is necessary for booking. There is composition between User and Authentication because a user is necessary for authentication. There is a composition between Admin and Authentication because the admin is unable to do anything without login. Admin has an aggregation with Rating because ratings can exist independently without an admin. Similarly, Notifications and Admin have an aggregation because the Notification class can exist independently without the admin. Additionally, Admin has an aggregation with Booking because the booking class can exist independently. Admin has composition with Payment because the admin is necessary for viewing payment records. There is a one-to-many relationship of Admin with Driver, Transporter, Pickup-boy, Recreational Trips, and Car Rental. Admin can view everyone's profile, so there is composition between Admin and Profile.

4.3 Information Viewpoint

No ERD as the system using non-SQL database (Mongo DB).

4.4 Interaction Viewpoint

4.4.1. Car Rental

- Car Rental End User**

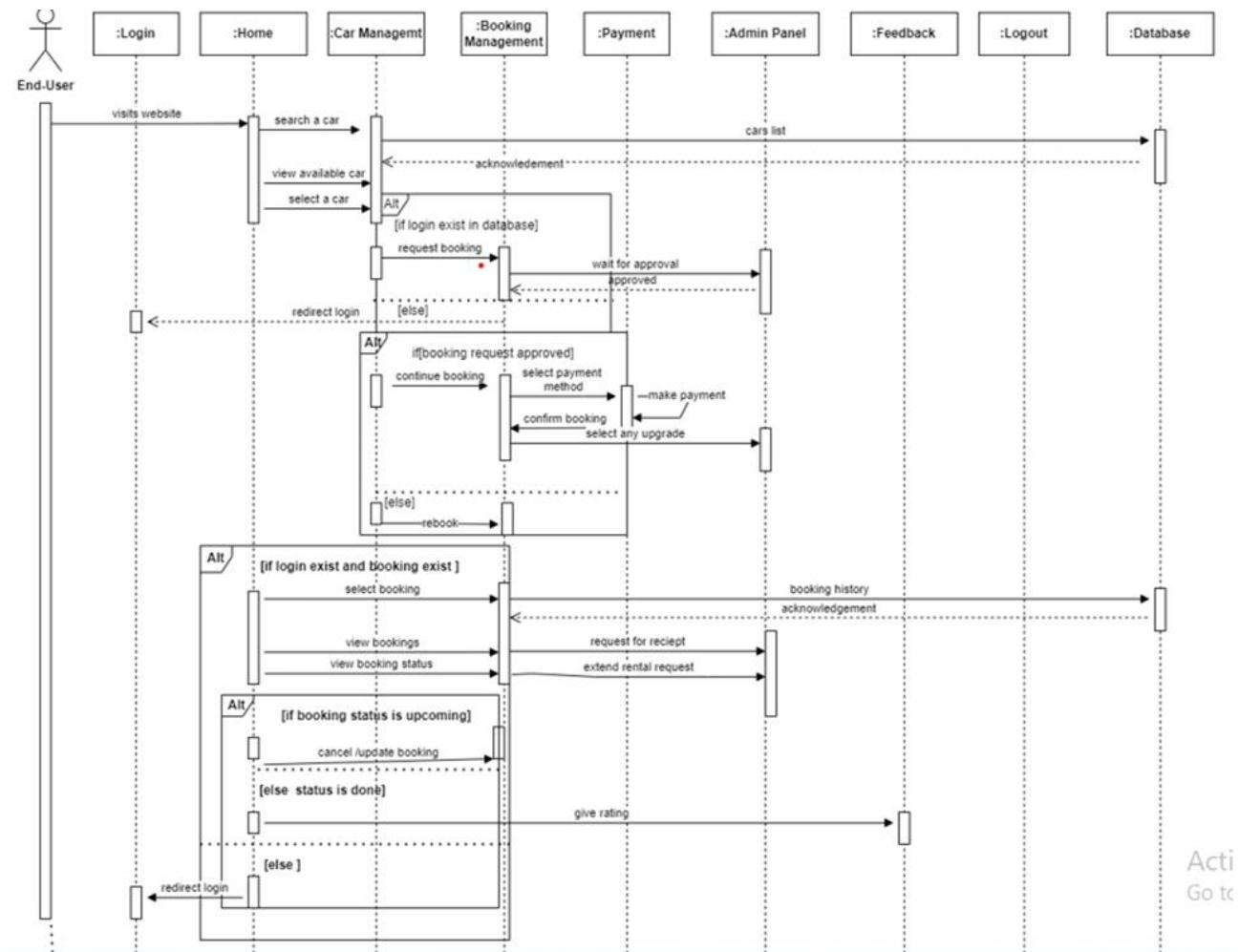


Fig 4.4.1 Car Rental End User Sequence Diagram

The end user will search, view, select the car. Before request booking, the end user must be logged in. If user booking requests gets approve, he can select payment method and confirm booking, or else rebook. He can also

select any upgrade. If any of his booking exist, he can view, update, cancel the booking. If booking status is done, he can give rating. The user must be logged in to view his bookings.

- **Car Rental Admin**

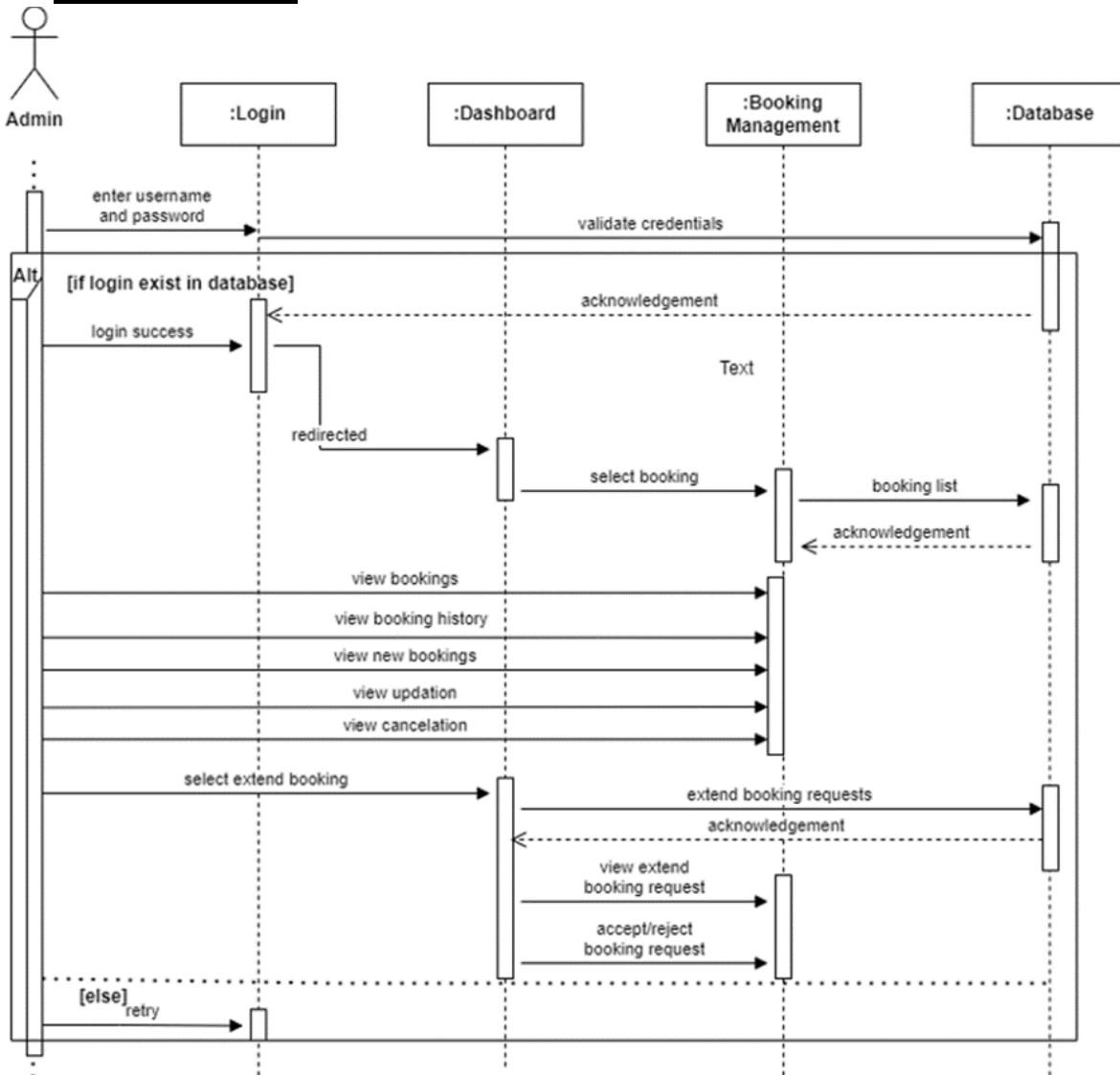


Fig 4.4.1.3 Car Rental Admin Sequence Diagram

The admin will login first into the system. If he is successfully logged in, he can access the admin dashboard. He can view booking details such as history, new bookings, updating, cancelation, extend booking request. In case of extend booking request, he can accept or reject the request.

- **Car Rental Driver**

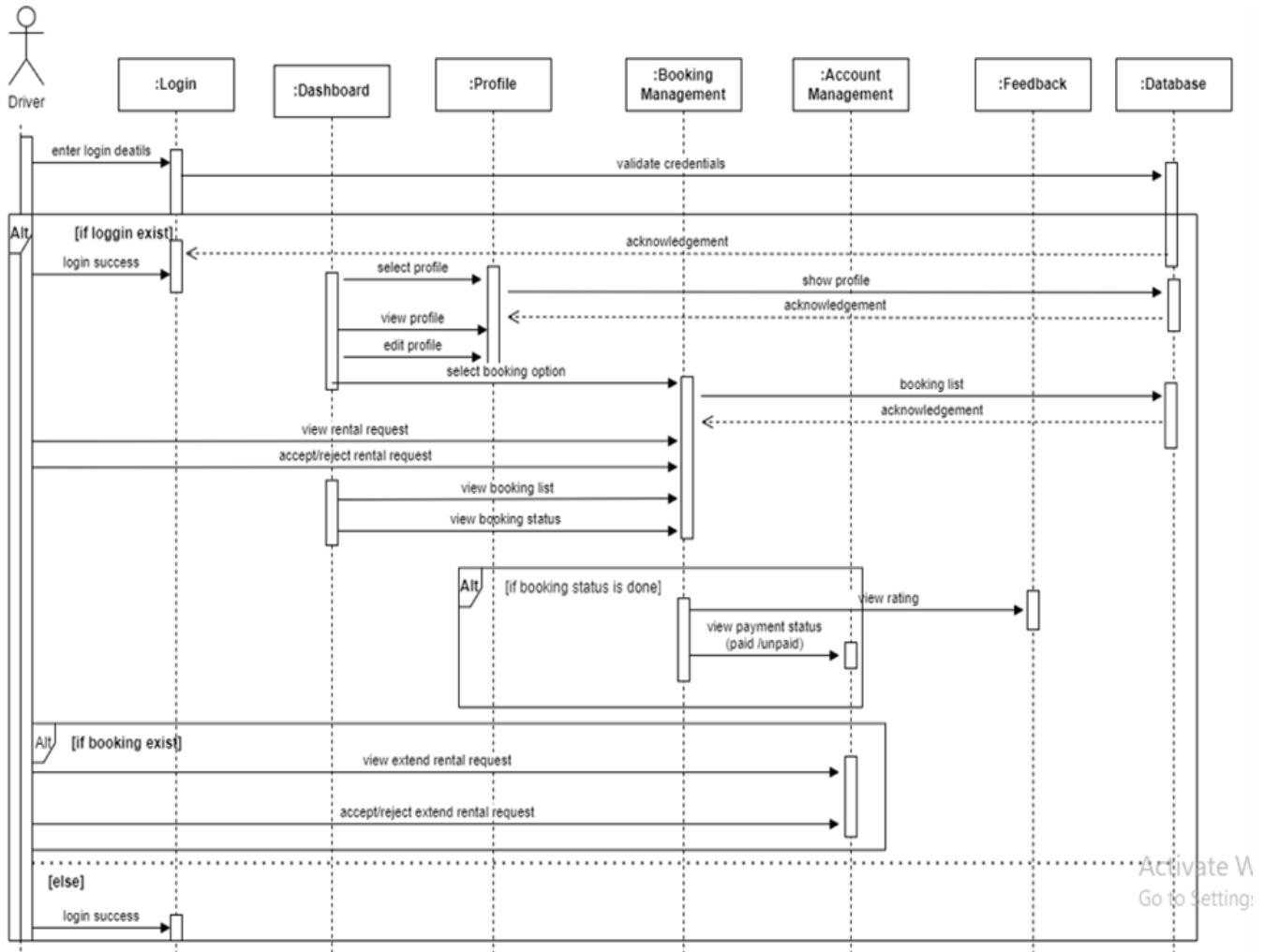


Fig 4.4.1.4 Car Rental Driver Sequence Diagram

After logging in with valid details, the driver can access a dashboard to view and edit their profile. They can manage rental requests by accepting or rejecting them, view booking details, receive payments for completed bookings, check payment status, and review customer ratings. The driver can also handle extend car rental requests by accepting or rejecting them.

4.4.2. Good Shipment

- **Good Shipment End User**

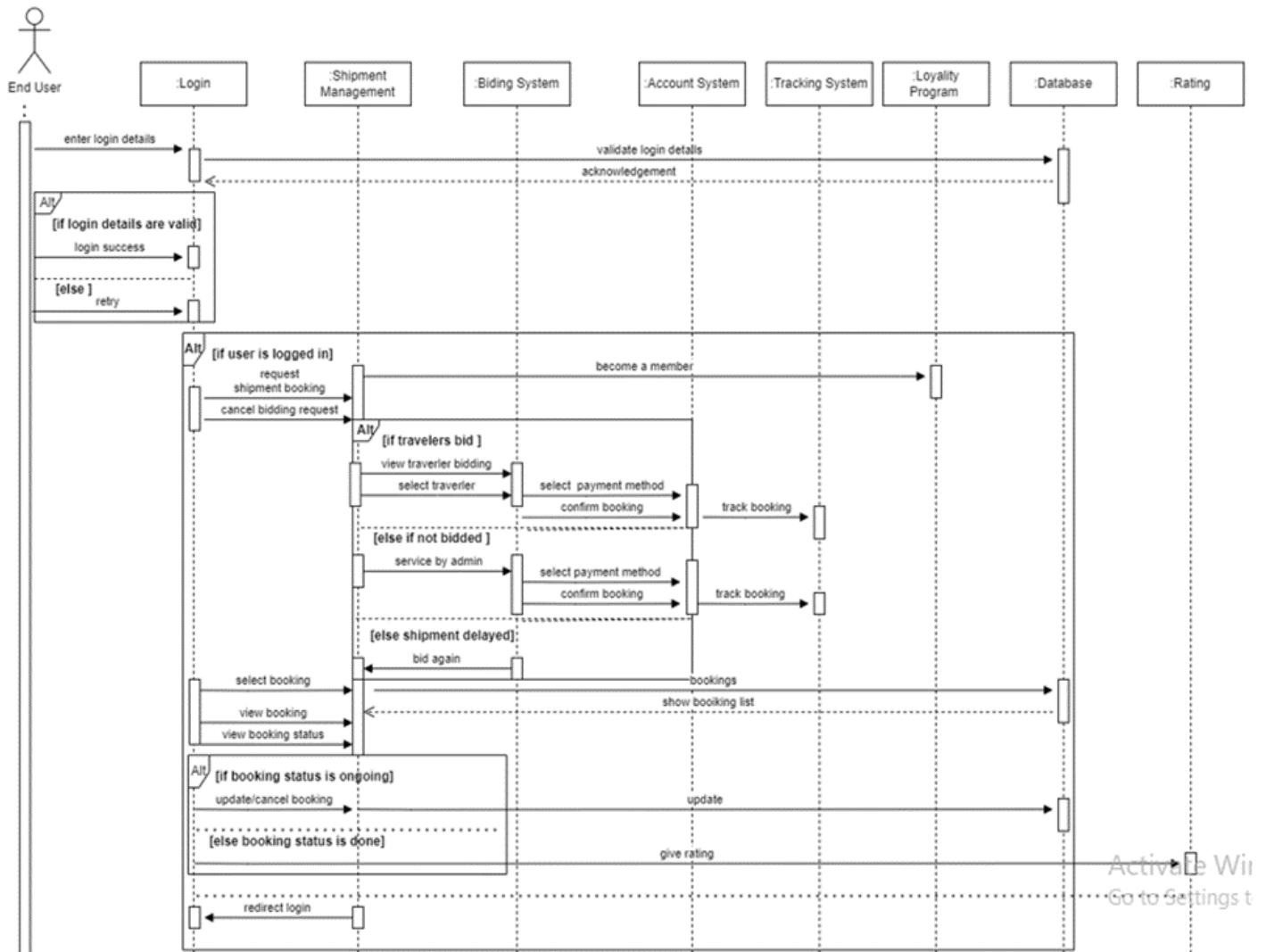


Fig 4.4.2.1 Good Shipment End User

Users, upon login, can seamlessly request shipment booking, view transporter bids, and select a transporter. Choosing a payment method confirms the shipment. If not logged in, users are redirected to login before initiating the booking request. In case a transporter isn't chosen, the admin handles it. Users can track ongoing bookings and, for such cases, update or cancel them. After completion, users can rate their experience.

- Good Shipment transporter

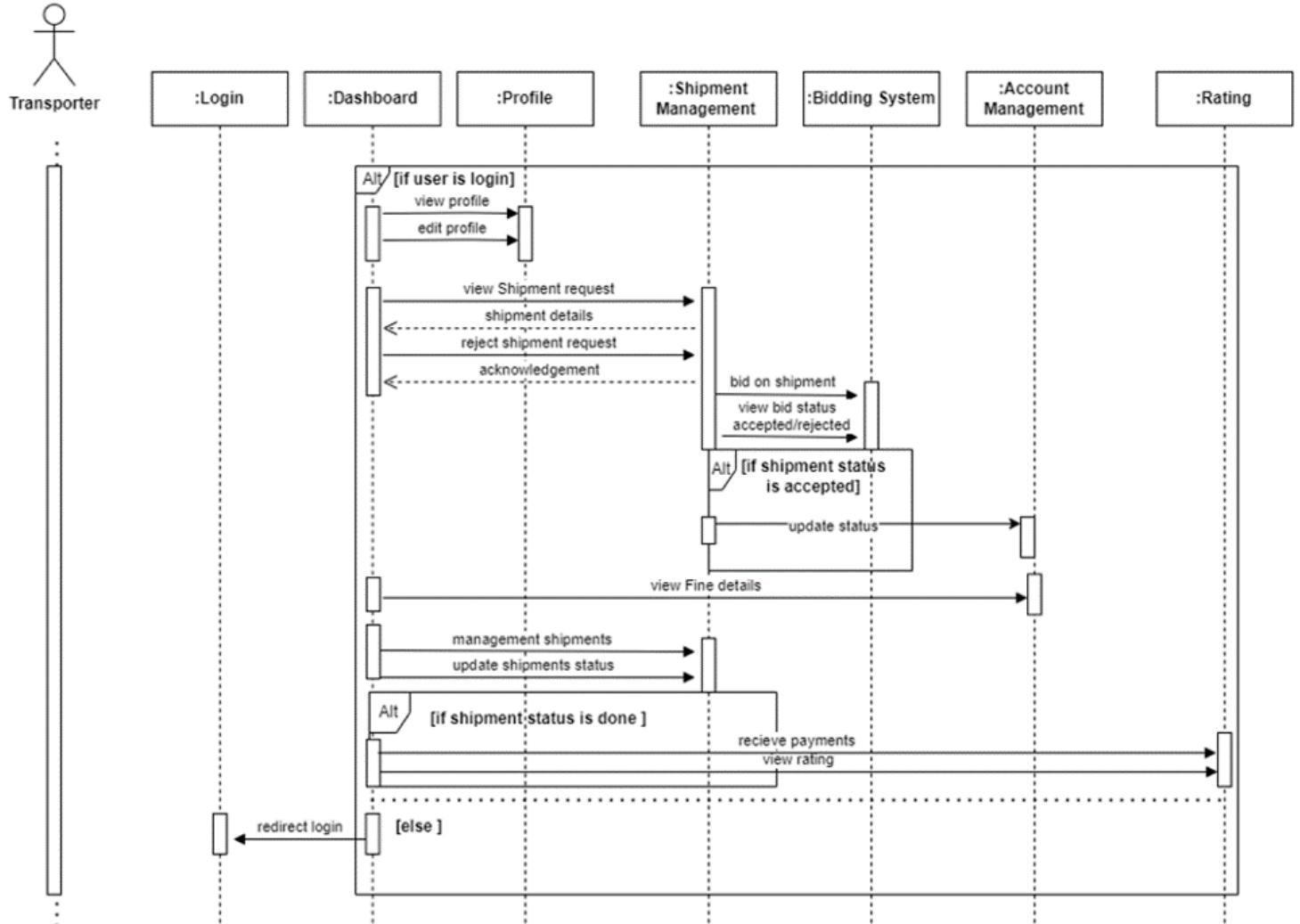


Fig 4.4.2.2 Good Shipment Transporter

When a transporter logs in, they access their personalized dashboard; if not logged in, they are redirected to the login page. Within their dashboard, transporters can view and edit their profiles. Shipment requests are visible, and they can either bid on or reject them. The bid status whether accepted or rejected is displayed. If a shipment is accepted, the transporter can update its status. Once a shipment is completed, they can receive payments and view ratings.

- Good Shipment driver

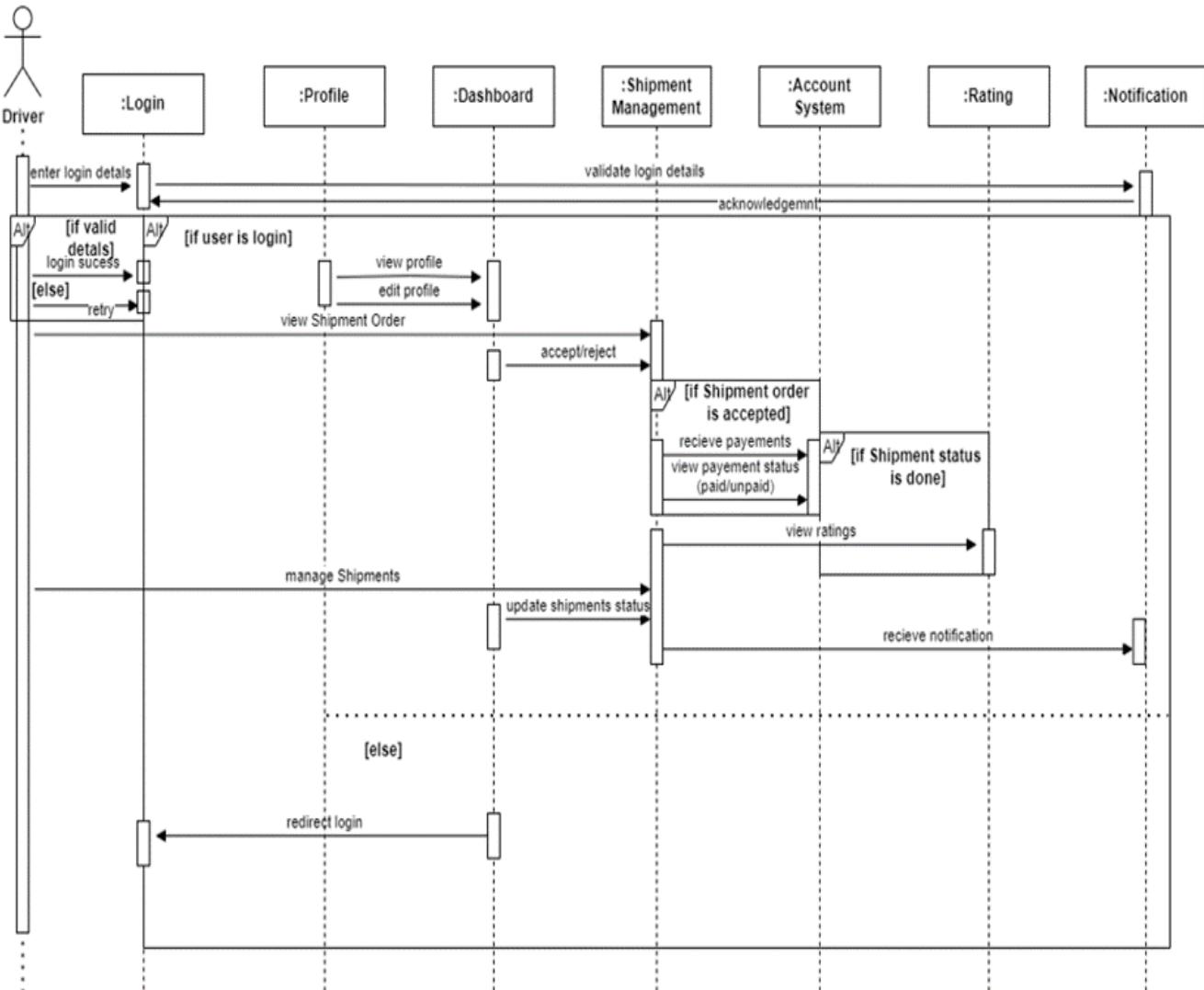


Fig 4.4.2.3 Good Shipment Driver

The drivers access a personalized dashboard after logging in. If not logged in, they are redirected to the login page. In his dashboard, driver can view and edit their profile. Shipment requests are visible, and he can accept or reject the requests. Accepted shipments allow driver to update the status. After completing a shipment, driver can receive payment and view ratings.

- Good Shipment admin

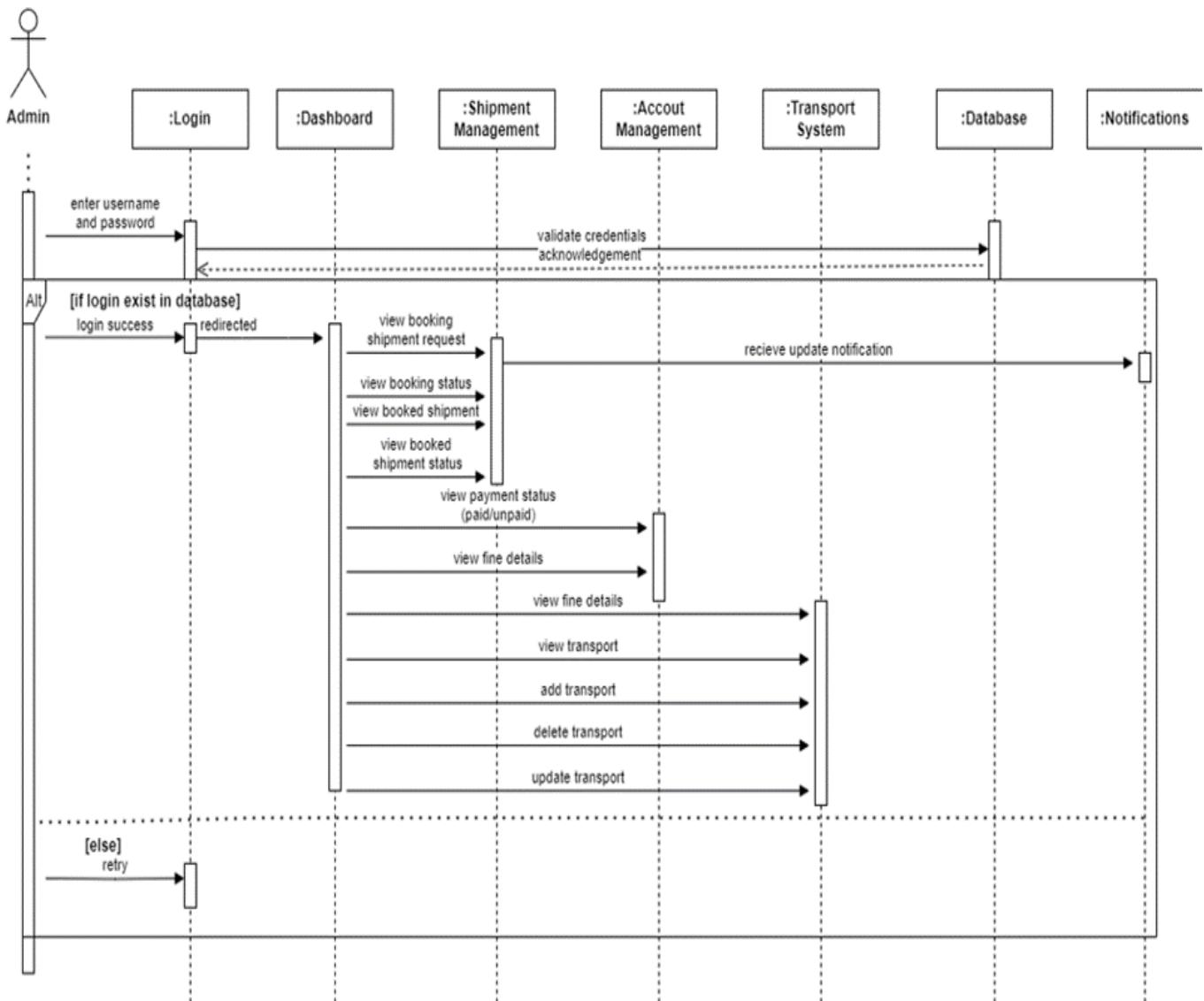


Fig 4.4.2.4 Good Shipment Admin

The admin enters login details, which are validated against the database. Upon a successful match, the admin logs in and gains access to a personalized dashboard. Within the dashboard, they can check booking status, view booked shipments and their statuses, inspect payment details, and review fines. The admin also has the authority to view, add, delete, and edit transport information. In case of invalid login details, the admin will retry.

4.4.3. Recreational Trip

- **Recreational Trip End User**

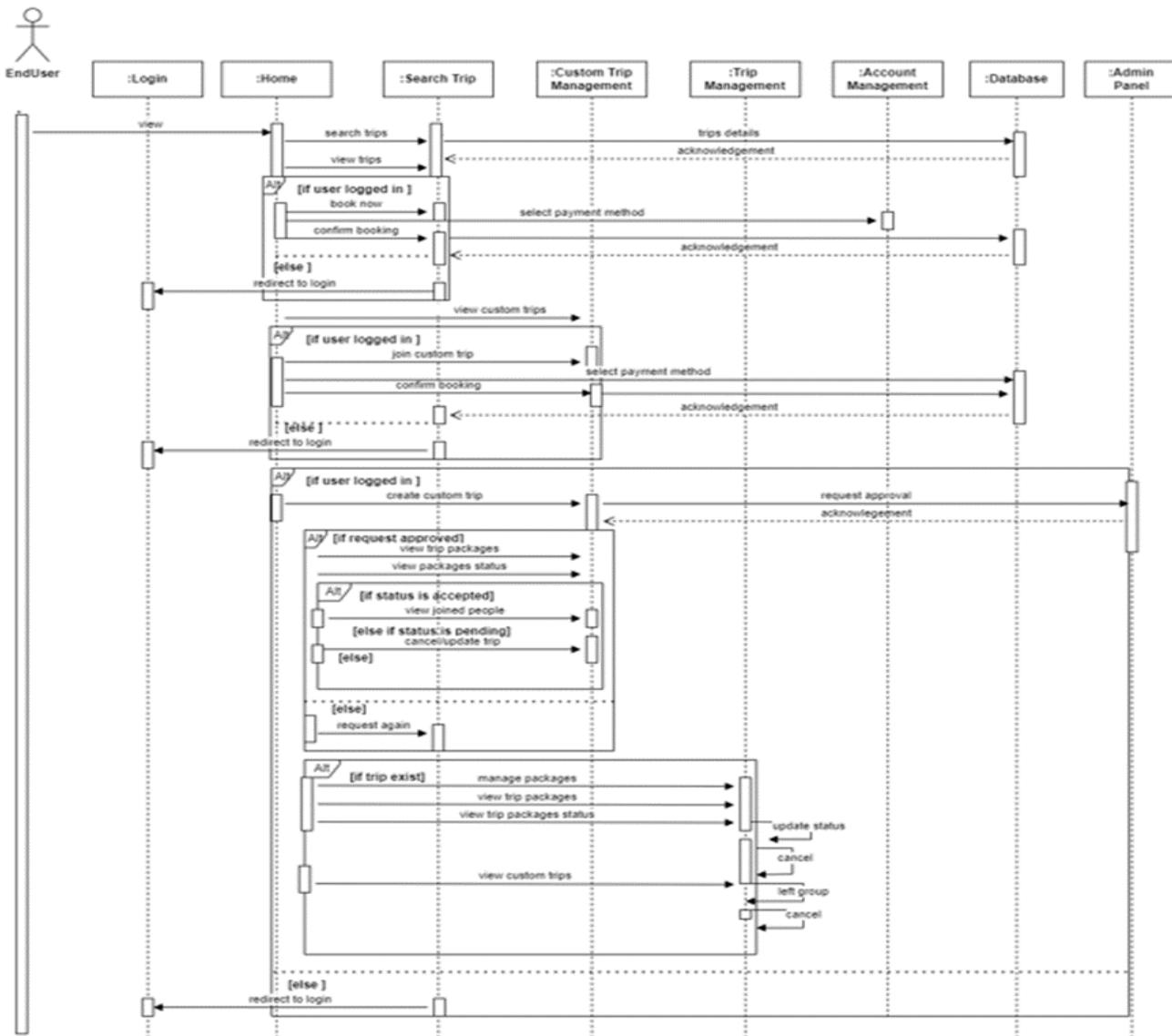


Fig 4.4.3.1 End User Recreational Trip

The user can view, search the trip. After logging in, the user can book, pay for, and review his trip. Additionally, user can join or create custom trips, request approval, view joined participants, and manage the status. For a self-created custom trip, user can update or cancel, and for joined trip, they can leave the group or cancel participation.

- **Recreational Trip admin**

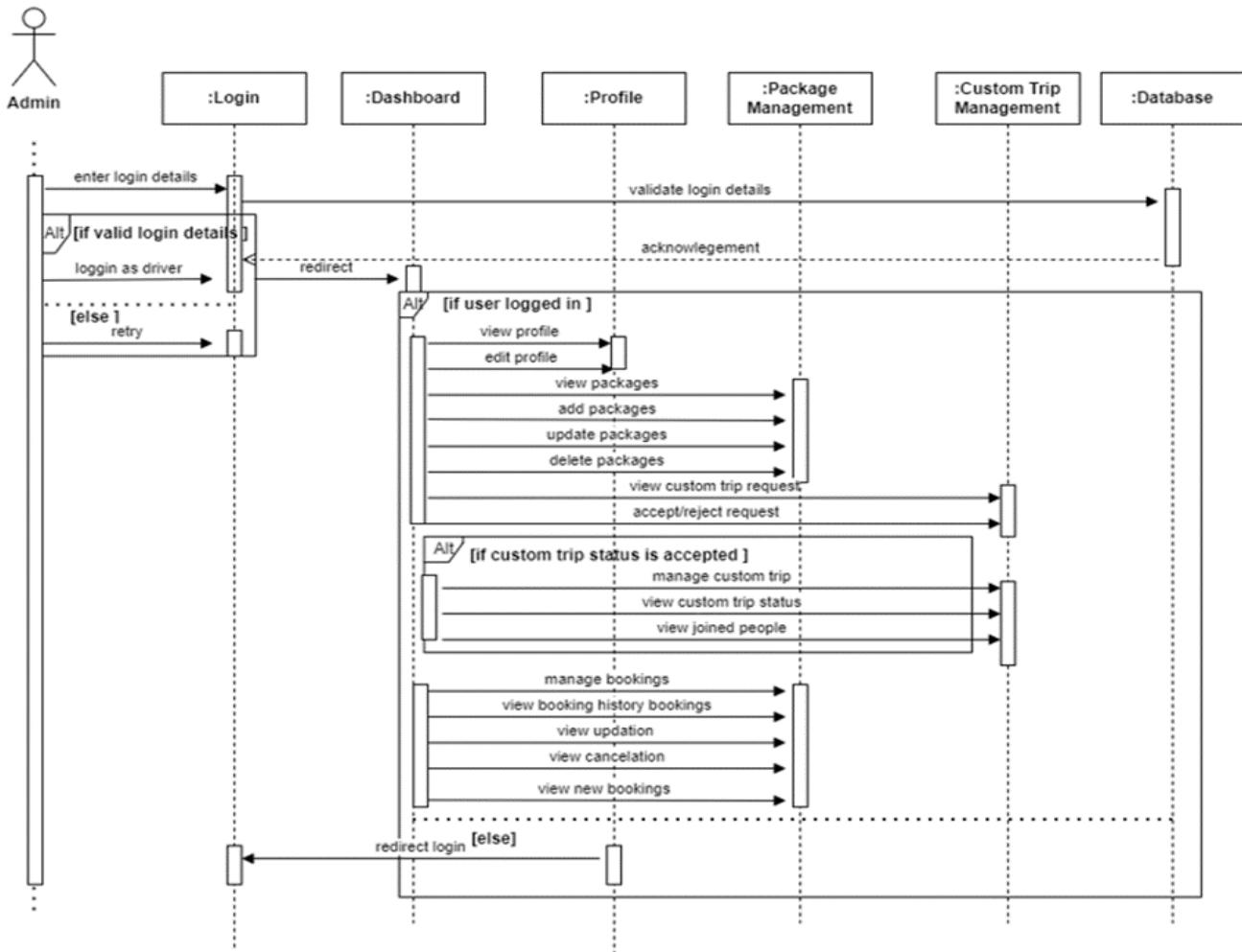


Fig 4.4.3.2 Admin Recreational Trip

The admin logs in after the successful validation of login details against the database and accesses a personalized dashboard. Within this dashboard, the admin can view and edit their profile, as well as manage packages by adding, updating, and deleting them. They have the authority to view, accept, or reject custom trip requests. Once a custom trip request is accepted, the admin can check the status and view the list of participants. Additionally, the admin is equipped to manage bookings, view booking history, and oversee updates, cancellations, and new bookings.

- **Recreational Trip driver**

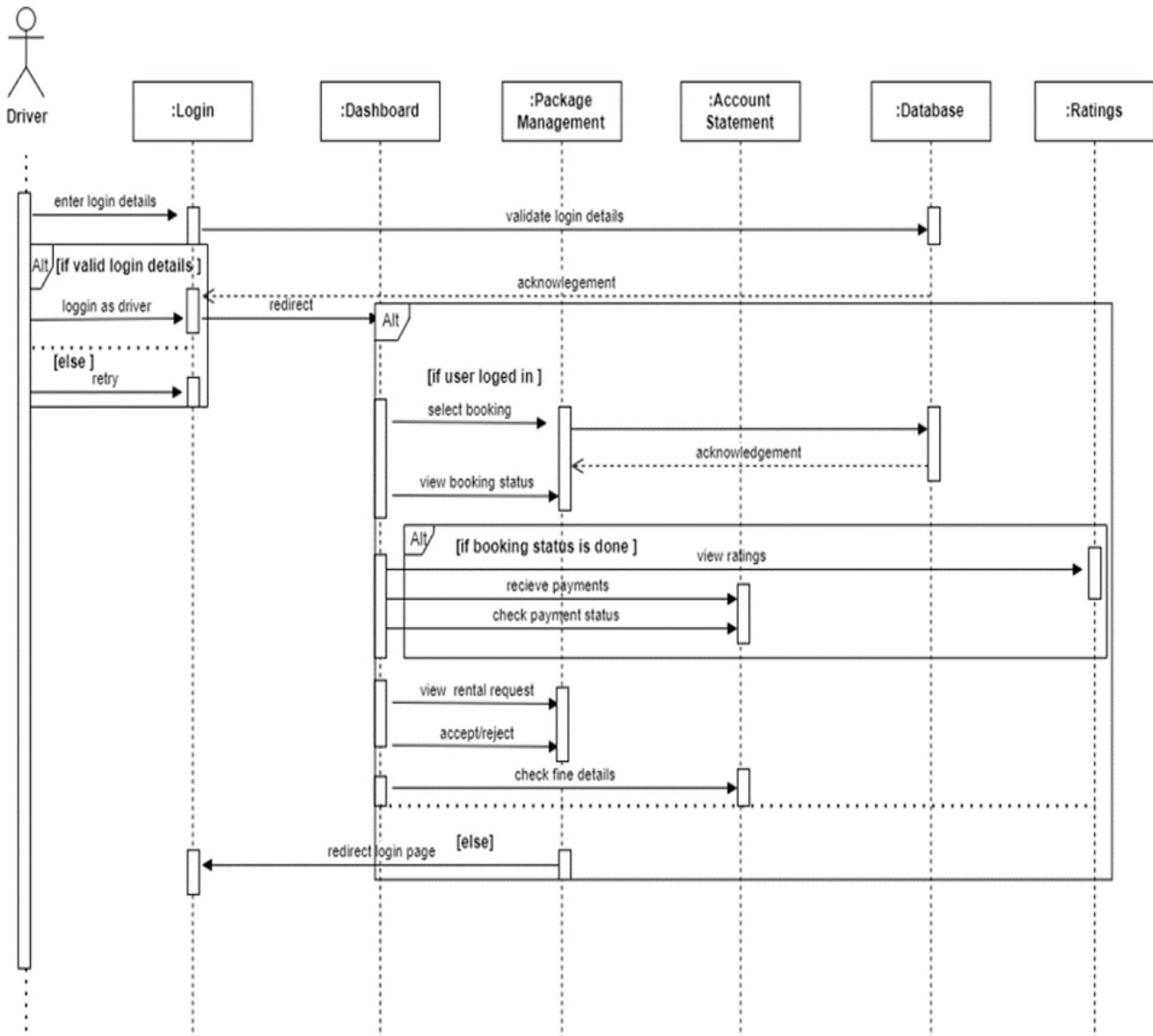


Fig 4.4.3.3 Driver Recreational Trip

The drivers access a personalized dashboard after logging in. If the driver is not logged in, he will be redirected to the login page. In his dashboard, rental requests are visible, and he can accept or reject the requests. The driver can also update the rental request status.. After completing a shipment, the driver can receive payment and view ratings. The driver can check fine details.

4.4.4. Parcel pickup

- Parcel pickup End User

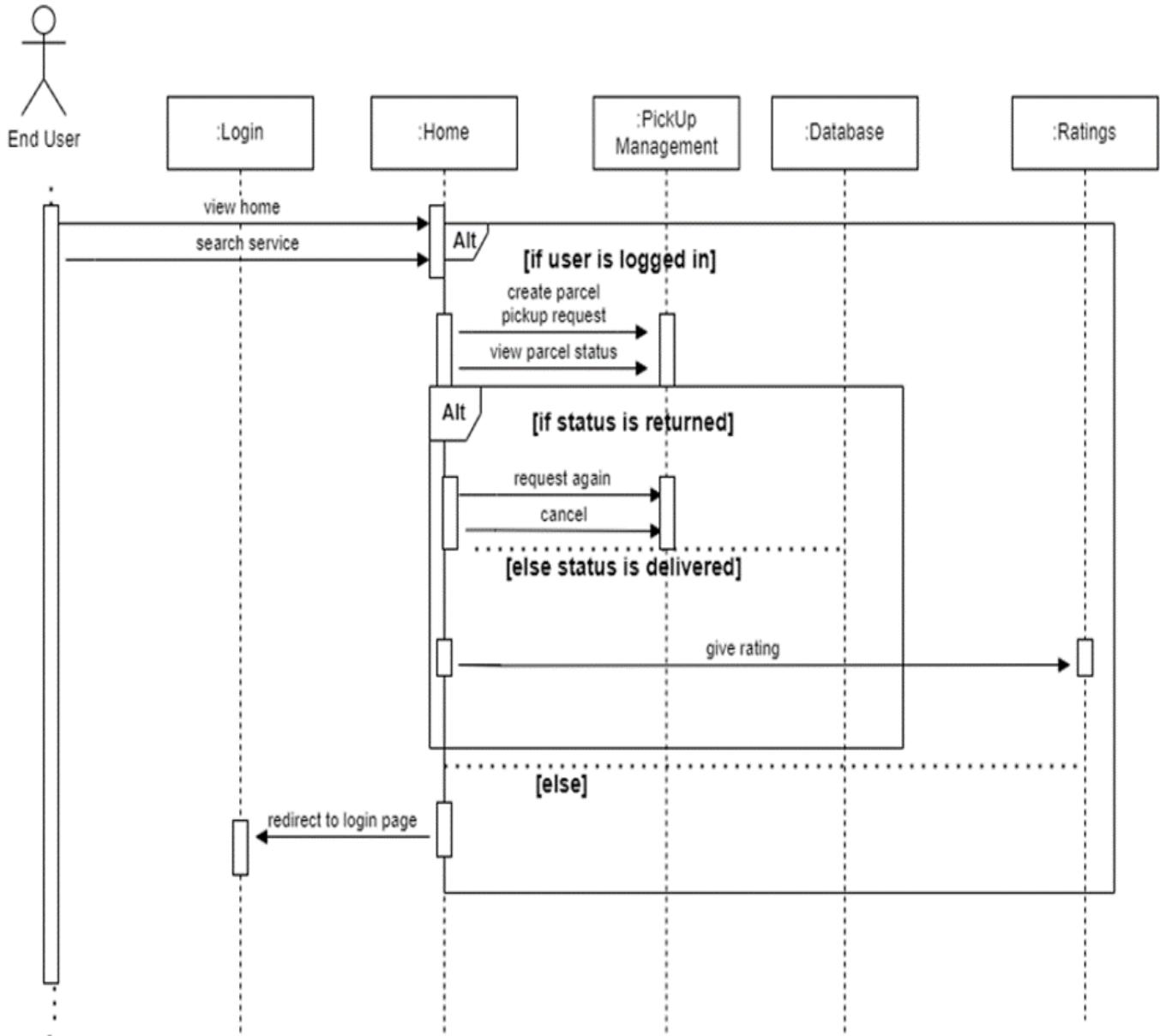


Fig 4.4.4.1 End User Parcel Pickup

The user can browse and search for pickup services. After logging in, he can create a parcel pickup request. Post-request, they can monitor the parcel status. If the status indicates a return, the user can choose to either request pickup again or cancel the request. In the case of a delivered status, the user can provide a rating.

- **Parcel pickup Pick-up boy**

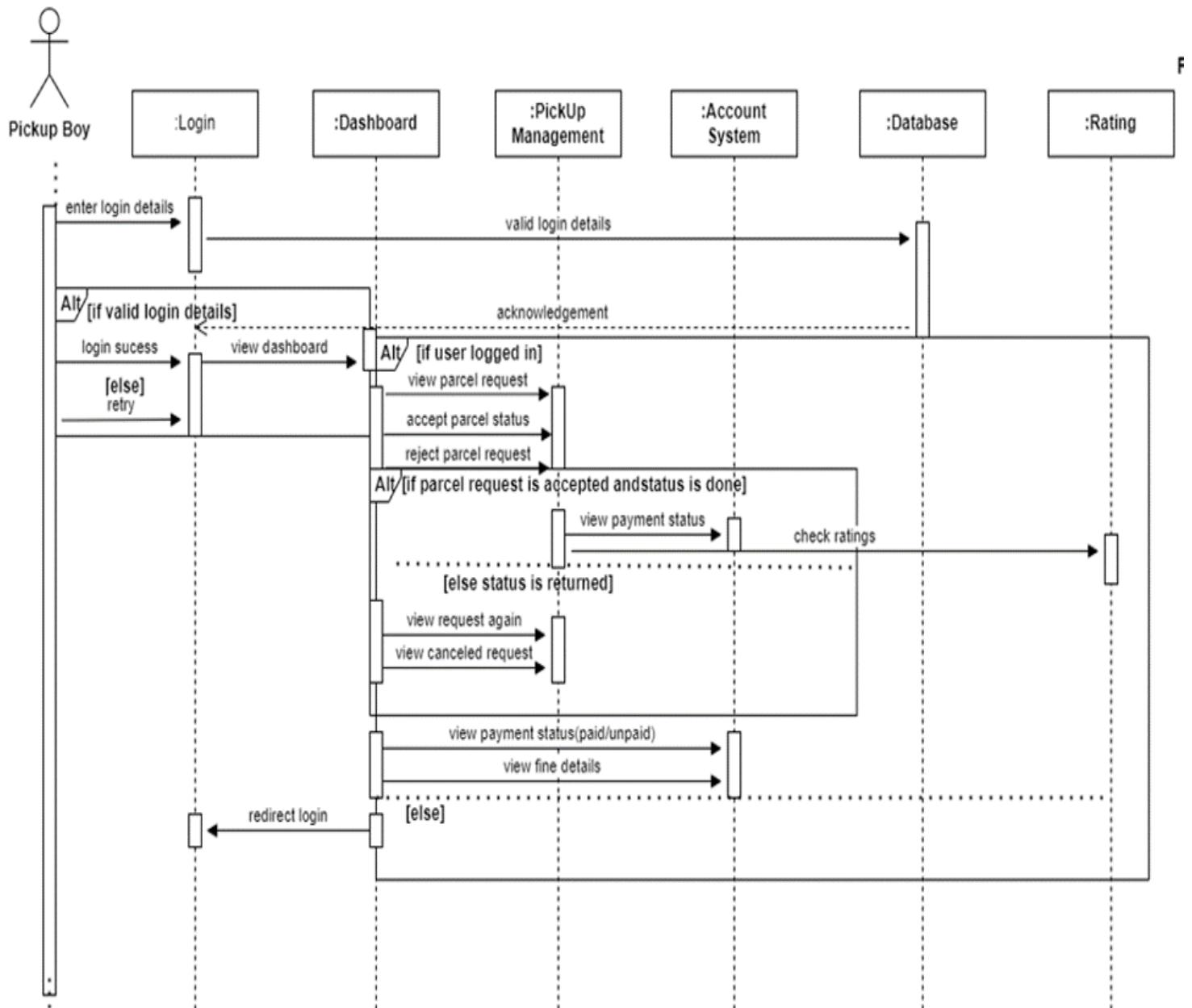


Fig 4.4.4.2 Pickup Boy Parcel Pickup

The pickup boy views parcel requests in a personalized dashboard, after login, accepting or rejecting them. He can update request status, receive payment, view ratings, and check fine details.

- **Parcel pickup Admin**

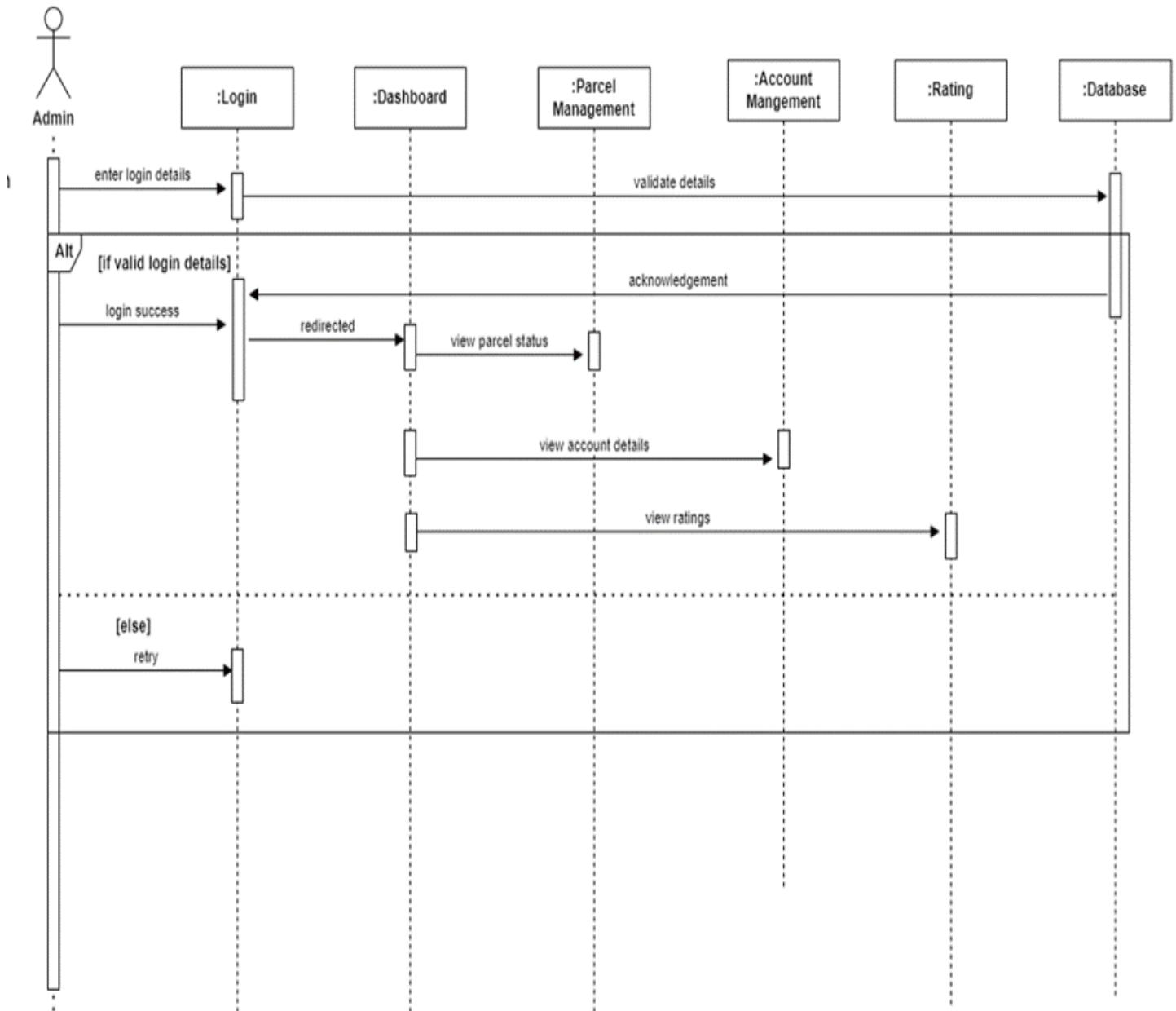


Fig 4.4.4.3 Admin Parcel Pickup

The admin logs in upon successful validation of login details against the database, and accesses a personalized dashboard. Within this dashboard, the admin can view parcel requests, check request statuses, view account details, and review ratings.

4.5 State Dynamics Viewpoint

- Transporter

Transporter

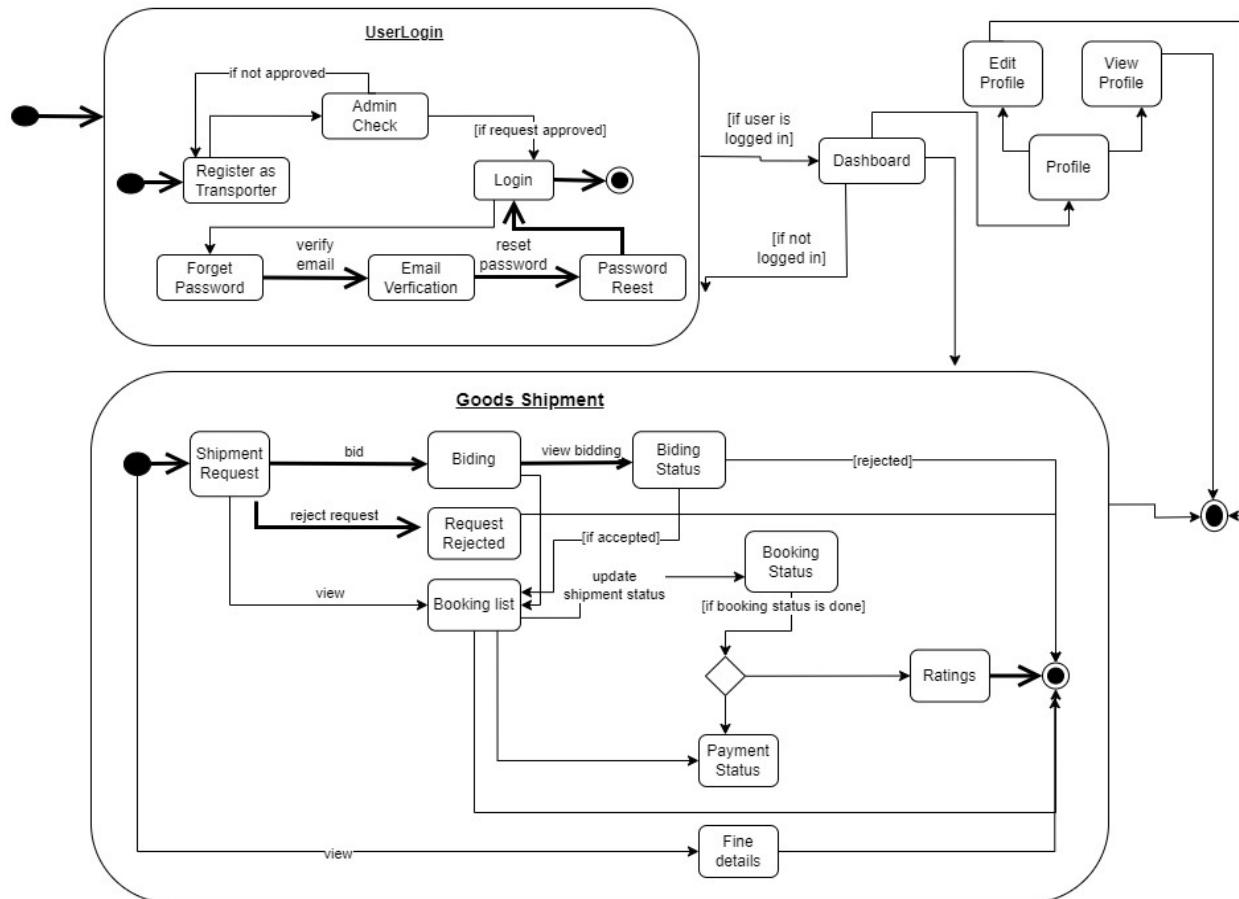


Fig 4.5.1 Transporter State Machine Diagram

The user begins by registering as a transporter, awaiting admin approval for login access. Once approved, the transporter logs in and navigates to the dashboard. Within the dashboard, they can edit and view their profile. In the goods shipment section, the transporter can view shipment requests and choose to bid or reject them. The bidding status, whether accepted or rejected, is visible. If accepted, the transporter can update the shipment status. After completing the shipment, they can receive payments, check payment status, view ratings, and inspect fine detail.

- Pickup boy

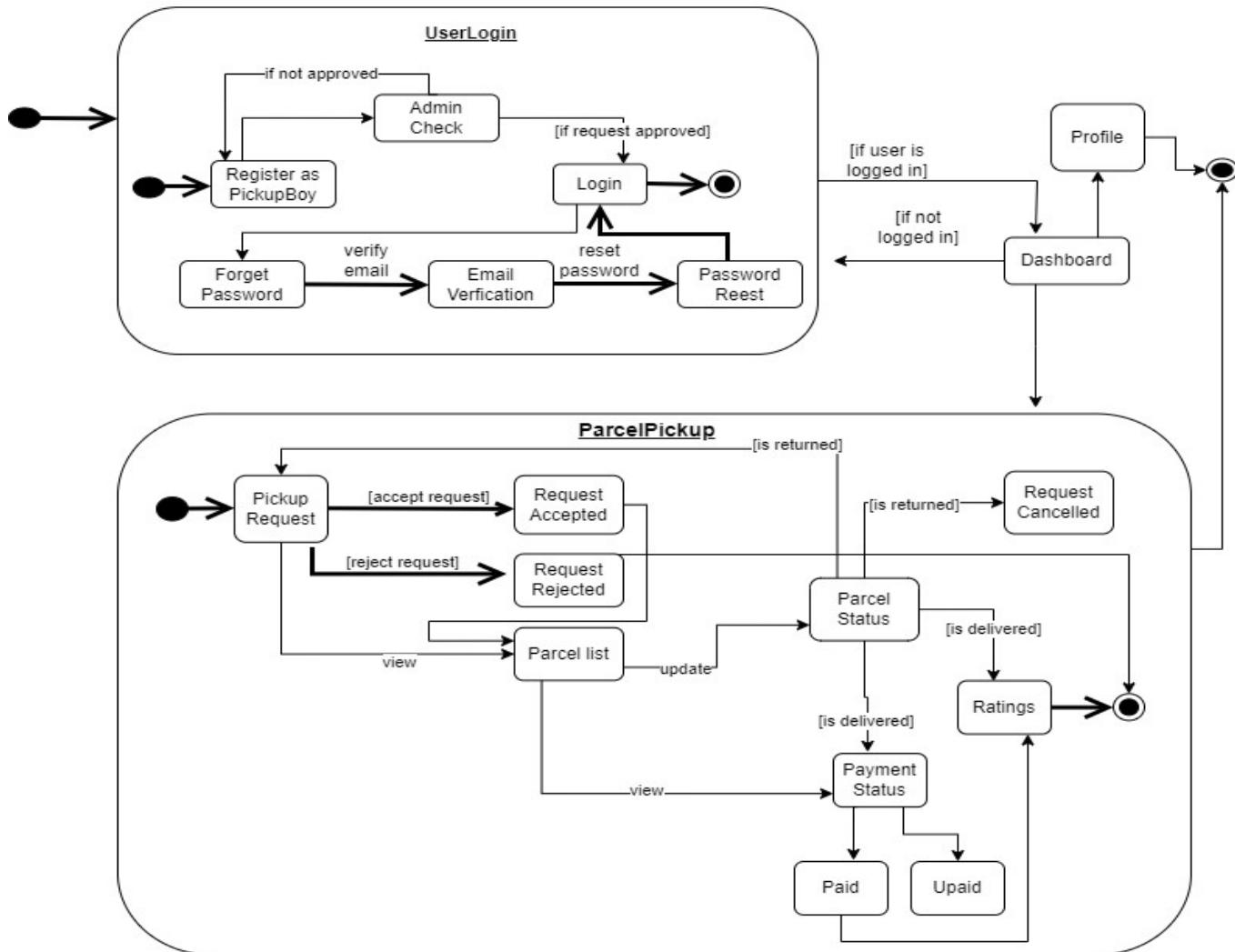
Pickup Boy

Fig 4.5.2 Pickup boy State machine Diagram

The user registers as a pickup boy and, upon admin approval, logs in. In the dashboard, they can view and respond to pickup requests. Accepted requests allow them to update parcel status, receive payment, and view ratings. Additionally, for accepted requests, they can update parcel status, check payment details, and view ratings and fine information after completion.

- Driver

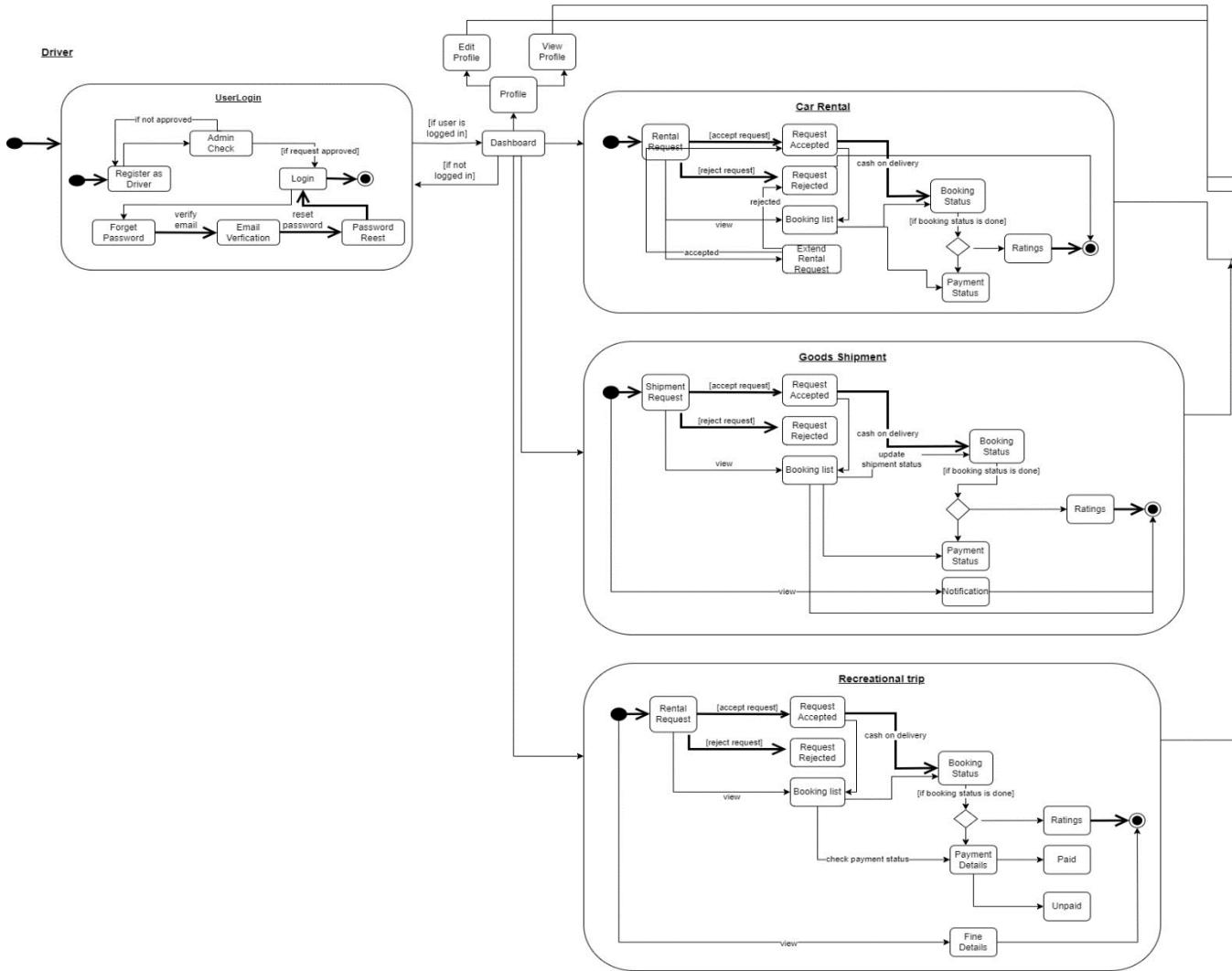


Fig 4.5.3 Driver State Machine Diagram

The user registers as a driver, obtains admin approval, and logs in. In the dashboard, they can edit and view their profile. For goods shipment, they view and respond to requests, update shipment status, and manage payments, ratings, and fines. In car rental and recreation trips, they view and respond to requests, update statuses, and handle payments, ratings, and fines. They can also manage extend car rental requests by accepting and rejecting them.

- End User

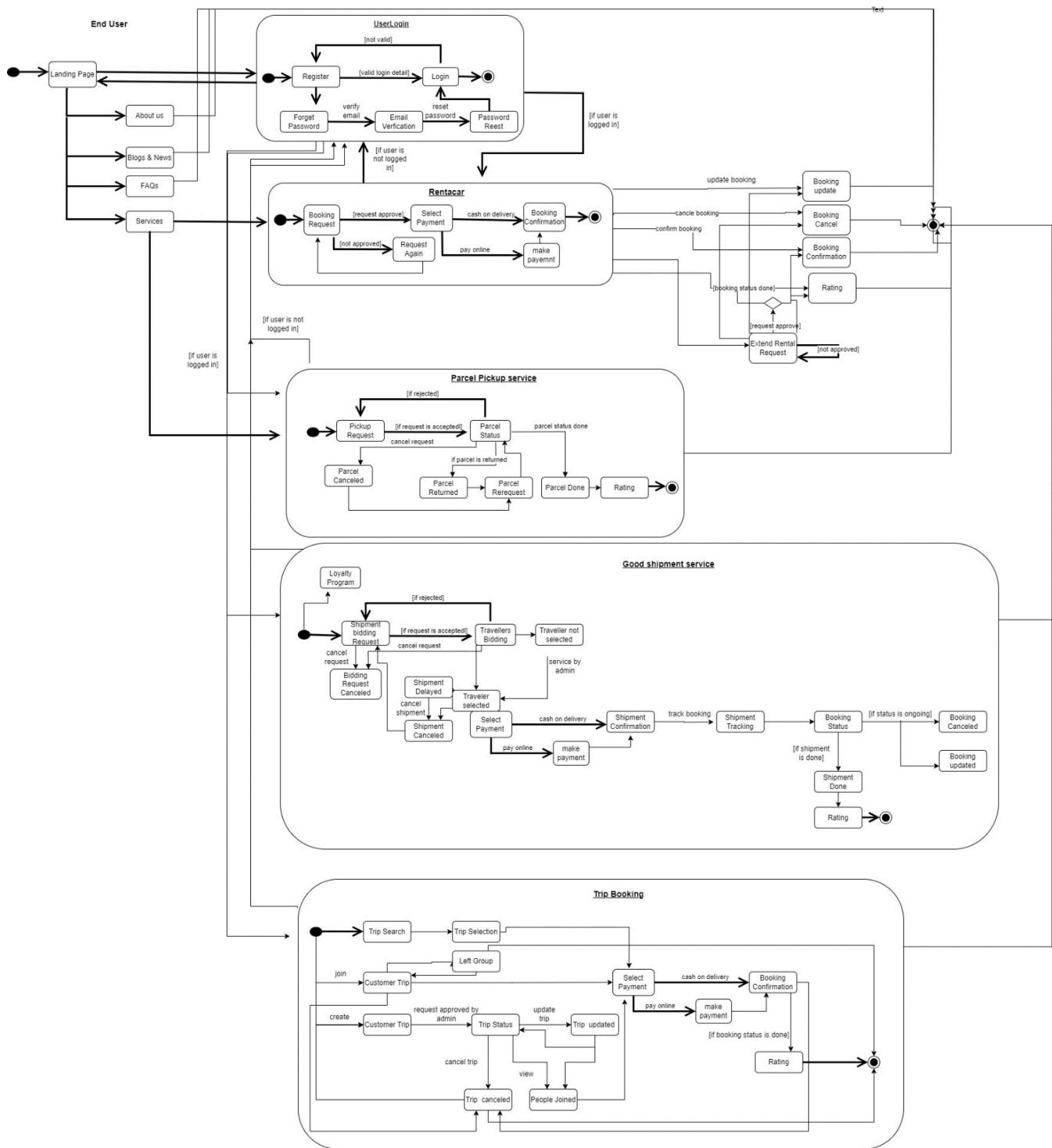


Fig 4.5.4 End User State Machine Diagram

The end user visits the landing page and proceeds to services. In car rental, login is required for creating booking requests. After logging in, users can create, update, or cancel bookings, and post-completion, provide a rating.

For pickup requests, login is necessary. Users can create a request, track parcel status, and rate upon completion.

In goods shipment, logging in is a prerequisite. Users create a shipment request, select a transporter, or have the admin choose one. After confirming the shipment, users can track it, view status, and rate upon completion.

In recreational trips, users search, select, and make payments for trips. They can rate after completion. For custom trips, users can create, update, or cancel trips upon admin approval and view joined participants.

- Admin

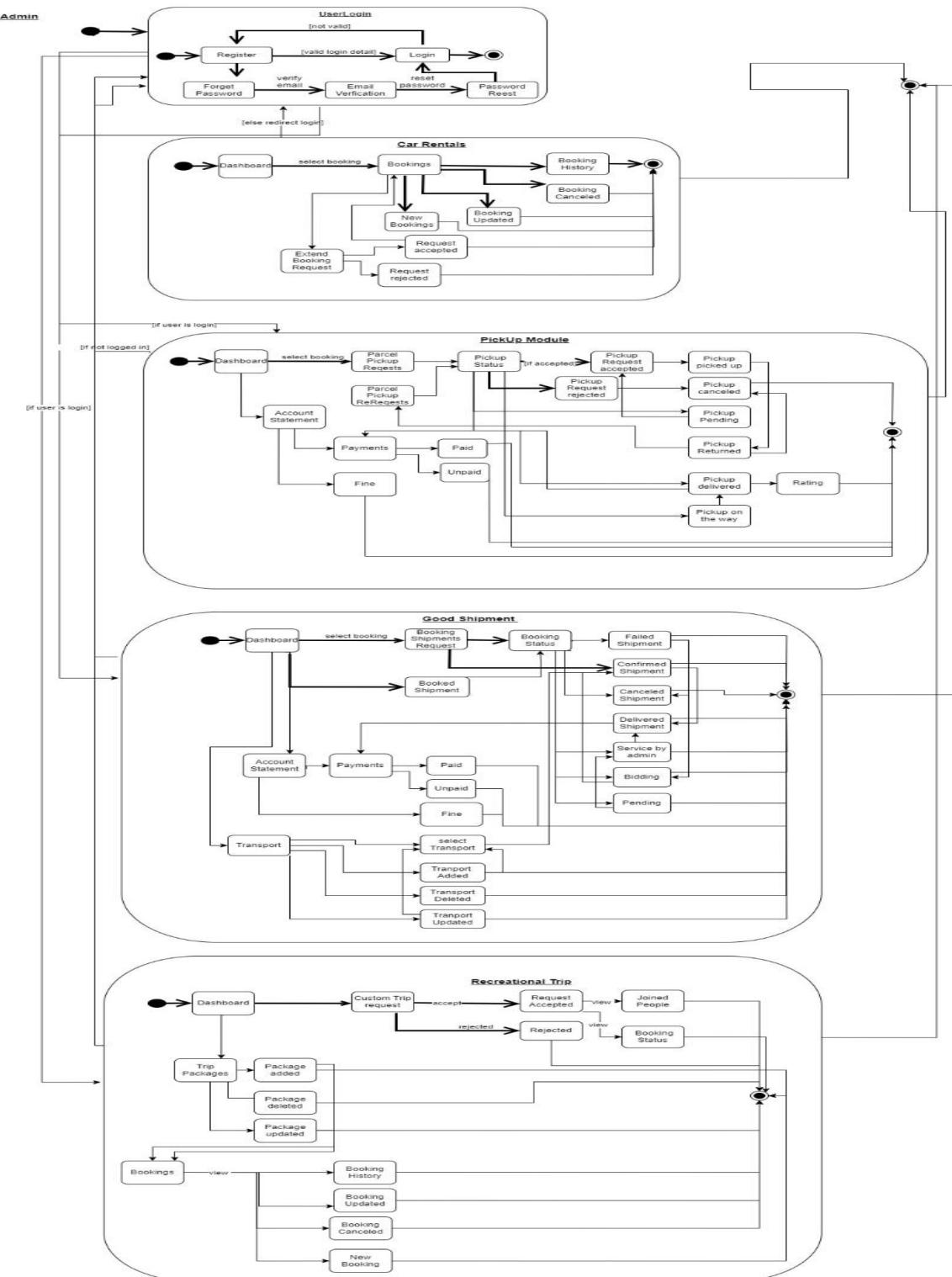


Fig 4.5.5 Admin State Machine Diagram

The admin logs into the system and accesses his dashboard. In the car rentals module, he reviews booking details. Within the pickup module, the admin can view the list of parcel requests, request details, statuses, account statements, and ratings.

For shipment booking, the admin can observe shipment requests, view shipments and their details, statuses, and account statements. Additionally, the admin can add, delete, and update transport information, as well as view fine details and ratings.

In the recreational trip module, the admin has the capability to add, delete, and update trip packages. They can review custom trip requests, approve, or reject them, and view bookings and their details, including statuses.

4.6 Algorithm Viewpoint

4.6.1 User Authentication and Registration:

Scenario	Input: Email	Input: Password	Action
Case 1	New email	Valid password	Register user, show success message
Case 2	Existing email	Valid password	Show error message: "Email already registered"
Case 3	Invalid email	Valid password	Show error message: "Invalid email format"
Case 4	New email	Invalid password	Show error message: "Password must meet requirements"
Case 5	Existing email	Invalid password	Show error message: "Incorrect password"

Case 6	Empty email	Valid password	Show error message: "Email is required"
Case 7	New email	Empty password	Show error message: "Password is required"
Case 8	Empty email	Empty password	Show error message: "Email and password are required"
Case 9	Admin email	Admin password	Allow Admin access, show Admin dashboard
Case 10	Invalid email	Admin password	Show error message: "Invalid email format"
Case 11	Admin email	Invalid password	Show error message: "Incorrect password"

4.6.2 Services:

Scenario	Input: Service Type	Action
Case 1	Car Rentals	Show available car rental options
Case 2	Trip Packages	Show available trip packages
Case 3	Goods Shipment	Show information on shipping services

Case 4	Parcel Pickup	Show details on parcel pickup services
Case 5	Invalid Service Type	Show error message: "Invalid service type"

4.6.3 Subscribe offers:

Scenario	Input: Subscribe Offer	Input: Email	Action
Case 1	Weekly Newsletter	Valid email	Subscribe to weekly newsletter, show confirmation message
Case 2	Monthly Specials	Valid email	Subscribe to monthly specials, show confirmation message
Case 3	Exclusive Deals	Valid email	Subscribe to exclusive deals, show confirmation message
Case 4	Invalid Offer	Valid email	Show error message: "Invalid subscribe offer"
Case 5	Valid Offer	Invalid email	Show error message: "Invalid email format"
Case 6	Weekly Newsletter	Empty email	Show error message: "Email is required"

Case 7	Empty Offer	Valid email	Show error message: "Subscribe offer is required"
Case 8	Empty Offer	Empty email	Show error message: "Subscribe offer and email are required"

4.6.4 Profile:

Scenario	Input: User Type	Input: Action	Action
Case 1	Driver	View Profile	Show driver's profile
Case 2	Transporter	View Profile	Show transporter's profile
Case 3	Pickup Boy	View Profile	Show pickup boy's profile
Case 4	End-User	View Profile	Show end-user's profile
Case 5	Admin	View Profile	Show admin's profile
Case 6	Driver	Update Profile	Allow driver to update profile
Case 7	Transporter	Update Profile	Allow transporter to update profile
Case 8	Pickup Boy	Update Profile	Allow pickup boy to update profile
Case 9	End-User	Update Profile	Allow end-user to update profile

Case 10	Admin	Update Profile	Allow admin to update profile
Case 11	Invalid User Type	Any Action	Show error message: "Invalid user type"
Case 12	Any User Type	Invalid Action	Show error message: "Invalid action"

4.6.5 Career:

Scenario	Input: User Type	Input: Career Request	Input: Test Result	Action
Case 1	Driver	Send Registration	Pass	Admin accepts driver registration
Case 2	Driver	Send Registration	Fail	Admin rejects driver registration
Case 3	Transporter	Send Registration	Pass	Admin accepts transporter registration
Case 4	Transporter	Send Registration	Fail	Admin rejects transporter registration
Case 5	Pickup Boy	Send Registration	Pass	Admin accepts pickup boy registration
Case 6	Pickup Boy	Send Registration	Fail	Admin rejects pickup boy registration

Case 7	End-User	Send Registration	Any	Show error message: "Invalid user type"
Case 8	Driver	Invalid Request	Any	Show error message: "Invalid request"
Case 9	Any User Type	Send Registration	Invalid	Show error message: "Invalid test result"

4.6.6 Car Rentals Booking:

Scenario	Action	Input: Pickup Location	Input: Return Location	Input: Pickup Date	Input: Return Date	Input: Upgrade Option	Action
Case 1	Search Cars	Valid	Valid	Valid	Valid	Any	Show available cars based on search criteria
Case 2	Search Cars	Invalid	Valid	Valid	Valid	Any	Show error message: "Invalid pickup location"

Case 3	Search Cars	Valid	Invalid	Valid	Valid	Any	Show error message: "Invalid return location"
Case 4	Search Cars	Valid	Valid	Invalid	Valid	Any	Show error message: "Invalid pickup date"
Case 5	Search Cars	Valid	Valid	Valid	Invalid	Any	Show error message: "Invalid return date"
Case 6	Select Upgrade	Any	Any	Any	Any	Valid Upgrade Option	Apply selected upgrade option
Case 7	Confirm Booking (After Login)	Any	Any	Any	Any	Any	Confirm booking for the selected car

Case 8	Confirm Booking (Not Logged In)	Any	Any	Any	Any	Any	Show error message: "Login required"
--------	------------------------------------	-----	-----	-----	-----	-----	-----------------------------------------

4.6.7 Receipt:

Scenario	Input: Action	Input: Booking	Action
		Status	
Case 1	Request Receipt	Booking Confirmed	Generate and send receipt
Case 2	Request Receipt	Booking Pending	Show message: "Booking pending, receipt not available yet"
Case 3	Request Receipt	Booking Canceled	Show message: "Booking canceled, no receipt available"
Case 4	Request Receipt	No Booking	Show message: "No booking found, receipt not available"

4.6.8 Extend Car rental:

Scenario	Input: User Type	Input: Action	Input: Booking Status	Action
Case 1	End-User	Request Extension	Booking Confirmed	Notify Admin of extension request
Case 2	Driver	View Extension Requests	Extended Request Pending	Show list of pending extension requests
Case 3	Driver	Accept Extension Request	Extended Request Pending	Extend booking, notify End-User
Case 4	Driver	Reject Extension Request	Extended Request Pending	Notify Admin of rejection, request reassigned
Case 5	Admin	View Extension Requests	Extended Request Pending	Show list of pending extension requests
Case 6	Admin	Resend Request to Other Drivers	Rejected by Driver	Resend extension request to other Drivers
Case 7	Admin	Resend Request to Other Drivers	Accepted by Driver	Notify End-User of extended booking
Case 8	Admin	Resend Request to Other Drivers	No Pending Requests	Show message: "No pending extension requests"

4.6.9 Goods Shipment Booking:

Scenario	Input: Action	Input: Shipment Status	Action
Case 1	Book Shipment (After Login)	Any	Initiate shipment booking, show confirmation
Case 2	View Shipment Status	Cancelled	Show status: "Shipment Cancelled"
Case 3	View Shipment Status	Pending	Show status: "Shipment Pending"
Case 4	View Shipment Status	Bidding	Show status: "Bidding in progress"
Case 5	View Shipment Status	Delayed Shipment	Show status: "Shipment Delayed"
Case 6	Accept Booking	Shipment Pending	Accept booking, notify admin
Case 7	Cancel Booking	Shipment Pending	Cancel booking, notify admin
Case 8	Confirm Booking	Shipment Bidding	Confirm booking after successful bidding

Case 9	Confirm Shipment Booking	Any	Show error message: "Invalid action for the current status"
--------	--------------------------	-----	-------------------------------------------------------------

4.6.10 Bidding

Scenario	Input: User Type	Input: Action	Input: Shipment Status	Action
Case 1	User	Create Bidding Request	Any	Initiate bidding request, show confirmation
Case 2	Transporter	View Shipment Bids	Bidding	Show list of available shipment bids
Case 3	Transporter	Bid on Shipment	Bidding	Place a bid on the shipment, show confirmation
Case 4	Transporter	Reject Shipment Bid	Bidding	Reject a bid, show confirmation
Case 5	User	Select Bidder	Bidding	Confirm selection of a bid, show confirmation
Case 6	User	Select Bidder	Not in Bidding	Show error message: "No active bids available"

Case 7	Transporter	View Shipment Bids	Not in Bidding	Show message: "No active bids available"
Case 8	Any	Invalid Action	Any	Show error message: "Invalid action for the current status"

4.6.11 Notification:

Scenario	Input: Recipient	Input: Notification Type	Input: Booking Status	Input: Delay in Service Request	Action
Case 1	User	Delay in Service Request	Any	Yes	Send notification: "Service request delayed, admin intervention in progress"
Case 2	User	Delay in Service Request	Any	No	Send notification: "Service request delayed"
Case 3	User	Extended Car Request Status	Any	Any	Send notification: "Extended car request - [Status]"

Case 4	User	Booking Update	Any	Any	Send notification: "Booking updated - [Status]"
Case 5	Driver	Booking Update	Any	Any	Send notification: "Booking updated - [Status]"
Case 6	Admin	Booking Update	Any	Any	Send notification: "Booking updated - [Status]"
Case 7	Admin	Delay in Service Request Resolution	Any	No	Send notification: "Service request delay resolved by admin"
Case 8	Admin	Delay in Service Request Resolution	Any	Yes	Send notification: "Service request delay unresolved, admin intervention required"
Case 9	Any	Invalid Notification Type	Any	Any	Show error message: "Invalid notification type"

4.6.12 Tracking:

Scenario	Input: User Type	Input: Tracking Type	Action
Case 1	User	Shipment Tracking	Show real-time GPS tracking for the shipment
Case 2	Admin	Car Tracking	Show real-time GPS tracking for the cars
Case 3	Admin	Shipment Tracking	Show real-time GPS tracking for the shipment
Case 4	Driver	Shipment Tracking	Show real-time GPS tracking for the shipment
Case 5	Any	Invalid Tracking Type	Show error message: "Invalid tracking type"

4.6.13 Trip Packages

Scenario	Input: Action	Input: User Type	Input: Package Category	Input: Location	Input: Date	Action
Case 1	Explore Trip Packages	Any	Any	Any	Any	Show list of available trip packages

Case 2	Select Package Category	Any	Family	Any	Any	Show family trip packages
Case 3	Select Package Category	Any	Group	Any	Any	Show group trip packages
Case 4	Select Package Category	Any	Individual	Any	Any	Show individual trip packages
Case 5	Select Package Category	Any	Custom	Any	Any	Show custom trip packages
Case 6	Search Family Trip Packages	Any	Family	Valid Location	Any	Show family trip packages based on location
Case 7	Search Group Trip Packages	Any	Group	Valid Location	Valid Date	Show group trip packages based on location and date

Case 8	Search Individual Trip Packages	Any	Individual	Valid Location	Valid Date	Show individual trip packages based on location and date
Case 9	View Trip Packages	Any	Any	Any	Any	Show details of the selected trip package
Case 10	Book Trip Package (After Login)	Any	Any	Any	Any	Initiate booking for the selected trip package
Case 11	Confirm Booking for Trip Package	Any	Any	Any	Any	Confirm booking for the selected trip package
Case 12	Any Invalid Action	Any	Any	Any	Any	Show error message: "Invalid action for the current status"

4.6.14 Custom Trip

Scenario	Input: Action	Input: User Type	Input: Request Status	Action
Case 1	Request Custom Trip Package	Any	Any	Initiate request, show confirmation
Case 2	View Custom Trip Packages	Any	Any	Show list of available custom trip packages
Case 3	Join Custom Trip Package	Any	Open	Join the custom trip package, show confirmation
Case 4	Confirm Booking for Custom Trip	Any	Open	Confirm booking for the custom trip package
Case 5	Update Custom Trip Package	User	Open	Update details of the custom trip package
Case 6	Delete Custom Trip Package	User	Open	Delete the custom trip package, show confirmation
Case 7	Leave Custom Trip Package	User	Open	Leave the custom trip package, show confirmation
Case 8	Admin Accepts Custom Trip Request	Admin	Pending	Accept the custom trip request, show confirmation

Case 9	Admin Rejects Custom Trip Request	Admin	Pending	Reject the custom trip request, show confirmation
Case 10	Any Invalid Action	Any	Any	Show error message: "Invalid action for the current status"

4.6.15 Parcel Pickup

Scenario	Input: Action	Input: User Type	Input: Request Status	Action
Case 1	Create Parcel Request	User	Any	Initiate request, show confirmation
Case 2	View Parcel Requests (Pickup-boy)	Pickup-boy	Any	Show list of available parcel requests
Case 3	Accept Parcel Request	Pickup-boy	Open	Accept the parcel request, show confirmation
Case 4	Reject Parcel Request	Pickup-boy	Open	Reject the parcel request, show confirmation
Case 5	Track Distance of Parcel Request	Pickup-boy	In Progress	Show real-time distance tracking for the request

Case 6	View Parcel Requests (Admin)	Admin	Any	Show list of all parcel requests
Case 7	Any Invalid Action	Any	Any	Show error message: "Invalid action for the current status"

4.6.16 Loyalty Program

Scenario	Input: Action	User Type	Input: Subscription Package	Action
Case 1	Select Loyalty Program	User	Any	Show Loyalty Program options
Case 2	Fill Loyalty Program Form	User	Any	Initiate Loyalty Program form, show confirmation
Case 3	Choose Subscription Package	User	One Month / Six Months / One Year	Show corresponding discounts and options
Case 4	Become Member After Payment	User	Any	Process payment, grant membership, show confirmation

Case 5	Resubscribe Package Before Expiration	User	Any	Renew subscription, show confirmation
Case 6	User Fails to Resubscribe in Time	User	Expired Membership	Remove membership, show expiration notice
Case 7	Admin Manages Loyalty Programs	Admin	Any	Access Loyalty Program management options
Case 8	Admin Views Loyalty Members	Admin	Any	View list of loyalty program members
Case 9	Any Invalid Action	Any	Any	Show error message: "Invalid action for the current status"

4.6.17 Payment

Scenario	Input: Action	Input: User Type	Input: Payment Method	Action
Case 1	Make Payment	User	Cash-in-hand / EasyPaisa / Bank Transfer	Process payment, show confirmation

Case 2	View Fine for Failed Shipments	Admin	Any	Show list of fines for failed shipments
Case 3	Manage Payments	Admin	Any	Access payment management options
Case 4	View Paid and Unpaid Payments	Admin	Any	Show list of paid and unpaid payments
Case 5	Calculate Driver's Fare	System	Any	Automatically calculate driver's fare
Case 6	Any Action	Invalid	Any	Show error message: "Invalid action for the current status"

4.6.18 Rating:

Scenario	Input: Action	Input: User Type	Input: Service Type (Car, Trip, Shipment, Parcel)	Action
Case 1	Give Rating for Car Booking	User	Car	Submit rating, show confirmation

Case 2	Give Rating for Trip Package	User	Trip	Submit rating, show confirmation
Case 3	Give Rating for Shipment Service	User	Shipment	Submit rating, show confirmation
Case 4	Give Rating for Delivered Parcel	User	Parcel	Submit rating, show confirmation
Case 5	View Ratings for Done Rentals (Driver)	Driver	Car	View ratings for done car rentals, if available
Case 6	View Ratings for Transporter	Transporter	Shipment	View ratings for the transporter, if available
Case 7	View Ratings for Delivered Parcel (Pickup Boy)	Pickup Boy	Parcel	View ratings for delivered parcel, if available
Case 8	View Ratings of All Types by Users (Admin)	Admin	Any	View ratings for all types (Driver's, Parcel Pickup, Transporter's), if available
Case 9	Any Invalid Action	Any	Any	Show error message: "Invalid action for the current status"

4.6.19 Driver's Request

Scenario	Input: Action	Input: User Type	Input: Request Status	Action
Case 1	Receive Booking Request	Driver	Pending	Show notification for the booking request
Case 2	Accept Booking Request	Driver	Pending	Accept the booking request, show confirmation
Case 3	Reject Booking Request	Driver	Pending	Reject the booking request, show confirmation
Case 4	View Accepted Bookings	Driver	Accepted	Show list of accepted bookings
Case 5	View Rejected Bookings	Driver	Rejected	Show list of rejected bookings
Case 6	Any Invalid Action	Any	Any	Show error message: "Invalid action for the current status"

4.6.20 Manage Bookings

- Manage Trip Packages Bookings:

Scenario	Input: User Action	Input: User Type	Action
Case 1	View Trip Package Bookings	User	Show list of all trip package bookings
Case 2	View Booking History	User	Show history of trip package bookings
Case 3	View Updated User Details	Admin	Show updates in user details for trip package bookings
Case 4	View Canceled Users	Admin	Show users who canceled trip package bookings
Case 5	View New Trip Packages Bookings	Admin	Show new trip package bookings
Case 6	View Custom Trip Packages	User	Show approved custom trip packages
Case 7	Update Custom Trip Packages	User	Update details of custom trip packages after admin approval
Case 8	Delete Custom Trip Packages	User	Delete custom trip packages
Case 9	View Joined Custom Trip Users	User	Show users who joined custom trip packages

Case 10	View Custom Trip Requests	Admin	Show pending custom trip package requests for approval
Case 11	Manage Custom Trip Packages	Admin	Approve or reject custom trip package requests
Case 12	View New Packages Added	Admin	Show newly added trip packages

- **Manage Car Rental Bookings:**

Scenario	Input: User Action	Input: User Type	Action
Case 1	View Car Rental Bookings	User	Show list of all car rental bookings
Case 2	View Booking History	User	Show history of car rental bookings
Case 3	View Updated User Details	Admin	Show updates in user details for car rentals
Case 4	View Canceled Users	Admin	Show users who canceled car rentals
Case 5	View Admin Car Bookings	Admin	Show all car rental bookings managed by admin

- **Manage Shipment Bookings:**

Scenario	Input: User Action	Input: Type	User Action
Case 1	View Shipment Bookings	User	Show list of all shipment bookings
Case 2	View Booking History	User	Show history of shipment bookings
Case 3	View Updated User Details	Admin	Show updates in user details for shipments
Case 4	View Canceled Users	Admin	Show users who canceled shipments
Case 5	View New Shipment Bookings	Admin	Show new shipment bookings
Case 6	View Serviced Shipments	Admin	Show shipments serviced by admin
Case 7	View Bidden Shipments	Admin	Show status of bidden shipments
Case 8	View Failed Shipments	Admin	Show status of failed shipments

- Manage Parcel Bookings:

Scenario	Input: User Action	Input: User Type	Action
Case 1	View Parcel Bookings	User	Show list of all parcel bookings
Case 2	View Booking History	User	Show history of parcel bookings
Case 3	View Updated User Details	Admin	Show updates in user details for parcels
Case 4	View Canceled Users	Admin	Show users who canceled parcel bookings
Case 5	View Parcel Status	User	Show status of parcels
Case 6	Update Parcel Status	Pickup Boy	Update status of parcels (accept, pending, etc.)
Case 7	View Returned Parcel Status	User	Show status of returned parcels
Case 8	Request Again or Cancel Parcel	User	Request or cancel returned parcels

- **View Records:**

Scenario	Input: User Action	Input: User Type	Action

Case 1	View Driver Records	Admin	Show list of driver records
Case 2	View Transporter Records	Admin	Show list of transporter records
Case 3	View Pickup Boy Records	Admin	Show list of pickup boy records

- **Manage All Services:**

Scenario	Input: User Action	Input: User Type	Action
Case 1	Manage All Services	Admin	Access to manage all services (car rentals, trip packages, good shipment, parcel pickup)

- **Cancel Delayed Shipment Booking:**

Scenario	Input: User Action	Input: User Type	Action
Case 1	Cancel Delayed Shipment Booking	User	Cancel the delayed shipment booking
Case 2	Rebid for Delayed Shipment	User	Place a new bid for the delayed shipment

4.6.21 Account statements

Scenario	Input: User Action	Input: User Type	Action
Case 1	View Account Statements	Driver	Show account statements for the driver
Case 2	View Account Statements	Transporter	Show account statements for the transporter
Case 3	View Account Statements	Pickup Boy	Show account statements for the pickup boy
Case 4	View Account Statements	Admin	Show account statements for the admin
Case 5	View Paid/Unpaid Payments	Driver	Show list of paid and unpaid payments for the driver
Case 6	View Paid/Unpaid Payments	Transporter	Show list of paid and unpaid payments for the transporter
Case 7	View Paid/Unpaid Payments	Pickup Boy	Show list of paid and unpaid payments for the pickup boy
Case 8	View Paid/Unpaid Payments	Admin	Show list of paid and unpaid payments for the admin
Case 9	View Fine for Cancelled Bookings	Driver	Show fine details for cancelled bookings for the driver

Case 10	View Fine for Cancelled Bookings	Transporter	Show fine details for cancelled bookings for the transporter
Case 11	View Fine for Cancelled Bookings	Pickup Boy	Show fine details for cancelled bookings for the pickup boy
Case 12	View Fine for Cancelled Bookings	Admin	Show fine details for cancelled bookings for the admin
Case 13	Manage Account Statements	Admin	Access to manage account statements for all users

4.6.22 Manage Salaries

Scenario	Input: User Action	Input: User Type	Action
Case 1	Manage Salaries	Admin	Access to manage salaries

4.6.23 Manage Users

Scenario	Input: User Action	Input: User Type	Action
Case 1	Manage Users	Admin	Access to manage users

4.6.24 Manage Employees

Scenario	Input: User Action	Input: User Type	Action
Case 1	Manage Employees	Admin	Access to manage employees
Case 2	Call for Interview	Admin	Initiate the interview process
Case 3	Update Interview Progress	Admin	Update the interview progress

4.6.25 Manage Transport

Scenario	Input: User Action	Input: User Type	Action
Case 1	Select Transport	Admin	Choose transport for shipment service
Case 2	Manage Transport	Admin	Access to manage transport
Case 3	Add Transport	Admin	Add a new transport entry
Case 4	View Transport	Admin	View the list of available transports
Case 5	Update Transport	Admin	Modify details of an existing transport
Case 6	Delete Transport	Admin	Remove a transport entry

Case 7	View Status	Transport	Admin	Check the status (reserved, free) of transport
--------	-------------	-----------	-------	------------------------------------------------