Software Design Specification

for

Online Petrol Delivery System

Version 2.0

Group No. : 6

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
SDS in Part 2	Nur Iman binti Mohamad Idros	System Overview	14/01/25
SDS in Part 2	Tan Jie Ting	Use Cases	14/01/25
SDS in Part 2	Tan Jie Ting	Sequence Diagram	14/01/25
SDS in Part 2	Maryam binti Norazman, Nur Iman binti Mohamad Idros	Data Design	14/01/25
SDS in Part 2	Nur Iman binti Mohamad Idros, Maryam binti Norazman	Architecture Design	14/01/25
SDS in Part 2	Maryam binti Norazman	Interface Design	14/01/25
SDS in Part 2	Nur Iman binti Mohamad Idros	Component Design	14/01/25
SDS in Part 2	Nur Iman binti Mohamad Idros	Deployment Design	14/01/25
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1 System Overview

1.1 Description

The Online Petrol Delivery System is designed to improve fuel delivery services for individuals, businesses, and industries. It has four primary customers: Admin, Customer, Driver, and Supplier, each have a distinct role in this system. The system facilitates customer and driver registration with authentication to ensure safety and reliability. Customers can compare petrol prices based on delivery distance and volume, as well as evaluate delivery times across available drivers to make informed decisions. Once orders are placed, the system verifies petrol and delivery purchases, enabling real-time tracking to ensure customers have full visibility over their orders. Additionally, customers can cancel orders and receive refunds, adding convenience to the service.

The system has efficient inventory management by keeping track of petrol stock levels and ensuring steady supply to meet demand from customer. The supplier also responsible for providing petrol pricing data so that customer would be able to have a fast and well updated pricing data. Admins oversee the entire operation so that the system can runs smoothly without causing issue. Drivers can confirm completion, providing a seamless end-to-end service. The system outputs include registered customer and driver accounts, price and delivery time comparisons, authenticated transactions, real-time tracking updates, inventory status, and order cancellation with refunds. By combining convenience, transparency, and efficiency, the Online Petrol Delivery System ensures a reliable and customer-centric fuel delivery experience.

1.2 Actors

Actor	Use Case
Customer	1. Registration 2. Login 3. Profile management 4. Place order and order confirmation 5. Make payment 6. Delivery 7. Track order
Driver	1. Registration and authentication 2. Delivery 3. Track order
Admin	1. Driver registration and authentication 2. Refund management 3. Profile management
Supplier	1. Place order and order confirmation 2. Delivery 3. Update pricing data and stock inventory

1.3 Assumptions and Dependencies

The system assumes the availability of reliable third-party APIs, such as payment gateways as this is critical for smooth operation. If these APIs become unavailable and unreliable the system's functionality and customer experience could be negatively impacted. Additionally, stable internet connectivity is presumed for all customers, drivers, suppliers and administrators. Poor or inconsistent internet connections could lessen the system's performance, hinder real-time tracking, and reduce customer satisfaction. Another important assumption is hardware and device compatibility. Customers, drivers, suppliers and administrators will have access to devices capable of running the application or web interface. If customers rely on incompatible or outdated devices, it could severely affect system performance or prevent the system from functioning on the device.

The system also has key dependencies that influence its operation. It relies on secure and efficient payment gateway services, such as FPX Net, to handle transactions. Furthermore, the system is heavily reliant on the availability of drivers and suppliers. Any shortage or lack of availability in these roles could disrupt operations and lessen the system's ability to meet customer demands effectively.

1.4 Use Case Diagram

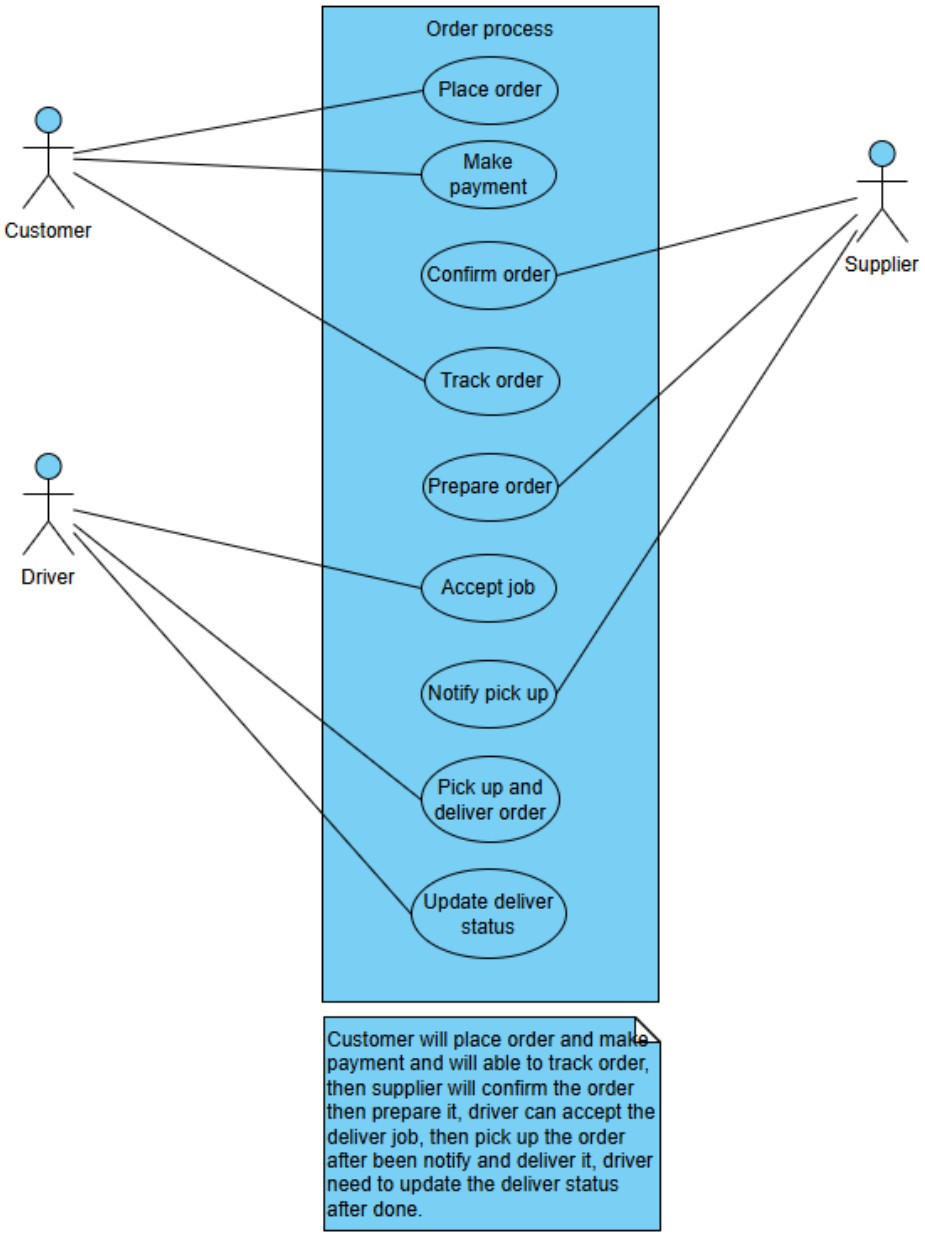


Figure 1.1: General order process

2 Use Cases

2.1 Use Case Diagram

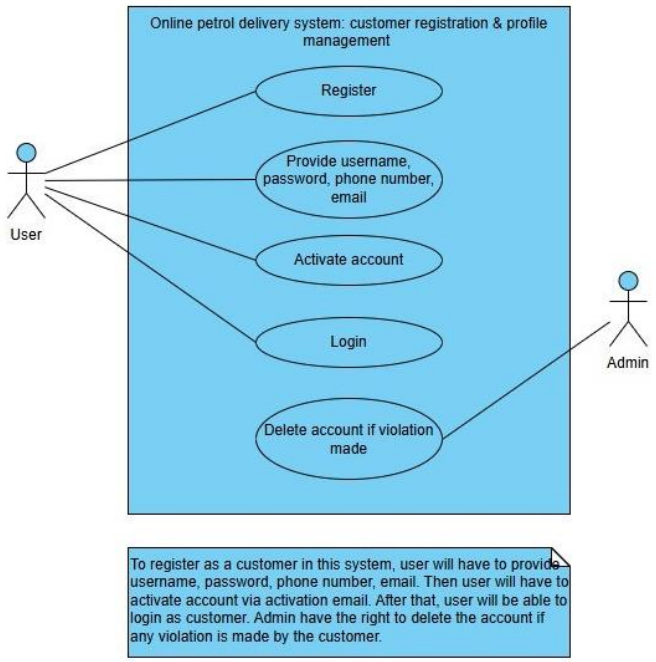


Figure 2.1 Customer Registration and profile management

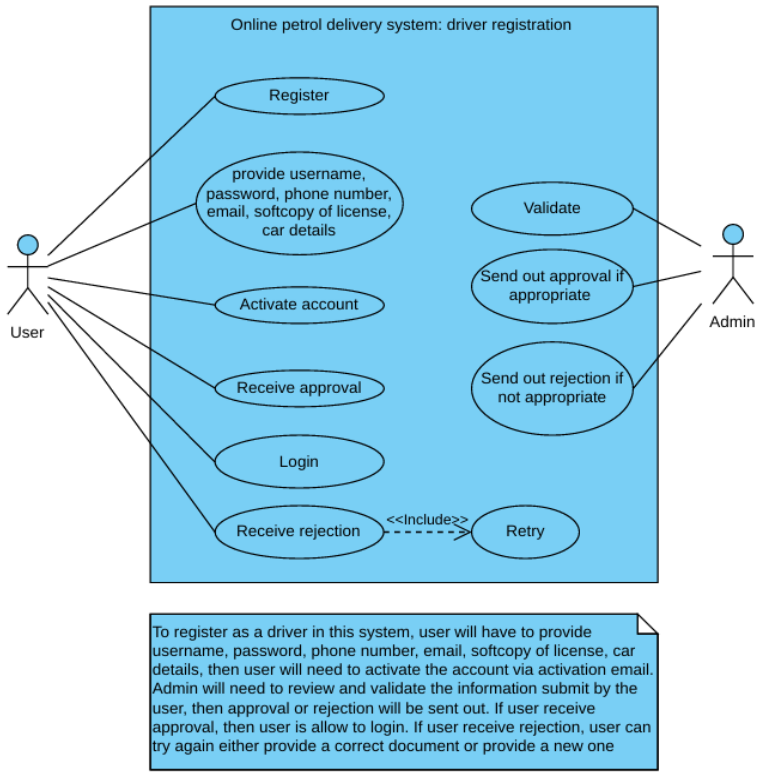


Figure 2.2 Driver Registration

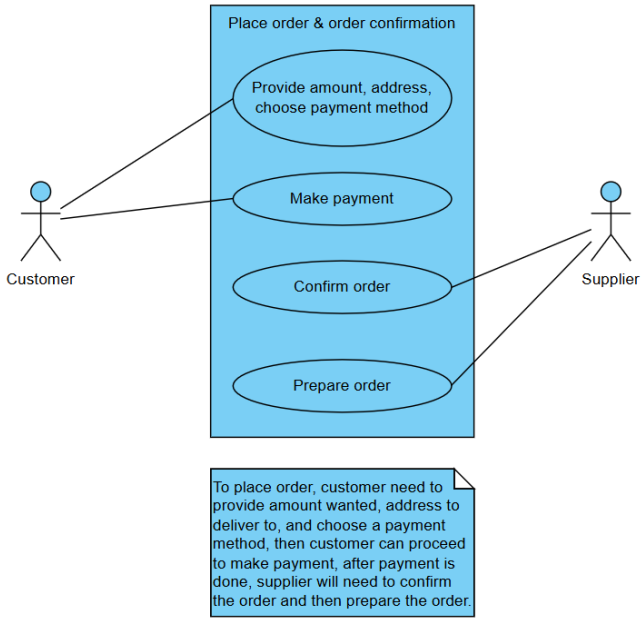


Figure 2.3 Order Placement and confirmation

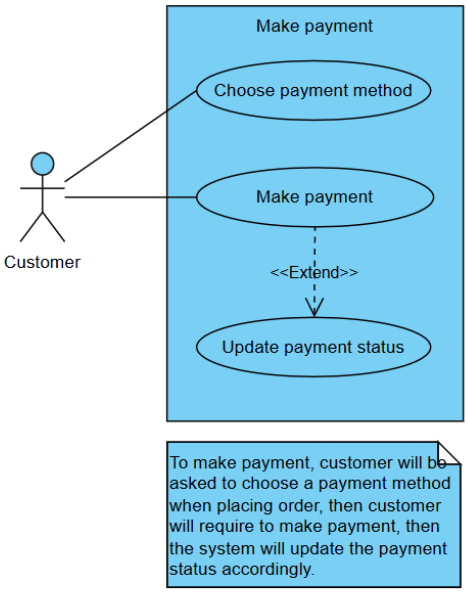


Figure 2.4 Make Payment

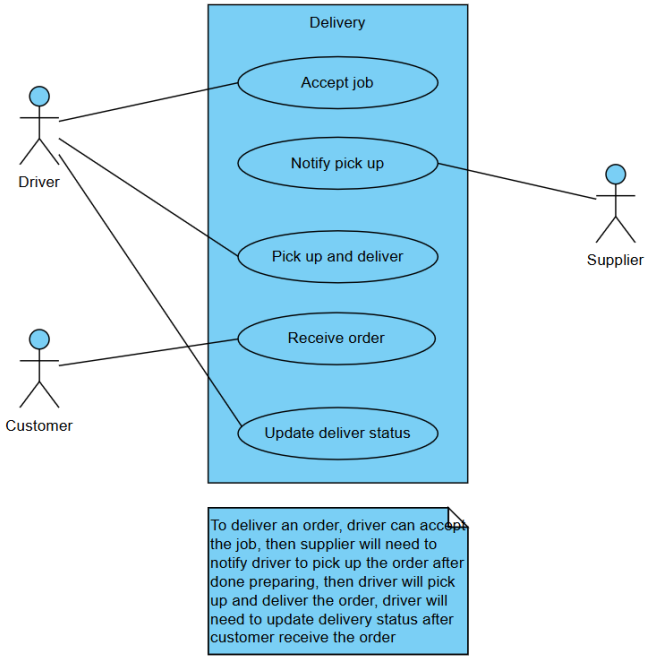


Figure 2.5 Delivery

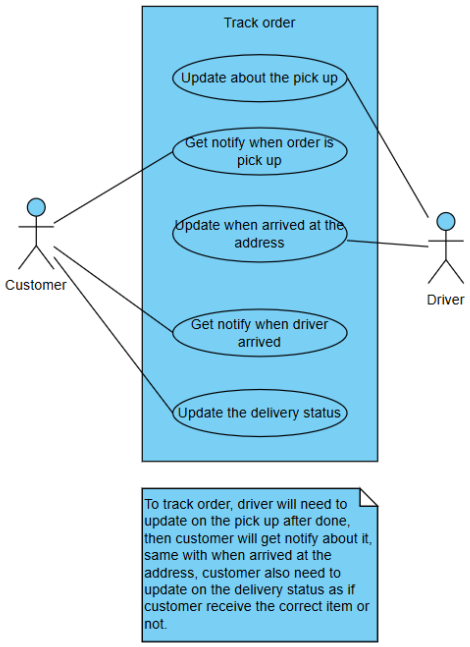


Figure 2.6 Tracking Order

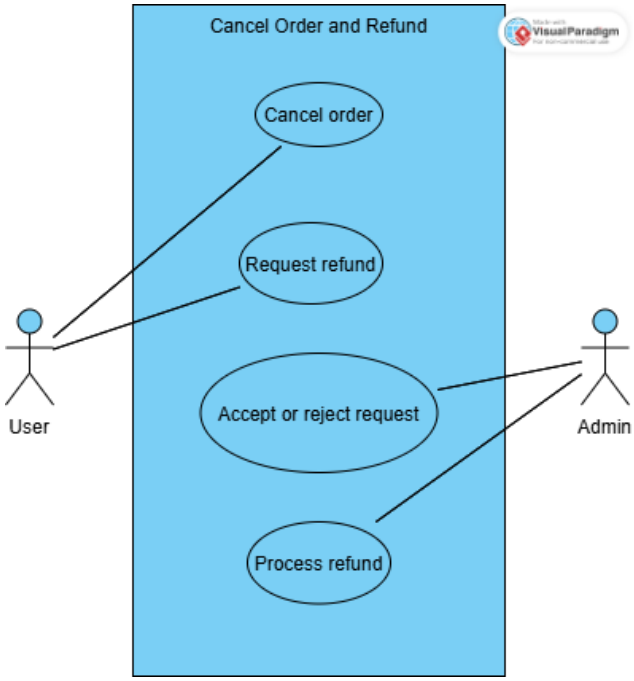


Figure 2.7 Refund

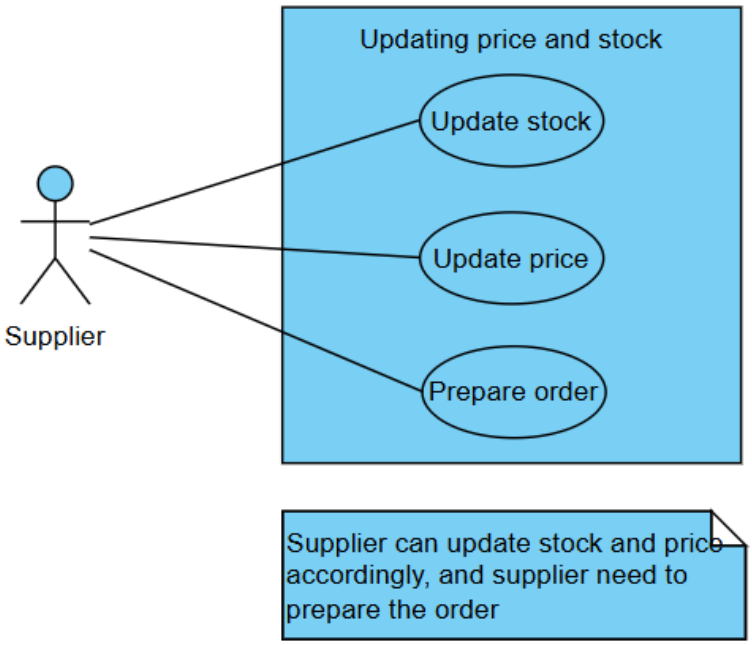


Figure 2.8 Update Price and Stock

2.2 Admin

2.2.1 Use Case 1: Manage Driver Authentication

Use Case Name :	Manage driver authentication
Description :	To manage the driver authentication request
Primary Actor :	Admin
Precondition :	Admin go through the authentication request
Postcondition :	Approve or not approve the request
Main Success Scenario :	The request is approved
Alternative Scenario (if there's any)	The request is not approved

Admin will be able to manage the driver authentication, admin need to go through the information given, for example driver license, car details like car plate, road taxes. The request will be approved if all the information is valid and clear, otherwise, the request shall not be approved.

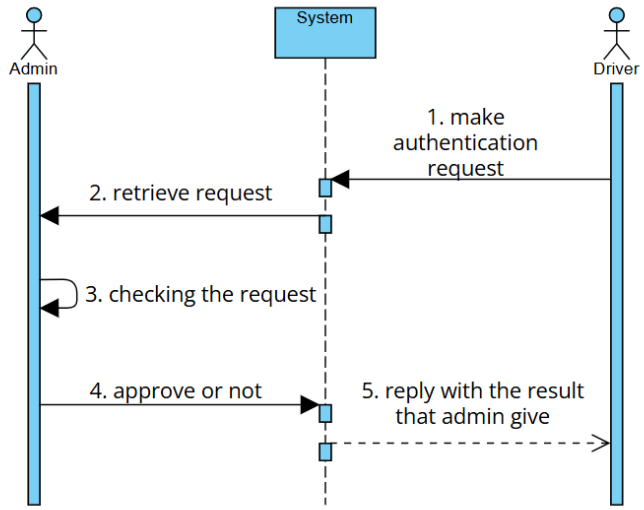


Figure 2.9 Manage Driver Authentication

2.2.2 Use Case 2: Manage Refund Request

Use Case Name:	Manage Refund Request
Description:	To manage refund request made by customer
Primary Actor:	Admin
Precondition:	Admin will go through the request
Postcondition:	Approve or not approve the request
Main Success Scenario:	The request is approved
Alternative Scenario (if there's any)	The request is not approved

Admin will need to manage the refund request.

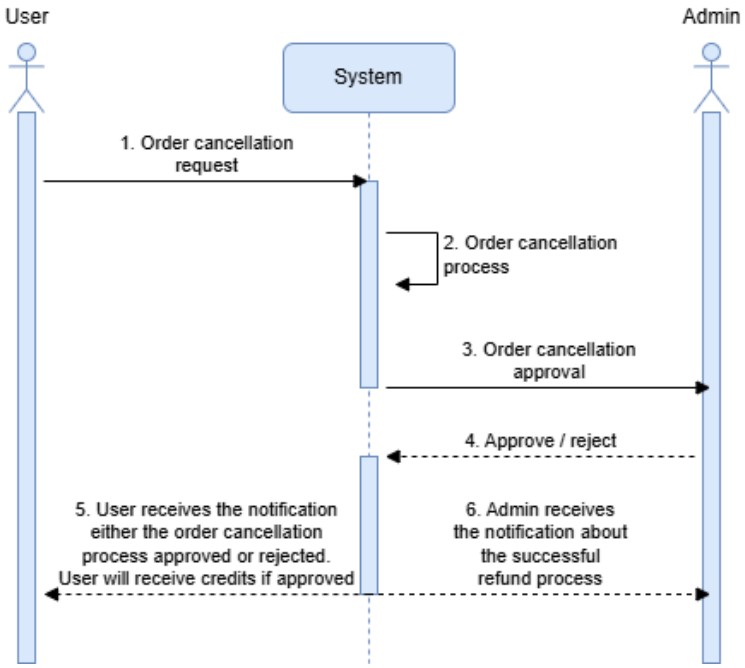


Figure 2.10 Manage refund Request

2.2.3 Use Case 3: Manage Customer Profile

Use Case Name:	Manage Customer Profile
Description:	To manage customers' profile
Primary Actor:	Admin
Precondition:	Admin will need to detect any violation in the account
Postcondition:	The account might be deleted/banned
Main Success Scenario:	The account is banned/deleted
Alternative Scenario (if there's any)	The owner of account might can appeal

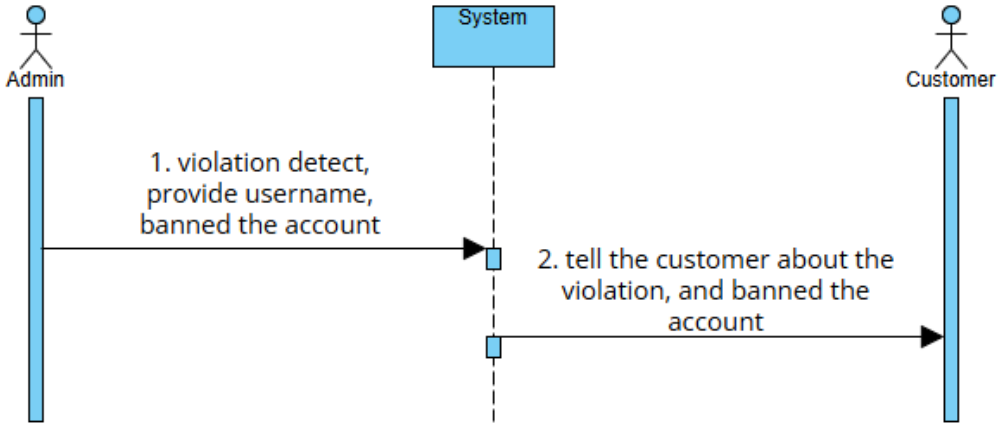


Figure 2.11 Manage Customer Profile

2.3 Customer

2.3.1 Use Case : Customer Registration and Profile Management

To start to use the system as a customer, the user will have to register an account first. To register, the user must provide their name as username, password, phone number, email address. A verification email will be sent to the user's email and require customer to do activation. After the user activate the email, then user will be able to login to the system as a customer.

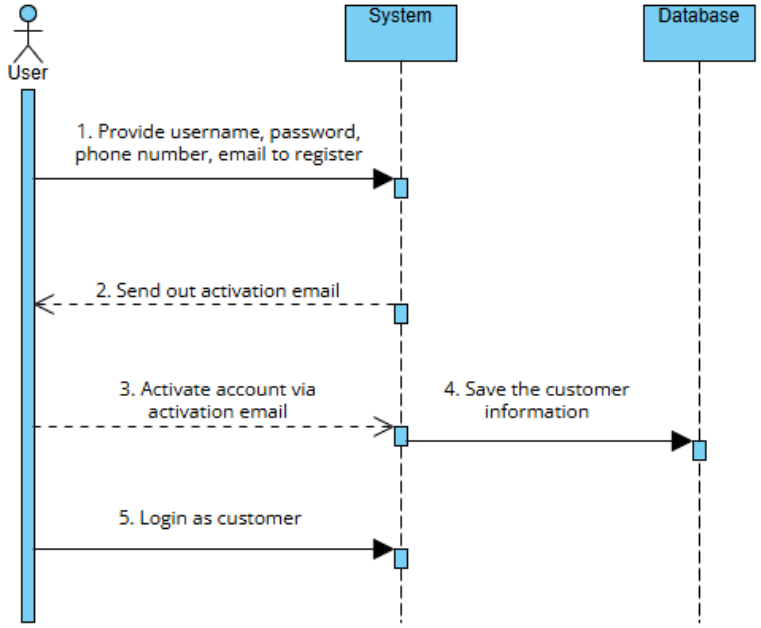


Figure 2.12 Customer Registration and Profile Management

2.3.2 Use Case 2: Order Process

Process of the order making until the order is delivered

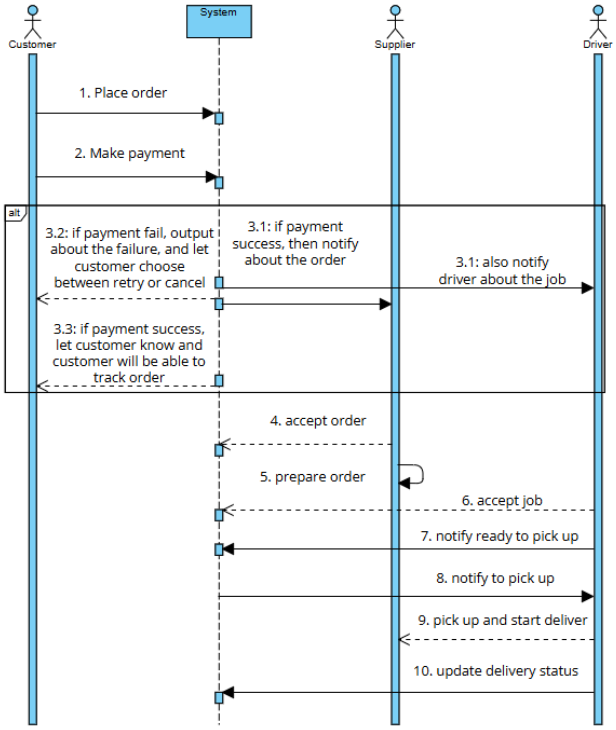


Figure 2.13 Order Process

2.3.2.1 Use Case: Place Order

Use Case Name :	Place order
Description :	To place order
Primary Actor :	Customer
Precondition :	Place order
Postcondition :	Is the order confirm?
Main Success Scenario :	The order is confirmed
Alternative Scenario (if there's any)	The order is not confirmed

This is elaboration of the Order Process. Details in place order

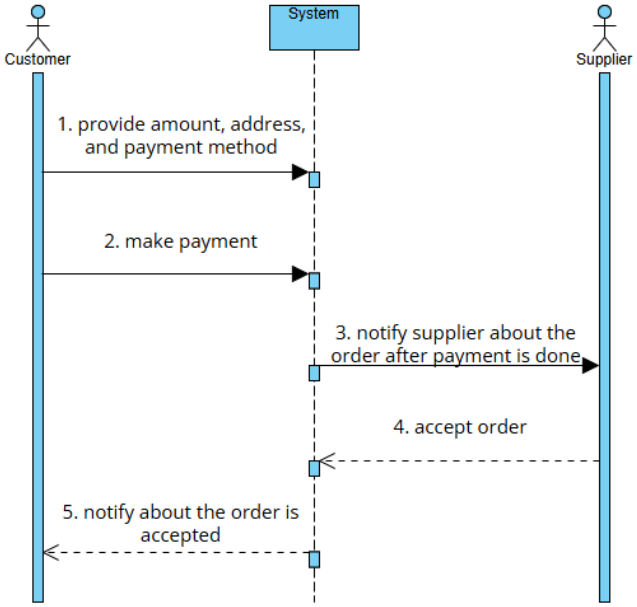


Figure 2.14 Place Order

2.3.2.2 Use Case: Make Payment

Use Case Name :	Make Payment
Description :	To make payment
Primary Actor :	Customer
Precondition :	Make payment
Postcondition :	Is the payment success?
Main Success Scenario :	The payment is success
Alternative Scenario (if there's any)	The payment is not success

This is elaboration of the Order Process. Details in make payment

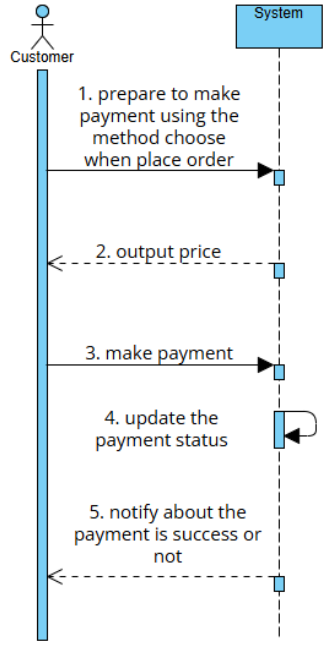


Figure 2.15 Make Payment

2.3.2.3 Use Case: Track Order

Use Case Name :	Track Order
Description :	To track order
Primary Actor :	Customer
Precondition :	To get the progress of the delivery
Postcondition :	
Main Success Scenario :	The progress appears correctly
Alternative Scenario (if there's any)	The progress appears incorrectly

This is elaboration of the Order Process. Details in track order

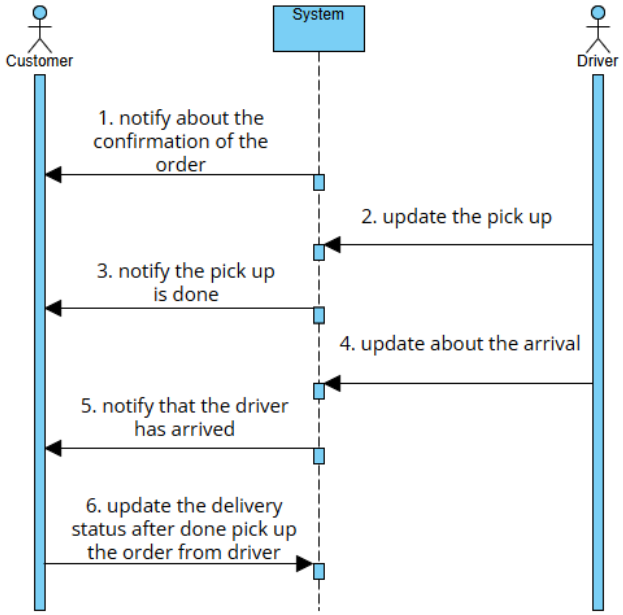


Figure 2.16 Track Order

2.3.3 Use Case: Order Cancellation and Refund

Use Case Name :	Order Cancellation and Refund
Description :	To request a refund
Primary Actor :	Customer
Precondition :	Request refund
Postcondition :	Is the request approve or not
Main Success Scenario :	The request is approved
Alternative Scenario (if there's any)	The request is not approved

Customer would be able to cancel an order through the system before delivery if they changed their plans by using the cancel order button. The system then would cancel the order accordingly. Customer should be refunded during this process. If approved, the admin initiates the refund process, and the system credits the customer's account or payment method. Notifications are sent to the customer and admin to track the refund process.

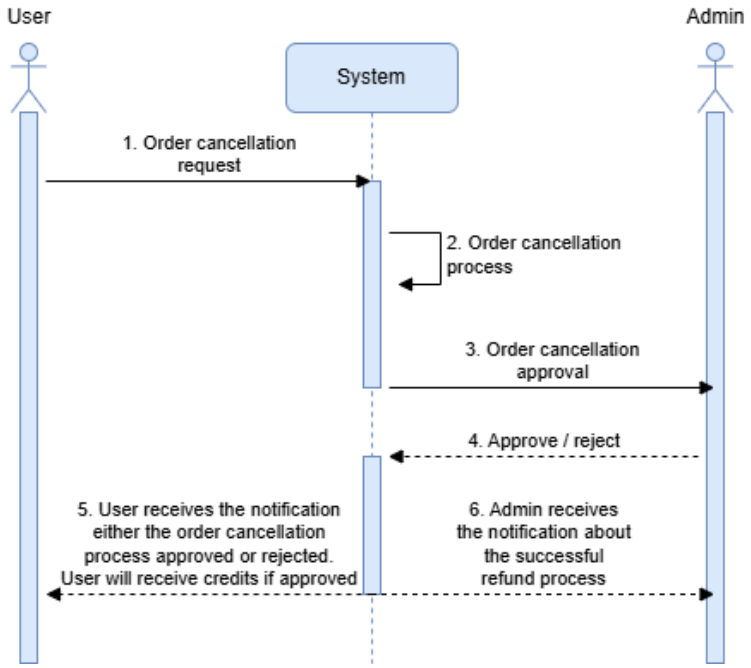


Figure 2.17 Order Cancellation and Refund

2.4 Driver

2.4.1 Use Case: Driver Registration and authentication

Use Case Name :	Driver Registration and authentication
Description :	To register as a driver and make authentication
Primary Actor :	Driver
Precondition :	register
Postcondition :	Is the authentication approve?
Main Success Scenario :	The authentication is approved
Alternative Scenario (if there's any)	The authentication is not approved

To start to use the system as a driver, the user will also have to register an account. To register, the user will have to also provide their name as username, password, phone number, email address, softcopy of their license, car details, photo of the car. User will also receive verification email to do activation. Then the admin will check their license and car details, if the license is still valid and the car is in an ideal condition, then the admin will approve the registration. User will only be able to login as a driver after they receive confirmation from admin sent through email.

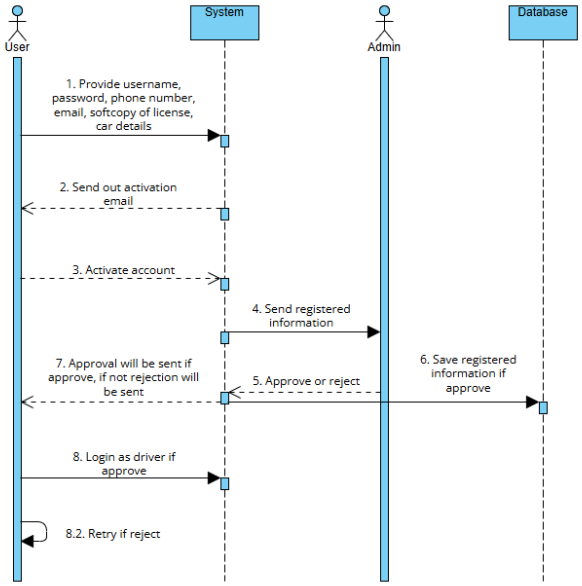


Figure 2.18 Driver Registration and Authentication

2.4.2 Use Case 2: Deliver Order

Use Case Name :	Deliver Order
Description :	To deliver order
Primary Actor :	Driver
Precondition :	Accept job
Postcondition :	Is the order delivered?
Main Success Scenario :	The order is delivered
Alternative Scenario (if there's any)	The order is not delivered

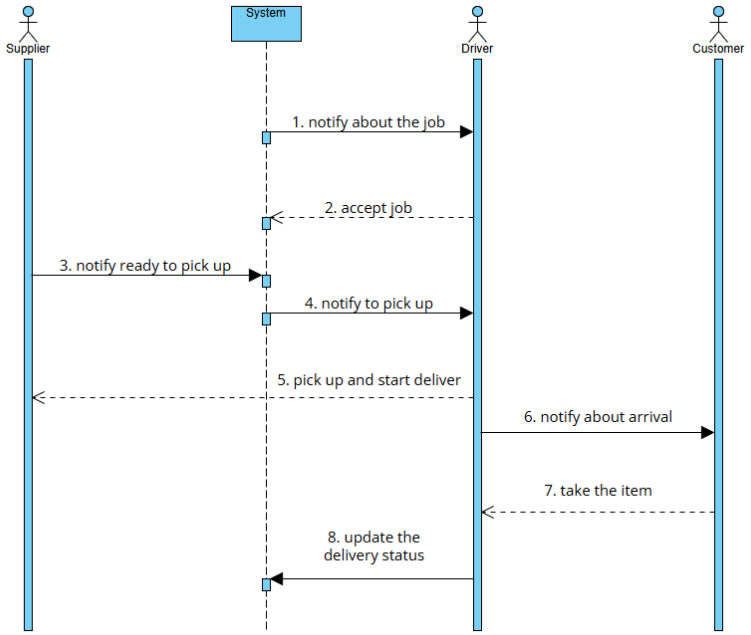


Figure 2.19 Deliver Order

2.5 Supplier

2.5.1 Use Case : Inventory and Price Management

Use Case Name :	Inventory and Price Management
Description :	To update on stock and price
Primary Actor :	Supplier
Precondition :	Update information
Postcondition :	
Main Success Scenario :	The information is update correctly
Alternative Scenario (if there's any)	The information is update incorrectly

The supplier provides petrol stock information, including stock available in the area and pricing data, into the system. The system processes this information, updating the inventory database.

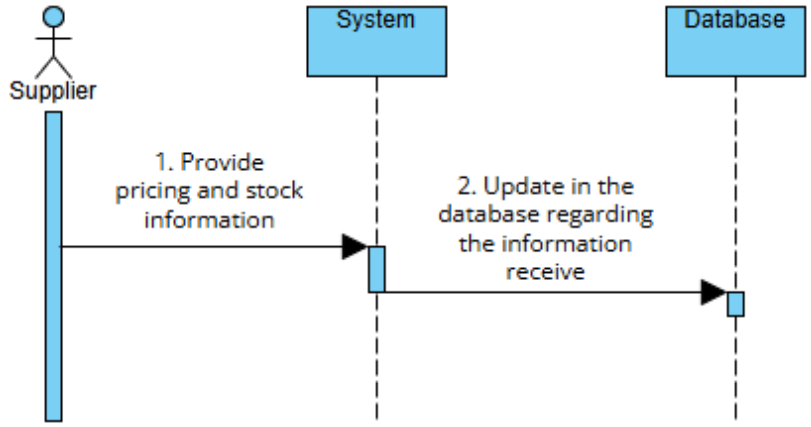


Figure 2.20 Inventory and Price Management

2.5.2 Use Case: Prepare Order

Use Case Name :	Prepare Order
Description :	To prepare order
Primary Actor :	Supplier
Precondition :	Order confirmed
Postcondition :	
Main Success Scenario :	The order is prepared
Alternative Scenario (if there's any)	The order is not prepared

Supplier will need to prepare the order for delivery.

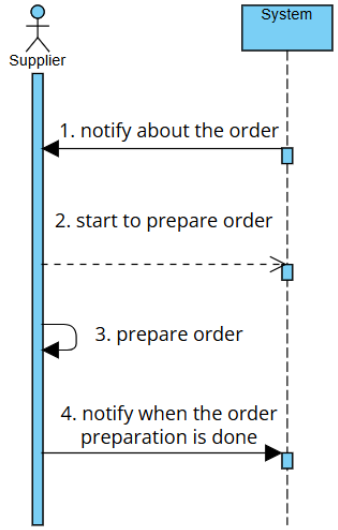


Figure 2.21 Prepare Order

3 Data Design

3.1 Design Class Diagram

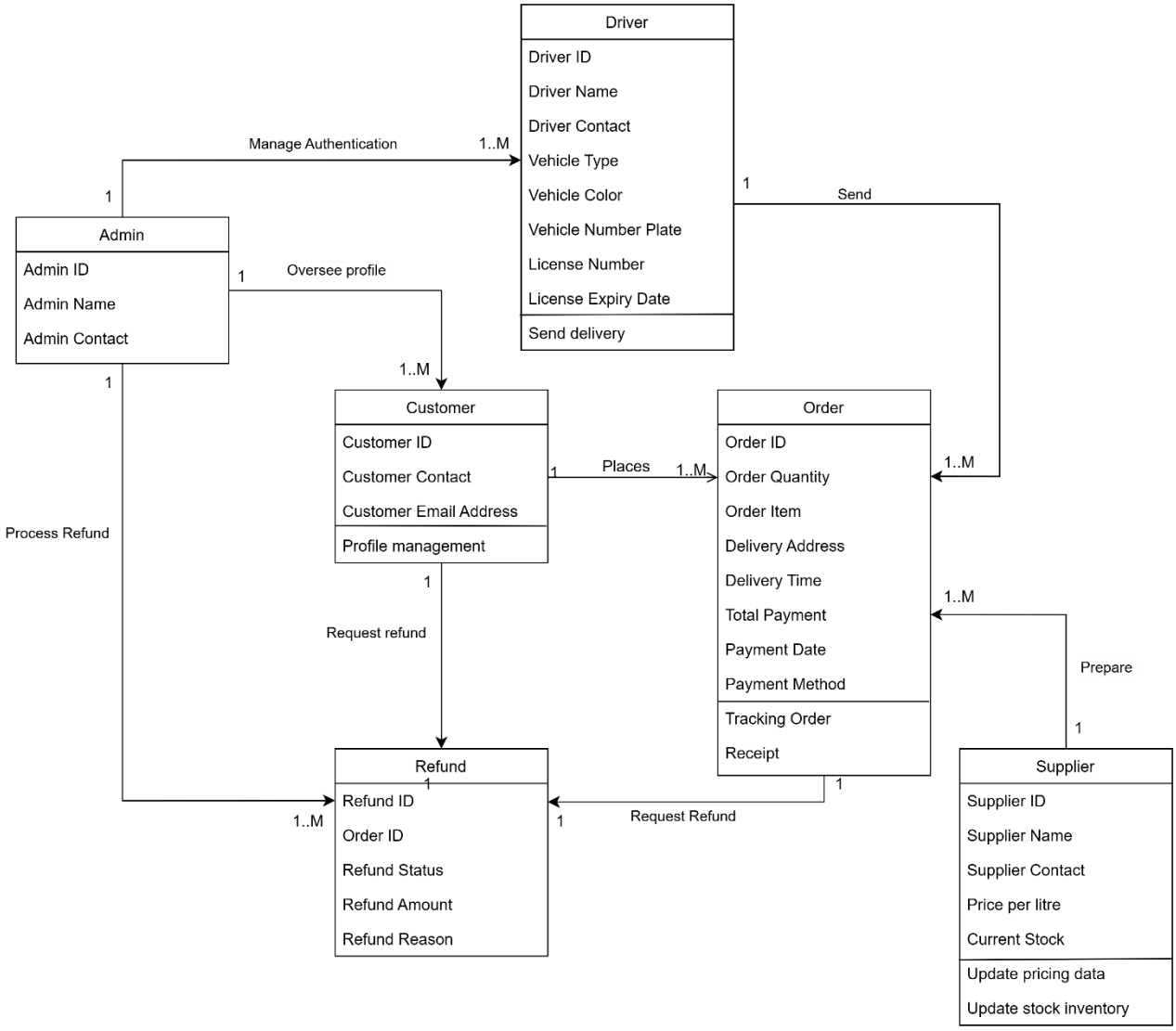


Figure 3.1 Class Diagram

3.2 Data Dictionary

Attribute Name	Data type	Format	Description	PK or FK	FK Referencing Table
DriverID	Varchar (5)	D0001	Unique identifier for driver	PK	-
DriverName	String	Text	Full name of the driver	-	-
DriverContact	Varchar (12)	Phone number	Contact number of the driver	-	-
VehicleType	Varchar (15)	Alphanumeric	Type of vehicle (e.g., car, bike)	-	-
VehicleColor	string	Text	Color of the vehicle	-	-
VehicleNumberPlate	Varchar (10)	Alphanumeric	License plate number of the vehicle	-	-
License Number	Varchar (7)	Alphanumeric	Driver's license number	-	-
LicenseExpiry Date	Date	DD/MM/YYYY	Expiry date of the driver's license	-	-

Table 3.1 Driver Table

Attribute Name	Data type	Format	Description	PK or FK	FK Referencing Table
AdminID	Varchar (5)	A0001	Unique identifier for admin	PK	-
AdminName	String	Text	Full name of the admin	-	-
AdminContact	Varchar (12)	Phone number	Contact number of the admin	-	-

Table 3.2 Admin Table

Attribute Name	Data type	Format	Description	PK or FK	FK Referencing Table
CustomerID	Varchar (5)	C0001	Unique identifier for customer	PK	-
CustomerName	String	Text	Full name of the customer	-	-
CustomerContact	Varchar (12)	Phone number	Contact number of the customer	-	-
EmailAddress	Varchar (15)	Alphanumeric	Email address of the customer	-	-
DeliveryAddress	Varchar (60)	Text	Address for order delivery	-	-

Table 3.3 Customer Table

Attribute Name	Data type	Format	Description	PK or FK	FK Referencing Table

OrderID	Varchar (5)	OD001	Unique identifier for order	PK	-
CustomerID	Varchar (5)	C0001	Identifier linking to the customer	FK	Customer
DriverID	Varchar (5)	D0001	Identifier linking to the driver	FK	Driver
OrderItem	Varchar (15)	Alphanumeric	Name of the item ordered	-	-
OrderQuantity	Integer	Numeric	Quantity of the item ordered	-	-
DeliveryTime	DateTime	YYYY-MM-DD HH:MM	Total payment for the order	-	-
TotalPayment	Decimal (5,2)	Numeric	Driver's license number	-	-
PaymentMethod	String	Text	Method of payment (e.g., cash, card)	-	-
PaymentDate	Date	DD/MM/YYYY	Date of payment being made	-	-

Table 3.4 Order Table

Attribute Name	Data type	Format	Description	PK or FK	FK Referencing Table
RefundID	Varchar (5)	R0001	Unique identifier for refund	PK	-
OrderID	Varchar (5)	OD001	Identifier linking to the order	FK	Order
RefundStatus	String	Text	Status of the refund (e.g., completed)	-	-
RefundAmout	Decimal (5,2)	Numeric	Amount to be refunded	-	-
RefundReason	String	Text	Reason for the refund request	-	-

Table 3.5 Refund Table

Attribute Name	Data type	Format	Description	PK or FK	FK Referencing Table
SupplierID	Varchar (5)	S0001	Unique identifier for supplier	PK	-
SupplierName	String	Text	Full name of the supplier	-	-
SupplierContact	Varchar (12)	Phone number	Contact number of the supplier	-	-
PricePerLitre	Decimal (3,2)	Numeric	Price per litre of the product	-	-
CurrentStock	Varchar (10)	Numeric	Current stock level of the product	-	-

Table 3.6 Supplier Table

3.3 Data Structures

3.3.1 View Profile Data (Customer, Driver, Admin, Supplier)

Table 3.7 shows the relevant data in viewing customer data.

Attribute Name	Data type
CustomerID	INT
CustomerName	VARCHAR(100)
CustomerContact	VARCHAR(15)
EmailAddress	VARCHAR(100)
DeliveryAddress	VARCHAR(255)

Table 3.7

Table 3.7 shows the relevant data in viewing driver data.

Attribute Name	Data type
DriverID	INT
DriverName	VARCHAR(100)
DriverContact	VARCHAR(15)
VehicleType	VARCHAR(50)
VehicleColor	VARCHAR(50)
VehicleNumberPlate	VARCHAR(20)
LicenseNumber	VARCHAR(20)
LicenseExpiryDate	DATE

Table 3.8

Table 3.9 shows the relevant data in viewing admin data.

Attribute Name	Data type
AdminID	INT
AdminName	VARCHAR(100)
AdminContact	VARCHAR(15)

Table 3.9

Table 3.10 shows the relevant data in viewing supplier data.

Attribute Name	Data type
SupplierID	INT
SupplierName	VARCHAR(100)
SupplierContact	VARCHAR(15)
PricePerLitre	DECIMAL(10, 2)
CurrentStock	INT

Table 3.10

3.3.2 View Order Data

Table 3.11 shows the relevant data in viewing order data.

Attribute Name	Data type
OrderID	INT
CustomerID	INT
DriverID	INT
OrderItem	VARCHAR(100)
OrderQuantity	INT
DeliveryTime	DATETIME
TotalPayment	DECIMAL(10, 2)
PaymentMethod	VARCHAR(50)
PaymentDate	DATE

Table 3.11

3.3.3 View Inventory Data

Table 3.12 shows the relevant data in viewing order data.

Attribute Name	Data type
SupplierID	INT
SupplierName	VARCHAR(100)
SupplierContact	VARCHAR(15)
PricePerLitre	DECIMAL(10, 2)
CurrentStock	INT

Table 3.12

3.3.4 View Refund Data

Table 3.13 shows the relevant data in viewing refund data.

Attribute Name	Data type
RefundID	INT
OrderID	INT
RefundStatus	VARCHAR(50)
RefundAmount	DECIMAL(10, 2)
RefundReason	VARCHAR(255)

Table 3.13

3.3.5 View Delivery Data

Table 3.14 shows the relevant data in viewing delivery data.

Attribute Name	Data type
OrderID	INT
DriverID	INT
DeliveryTime	DATETIME
DeliveryAddress	VARCHAR(255)
DeliveryStatus	VARCHAR(50)

Table 3.14

4 Architecture Design

4.1 Software Architecture (Application-Level)

The application-level architecture describes the overall structure of the system, including the frontend, backend, and data layer. This architecture ensures that the system is scalable, maintainable, and efficient.

4.1.1 Higher-Level Architecture

The system is divided into multiple layers, including the presentation layer (frontend), business logic layer (backend), and data layer. This separation ensures modularity and allows for independent development and scaling of each layer.

4.1.2 Frontend Architecture

The frontend is responsible for the user interface (UI) and user experience (UX). It includes pages for login, order placement, tracking, profile management, and more. The frontend communicates with the backend via APIs to fetch and update data.

4.1.3 Backend Architecture

The backend handles the business logic, such as processing orders, managing refunds, updating inventory, and authenticating users. It consists of multiple microservices or modules, each responsible for specific functionalities (e.g., order management, payment processing, etc.).

4.1.4 Data Layer Architecture

The data layer manages the storage and retrieval of data. It includes databases for storing user profiles, order details, inventory, payment records, and more. The data layer ensures data consistency, security, and scalability.

4.2 Software Architecture (Component-Level)

The system is further divided into subsystems based on user roles and functionalities. Each subsystem is assigned to a team member or a group of team members for development and maintenance.

Figure 4.1 : Architecture Diagram

4.2.1 Login subsystem

This subsystem handles user authentication and authorization. It ensures that users (customers, drivers, admins, and suppliers) can securely log in and access their respective dashboards. Features include password management, session handling, and role-based access control.

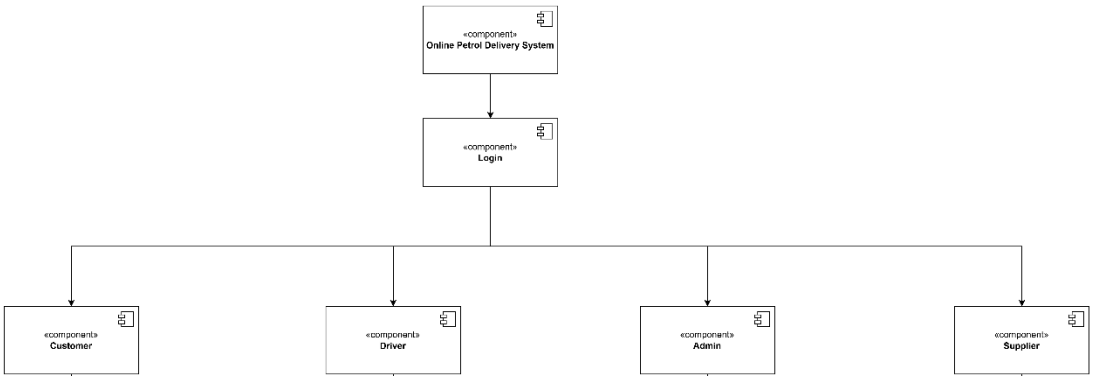


Figure 4.2 Login Subsystem

4.2.2 Customer subsystem

The customer subsystem allows users to place orders, track their delivery status, request refunds, and manage their profiles. It includes features like order placement, payment processing, and real-time order tracking.

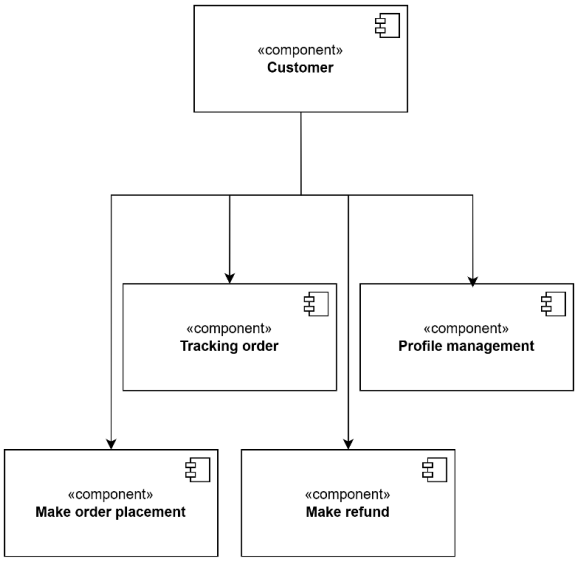


Figure 4.3 Architecture Diagram (Customer)

4.2.3 Driver subsystem

The driver subsystem allows drivers to view assigned orders, update delivery status, and manage their profiles. It includes features like order tracking, route optimization, and delivery confirmation.

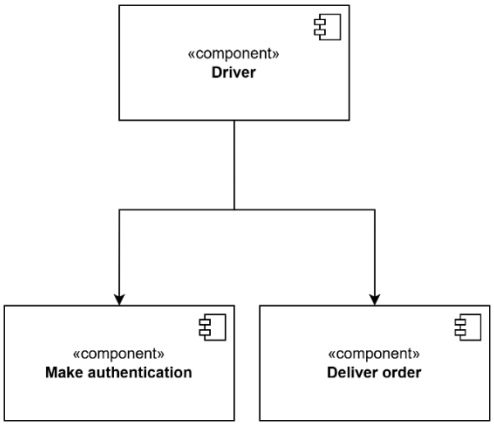


Figure 4.4 Architecture Diagram (Driver)

4.2.4 Admin subsystem

The admin subsystem is responsible for managing the entire system. Admins can oversee user profiles, manage refund requests, update inventory, and monitor driver authentication. This subsystem ensures that the platform runs smoothly and securely.

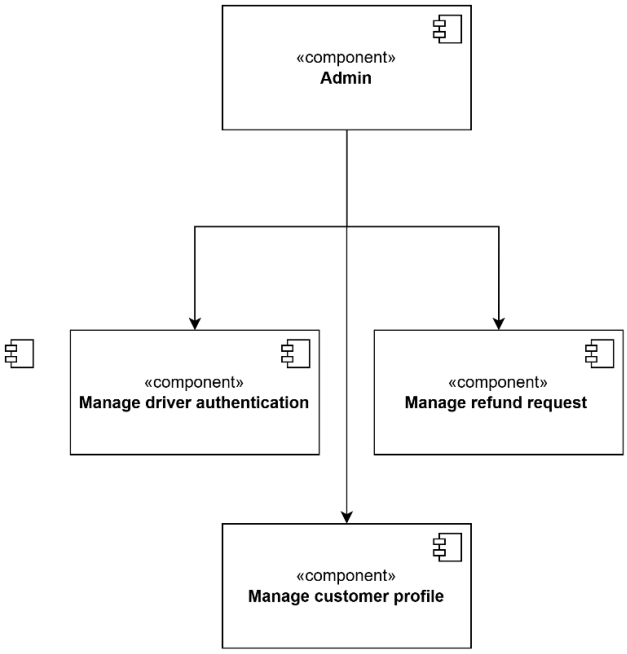


Figure 4.5 Architecture Diagram (Admin)

4.2.5 Supplier subsystem

The supplier subsystem enables suppliers to manage inventory, update pricing, and prepare orders for delivery. It ensures that suppliers can efficiently fulfill customer orders and maintain accurate stock levels.

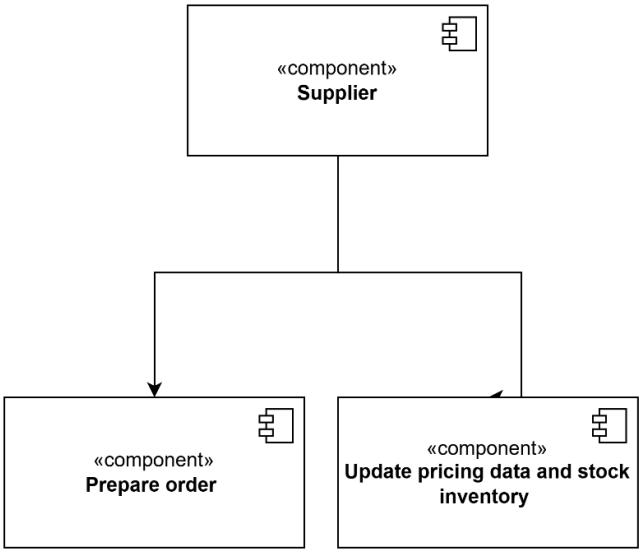


Figure 4.6 Architecture Diagram (Supplier)

5 Interface Design

5.1 Main Screens

5.1.1 Login Page

Figure 5.1 illustrates a login interface designed for all users, providing a simple and welcoming way to access their accounts. The interface is user-friendly and focuses on ease of use.

Key components include:
1. Welcome Message: A friendly greeting ("Hi! Welcome") creates a positive first impression.
2. Input Fields: Users can enter their username, email, or phone number along with their password to log in.
3. Log In Button: A button to submit the login credentials and access the account.
4. Sign Up Option: A prompt for users who do not have an account to sign up, providing an easy transition to the registration process.

The design is straightforward and intuitive, ensuring that users can quickly and securely access their accounts. This approach is essential for maintaining a seamless user experience and encouraging continued use of the platform.

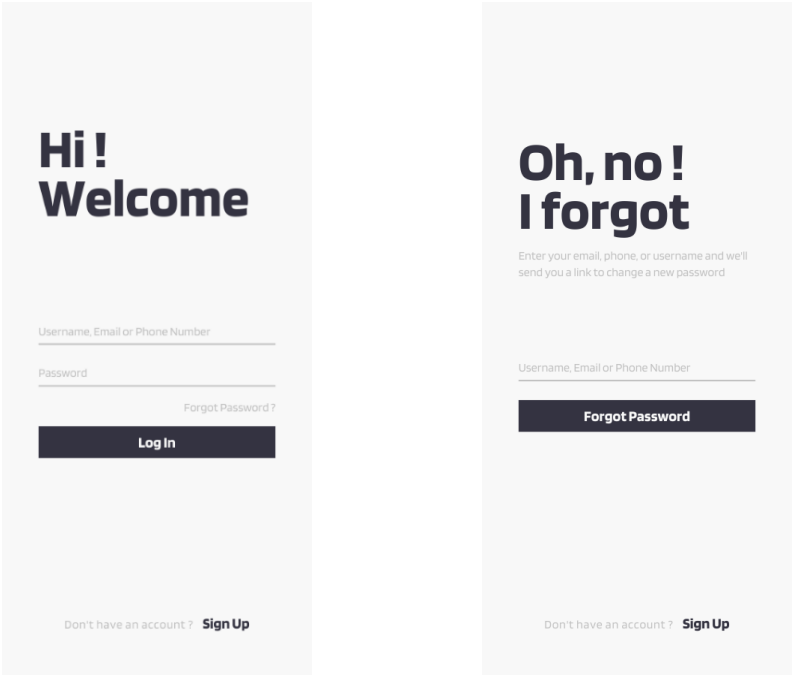


Figure 5.1 Login Page

5.1.2 Registration Page

Figure 5.2 illustrates a registration interface designed for all types of users, including regular users and drivers. The interface is welcoming and straightforward, guiding users through the account creation process.

Key components include:
1. Welcome Message: A friendly greeting ("Hi! Welcome") and a prompt to create an account, setting a positive tone for the registration process.
2. Input Fields: Users are required to enter their email or phone number, full name, username, and password. The password fields include guidelines (e.g., must contain a number and be at least 8 characters) to ensure security.
3. User Type Selection: Users can specify their role (e.g., User, Driver), ensuring that the system can tailor the experience based on their needs.
4. Sign Up Button: A button to complete the registration process, allowing users to create their account.
5. Login Option: A prompt for users who already have an account to log in, providing an alternative to registration.

The design is user-friendly and inclusive, ensuring that all users can easily create an account and access the platform. This approach is essential for facilitating a smooth onboarding experience and encouraging user engagement.

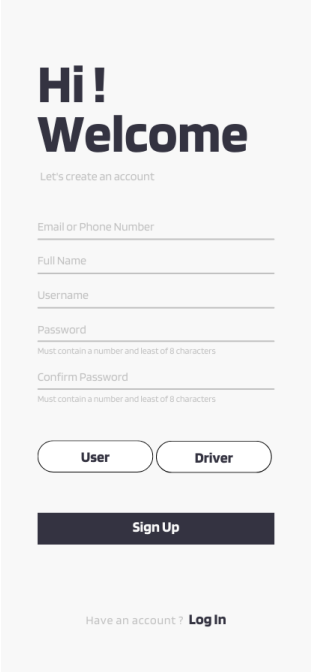


Figure 5.2 Registration Page

5.1.3 User Profile

Figure 5.3 shows a user profile interface designed to be versatile and accessible for all types of users, including drivers, administrators, suppliers, and customers. The interface is simple and user-friendly, focusing on providing essential profile management options.

Key components include:
1. Username: Displays the user's unique identifier (e.g., S001), helping to personalize the experience.
2. Full Name: Allows users to view and potentially edit their full name, ensuring their profile information is accurate.
3. Contact Number: Provides a field for users to update their contact information, which is crucial for communication and account security.

4. Settings: Offers access to additional settings, allowing users to customize their experience and preferences.
5. Log Out: A clear option to log out, ensuring users can securely end their session.

The design is straightforward and consistent across different user roles, ensuring that all users can easily manage their profiles and access necessary features. This approach is essential for maintaining a seamless and secure user experience across the platform.

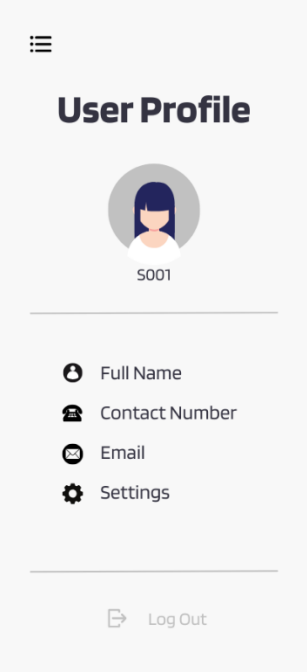


Figure 5.3 User Profile

5.2 Admin Screens

5.2.1 Home Page (Admin)

Figure 5.4 illustrates a home page interface designed for administrators, providing them with quick access to essential management functions. The interface is organized to help administrators efficiently oversee various aspects of the system.

Key features include:
1. Profile: Allows administrators to edit their latest information, ensuring their details are up-to-date.
2. Manage Driver: Provides options to view and manage driver details, facilitating the oversight of driver-related activities.
3. Refund Details: Enables administrators to view and handle refund requests, ensuring customer issues are addressed promptly.
4. Profile Management: Offers access to user data, allowing administrators to monitor and manage user profiles and activities.

The design emphasizes ease of navigation and quick access to critical functions, ensuring that administrators can manage their tasks efficiently. This streamlined approach is crucial for maintaining smooth operations and effective system management.

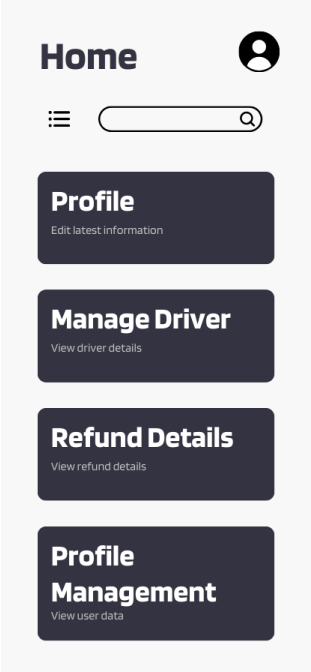


Figure 5.4 Home Page (Admin)

5.2.2 Manage Driver Authentication (Admin)

Figure 5.5 depicts a driver authentication management interface designed for administrators, allowing them to review and manage driver registration and authentication requests. The interface is structured to provide clear and actionable information for each driver.

Key components include:
1. Driver Information: Displays details about the driver, such as their name (e.g., Misha) and unique identifier (e.g., UCI23h).
2. Vehicle Details: Includes information about the driver's vehicle, such as the model (e.g., Perodua Myvi) and license plate number (e.g., CDF1208), ensuring the vehicle is verified.
3. Registration Date: Shows the date the driver registered (e.g., 7 Jan 2025), helping administrators track the timeline of the registration process.
4. Status: Indicates the status of the driver's authentication request (e.g., REJECTED, APPROVED), allowing administrators to take appropriate actions.

The design is straightforward and efficient, enabling administrators to easily review and manage driver authentication requests. This approach is essential for maintaining a secure and reliable system, ensuring that only verified drivers are approved for service.

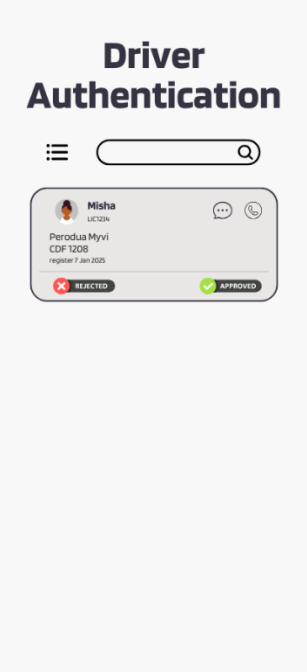


Figure 5.5 Manage Driver Authentication (Admin)

5.2.3 Manage Refund Request (Admin)

Figure 5.6 illustrates a refund management interface designed for administrators, allowing them to handle and process refund requests efficiently. The interface provides detailed information about each refund request to facilitate informed decision-making.

Key components include:
1. Order Details: Displays specific information about the order, such as the item (e.g., RON95, 10 liters) and delivery fee, ensuring administrators know which order the refund request pertains to.
2. Payment Information: Indicates the payment method used, which is important for processing the refund correctly.
3. Reason for Cancellation: Lists the reason provided by the customer for the refund request (e.g., delivery exceeded time, defective product), helping administrators understand the issue.
4. Customer Comments: Includes any additional comments from the customer (e.g., "Petrol leaks"), providing further context for the refund request.
5. Update Details: An option to update the refund details, allowing administrators to make necessary changes or notes as they process the request.
6. Refund ID: A unique identifier (e.g., R048) for each refund request, helping administrators track and manage refunds systematically.

The design is clear and comprehensive, ensuring that administrators have all the information they need to handle refund requests effectively. This approach is crucial for maintaining customer satisfaction and ensuring a smooth refund process.

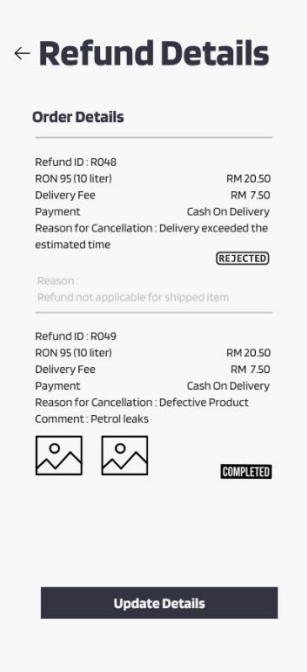


Figure 5.6 Manage Refund Request (Admin)

5.2.4 Profile Management (Customer, Driver) Page

Figure 5.7 shows a profile management interface designed for administrators, allowing them to manage and monitor user profiles within the system. The interface is structured to provide a clear overview of user information and activity.

Key components include:
1. User Profiles: Displays a list of users (e.g., Amyra Natasha, Charlotte) along with their roles (e.g., Customer) and unique identifiers (e.g., 5001).
2. Activity Status: Indicates the last active date for each user (e.g., 31 Jan 2020, 1 December 2024, 3 Oct 2019), helping administrators track user engagement and activity.

The design is straightforward and efficient, enabling administrators to easily access and manage user information. This approach is essential for maintaining an organized and secure system, ensuring that administrators can effectively monitor and support users.

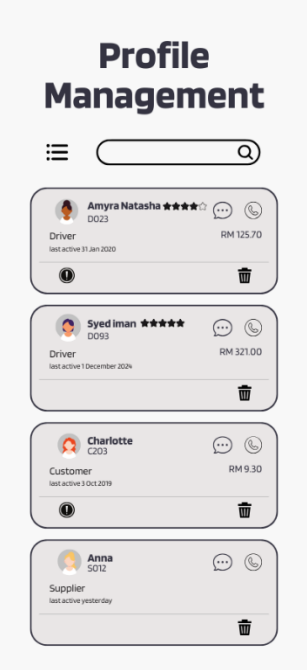


Figure 5.7 Profile Management (Customer, Driver) Page

5.3 Customer Screens

5.3.1 Home Page (Customer)

Figure 5.8 illustrates a home page interface designed for customers, providing them with easy access to essential features and services. The interface is user-friendly and organized to help customers navigate the platform efficiently.

Key features include:
1. Profile: Allows customers to edit their latest information, ensuring their details are up-to-date.
2. Make Order: Provides an option to purchase items, directing customers to the order placement section.
3. Tracking Order: Enables customers to track the status of their orders, offering transparency and real-time updates.
4. Refund: Allows customers to request refunds, providing a straightforward process for addressing any issues with their orders.

The design focuses on simplicity and ease of navigation, ensuring that customers can quickly access the features they need. This approach is crucial for enhancing user experience and ensuring customer satisfaction.

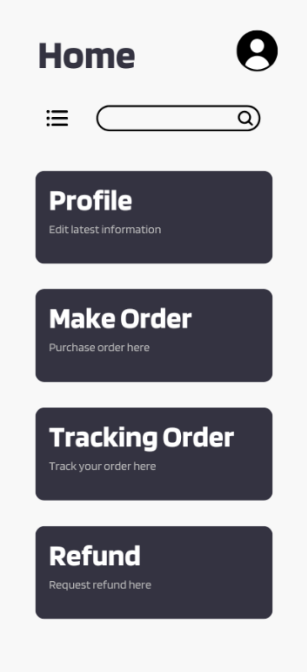


Figure 5.8 Home Page (Customer)

5.3.2 Make Order (Customer)

Figure 5.9 illustrates an order placement interface designed for customers, allowing them to easily select items and quantities for purchase. The interface is straightforward and user-friendly, focusing on simplifying the ordering process.

Key features include:
1. Item Selection: Customers can choose from a list of items (e.g., RON95, RON97, RON100, DieselB7, DieselB10) to add to their order.
2. Quantity Input: For each selected item, customers can specify the quantity in liters, ensuring they order the exact amount they need.
3. Checkout Button: A "Checkout" button is provided to finalize the order, allowing customers to proceed to payment and delivery details.

The design emphasizes ease of use and clarity, ensuring that customers can quickly and efficiently place their orders. This approach is crucial for providing a seamless and satisfying shopping experience.

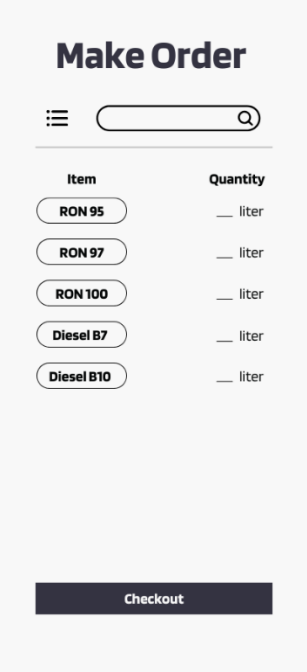


Figure 5.9 Make Order (Customer)

5.3.3 Checkout Page (Customer)

Figure 5.10 depicts a checkout interface designed for customers, allowing them to review and confirm their order details before finalizing the purchase. The interface is structured to ensure a smooth and transparent checkout process.

Key components include:
1. Delivery Address: The customer's delivery address (e.g., Multimedia University, Persiaran Multimedia, Jalan Multimedia, 63100 Sepang, Selangor) is displayed, ensuring the order is delivered to the correct location.
2. Payment Option: Customers can select their preferred payment method (e.g., TouchNGo E-Wallet), providing flexibility and convenience.
3. Payment Details: A breakdown of the costs is provided, including the item subtotal (e.g., RM85.00) and shipping fee (e.g., RM10.00), ensuring transparency in the total amount to be paid.
4. Place Order Button: A "Place Order" button allows customers to finalize their purchase, completing the checkout process.

The design emphasizes clarity and ease of use, ensuring that customers can easily review their order details and complete the purchase with confidence. This approach is essential for providing a seamless and satisfying shopping experience.

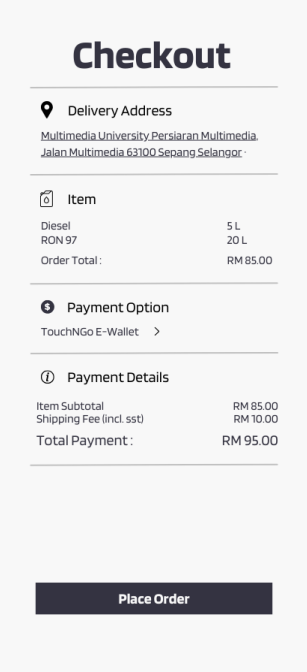


Figure 5.10 Checkout Page (Customer)

5.3.4 Receipt Page (Customer)

Figure 5.11 displays a receipt interface designed for customers, providing a detailed summary of their payment and order details. The interface is clear and concise, ensuring that customers can easily review their transaction information.

Key components include:
1. Payment Date: The date of the transaction (e.g., 2 Dec 2025) is displayed, helping customers keep track of their purchase history.
2. Order Details: Specific items and quantities (e.g., RON95, 10 liters; Diesel B7, 13 liters) are listed along with their respective prices, providing a clear breakdown of the order.
3. Delivery Fee: The delivery fee (e.g., RM 7.50) is included, ensuring transparency in the total cost.
4. Total Amount: The total amount paid (e.g., RM60.10) is prominently displayed, summarizing the overall cost.
5. Payment Method: The payment method used (e.g., TouchNGo E-Wallet) is indicated, which is useful for customers' records.
6. Print Option: An option to print a copy of the receipt is provided, allowing customers to keep a physical record if needed.

The design is straightforward and user-friendly, ensuring that customers can easily access and understand their receipt details. This approach is essential for maintaining transparency and trust in the transaction process.

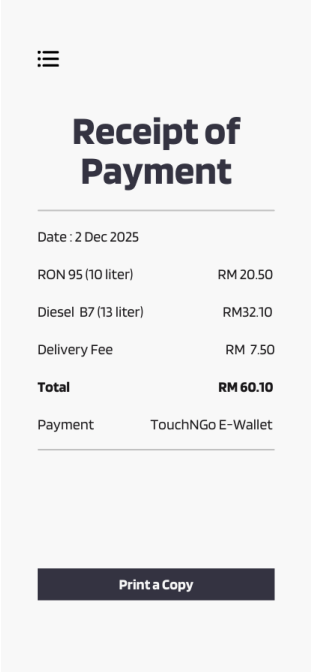


Figure 5.11 Receipt Page (Customer)

5.3.5 Tracking Order Page (Customer)

Figure 5.12 illustrates a tracking order interface designed for customers, providing them with real-time updates and essential details about their delivery. The interface is user-friendly and focuses on keeping customers informed about the status of their order.

Key features include:
1. Order Status: A clear message (e.g., "Driver is on their way!") informs the customer about the current status of their delivery, enhancing transparency and trust.
2. Delivery Address: The destination address (e.g., Seksyen 10 Bandar Baru Bangi) is displayed, ensuring the customer knows where the order is being delivered.
3. Order Details: Specific items and quantities (e.g., RON95, 10 liters) are listed, providing a quick overview of what was ordered.
4. Delivery Fee: The fee for the delivery is shown, which is useful for the customer's reference.
5. Additional Options: Customers have the option to download their receipt online, rate the service, and re-order, enhancing the overall user experience.

The design emphasizes clarity and ease of use, ensuring that customers can easily track their orders and access relevant information. This approach is crucial for maintaining customer satisfaction and providing a seamless ordering experience.

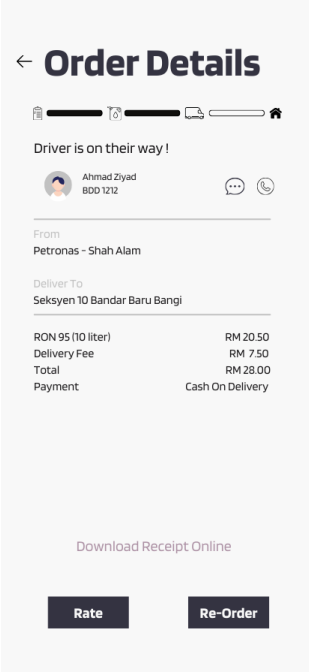


Figure 5.12 Tracking Order Page (Customer)

5.3.6 Request Refund Page (Customer)

Figure 5.13 shows a refund request interface designed for customers, allowing them to easily request a refund for their orders. The interface is structured to gather all necessary information to process the refund efficiently.

Key components include:
1. Order Details: Displays specific information about the order, such as the item (e.g., RON95, 10 liters) and delivery fee, ensuring the customer knows which order they are requesting a refund for.
2. Payment Information: Indicates the payment method used (e.g., Cash On Delivery), which is important for processing the refund correctly.
3. Reason for Cancellation: Provides a list of common reasons for requesting a refund (e.g., delayed delivery, incorrect item, defective product) and an option for other reasons, helping customers specify the issue accurately.
4. Details of Cancellation: A text field allows customers to provide additional comments or details about their refund request, ensuring that all relevant information is captured.
5. Send Request Button: A button to submit the refund request, completing the process.

The design is user-friendly and ensures that customers can easily provide all necessary information to facilitate a smooth refund process. This approach is essential for maintaining customer satisfaction and trust in the service.

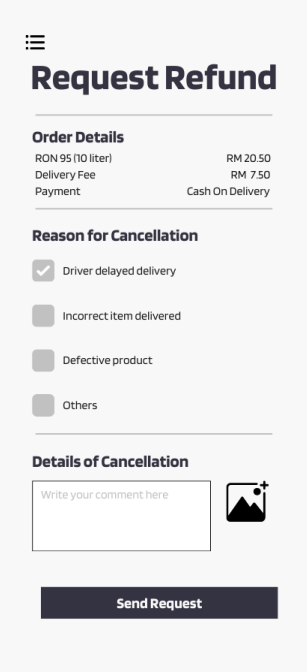


Figure 5.13 Request Refund Page (Customer)

5.4 Driver Screens

5.4.1 Home Page (Driver)

Figure 5.14 illustrates a home page interface designed for drivers, providing them with quick access to essential functions and information needed for their delivery tasks. The interface is user-friendly and focuses on key tasks that drivers need to perform regularly.

Key features include:
1. Profile: Allows drivers to edit their latest information, ensuring that their details are up-to-date.
2. Delivery: Provides access to available orders that need to be delivered, helping drivers manage their tasks efficiently.
3. Driver Details: Enables drivers to update their authentication information, ensuring that their credentials and vehicle details are current and accurate.

The design emphasizes ease of navigation and quick access to critical functions, ensuring that drivers can manage their tasks efficiently. This streamlined approach is crucial for maintaining smooth operations and timely order processing in a delivery context.

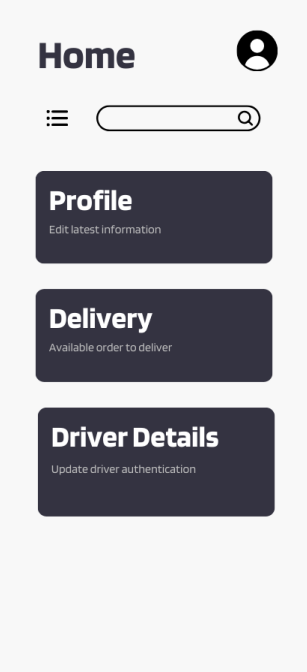


Figure 5.14 Home Page (Driver)

5.4.2 Driver Authentication Page (Driver)

Figure 5.15 depicts a driver authentication interface designed to verify and register driver information securely. The interface is straightforward, ensuring that drivers can easily input the required details for authentication.

Key elements include:
1. Driver Details: Drivers are prompted to enter necessary personal and professional details to verify their identity.
2. License Number: A field is provided for drivers to input their license number, which is crucial for validating their driving credentials.
3. Vehicle Number Plate: Drivers must enter their vehicle's number plate, ensuring that the vehicle used for deliveries is registered and recognized.
4. Register Button: A "Register" button is available for drivers to submit their information, completing the authentication process.

The design emphasizes simplicity and security, ensuring that all necessary information is collected efficiently. This approach is essential for maintaining a reliable and secure system for driver authentication, which is critical for the safety and integrity of delivery operations.

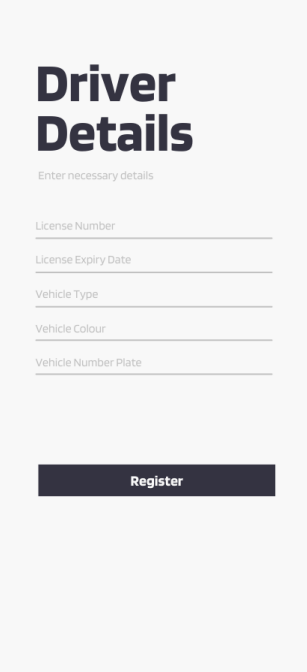


Figure 5.15 Driver Authentication Page (Driver)

5.4.3 Deliver Order Page (Driver)

Figure 5.16 illustrates a delivery order interface designed specifically for drivers, providing them with essential information to complete their delivery tasks efficiently. The interface is streamlined to ensure drivers can quickly access and understand the details they need.

Key components include:
1. Customer Information: The driver is provided with the customer's name (e.g., Mohd Irsyad) to personalize the delivery process.
2. Order Details: Specific items and quantities (e.g., RON 95, 10 liters) are listed, ensuring the driver knows exactly what to deliver.
3. Delivery Location: The destination (e.g., Hulu Langat) is clearly indicated, helping the driver navigate to the correct address.
4. Delivery Fee: The fee for the delivery (e.g., RM25.50) is displayed, which is useful for transactions and record-keeping.

The design focuses on clarity and ease of use, enabling drivers to quickly grasp the necessary information and complete their deliveries efficiently. This approach is crucial for maintaining timely and accurate delivery services, enhancing overall customer satisfaction.

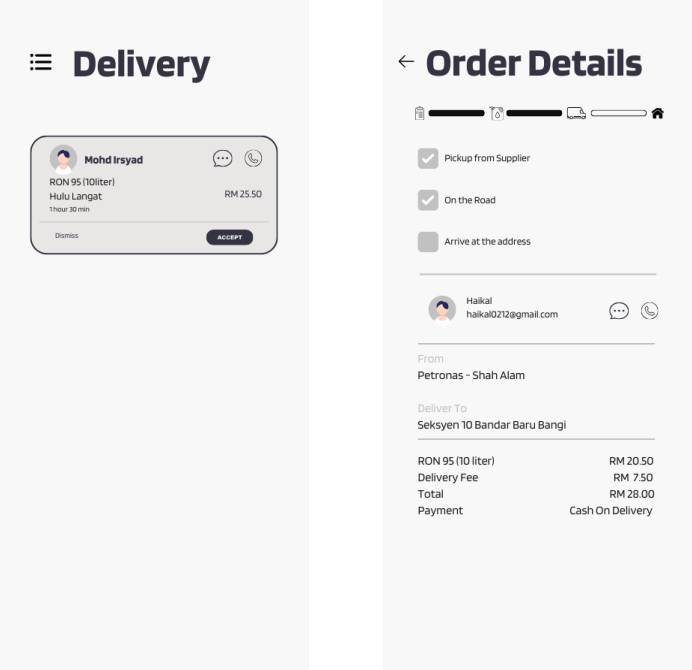


Figure 5.16 Deliver Order Page (Driver)

5.5 Supplier Screens

5.5.1 Home Page (Supplier)

Figure 5.17 shows a home page interface designed for suppliers, providing quick access to essential functions for managing their operations. The interface is simple and user-friendly, focusing on key tasks that suppliers need to perform regularly.

Key features include:
1. Profile: Allows suppliers to edit their latest information, ensuring that their details are up-to-date.
2. Inventory: Provides options to update stock levels and prices, helping suppliers keep their inventory data accurate and current.
3. Prepare Order: Enables suppliers to pack items based on customer orders, facilitating efficient order fulfillment.

The design emphasizes ease of navigation and quick access to critical functions, ensuring that suppliers can manage their tasks efficiently. This streamlined approach is crucial for maintaining smooth operations and timely order processing in a supply chain context.

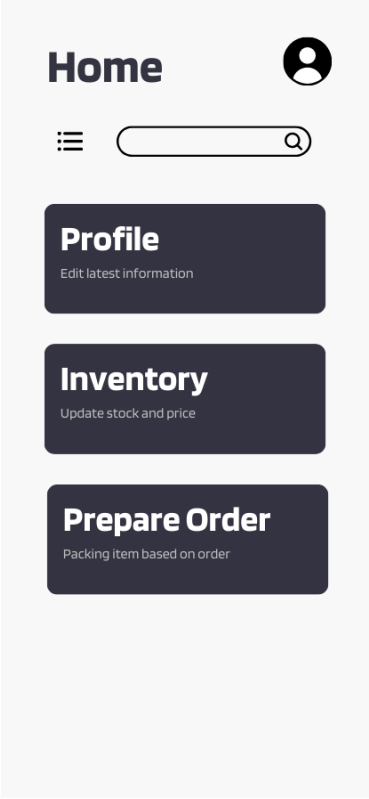


Figure 5.17 Home Page (Supplier)

5.5.2 Update Inventory and Price Page (Supplier)

Figure 5.18 illustrates an inventory management interface designed to help users track and update stock levels and product details across different locations. The interface is organized to display essential information clearly and concisely.

Key elements include:
1. Location: Each entry specifies the location of the inventory, such as Subang Jaya or Putrajaya, helping users identify where products are stored.
2. Item and Stock Levels: The interface lists items (e.g., RON95, RON97) along with their current stock levels (e.g., 10,000 liters, 5,000 liters), providing a quick overview of available inventory.
3. Price per Unit: The price per unit for each item is displayed (e.g., RM2.05, RM3.33), which is useful for financial tracking and sales planning.
4. Actions: Options like "Update Inventory" and "Create New Product" are provided, allowing supplier to manage and expand their inventory efficiently.

The design is straightforward and user-friendly, ensuring that supplier can easily access and manage inventory information. This approach is essential for maintaining accurate stock levels and supporting operational efficiency in various business contexts.

Figure 5.18 Update Inventory and Price Page (Supplier)

5.5.3 Prepare Order Page (Supplier)

Figure 5.19 illustrates a prepare order interface designed for suppliers, providing them with essential details to fulfill customer orders efficiently. The interface is structured to ensure clarity and ease of use.

Key components include:

1. Customer Information: Displays the customer's name (e.g., Arif) to help suppliers identify and organize orders.
2. Order Details: Lists specific items and quantities (e.g., RON 97, 10 liters; Diesel B10, 3 liters) to ensure accurate preparation.
3. Order ID: A unique identifier (e.g., O214) for each order, aiding in tracking and reference.
4. Contact Information: Provides a contact option for any necessary communication regarding the order.
5. Delivery Status: For ongoing orders, real-time updates (e.g., "Driver will arrive in 5 minutes") are provided to keep the supplier informed about the delivery progress.

The design emphasizes clarity and efficiency, ensuring that suppliers can quickly access and act on the information they need. This approach is crucial for maintaining smooth operations and timely order fulfillment in a supply chain context.

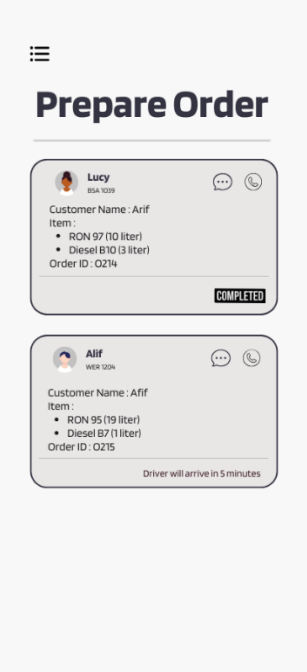


Figure 5.19 Prepare Order (Supplier)

6 Component Design

6.1 Main Components

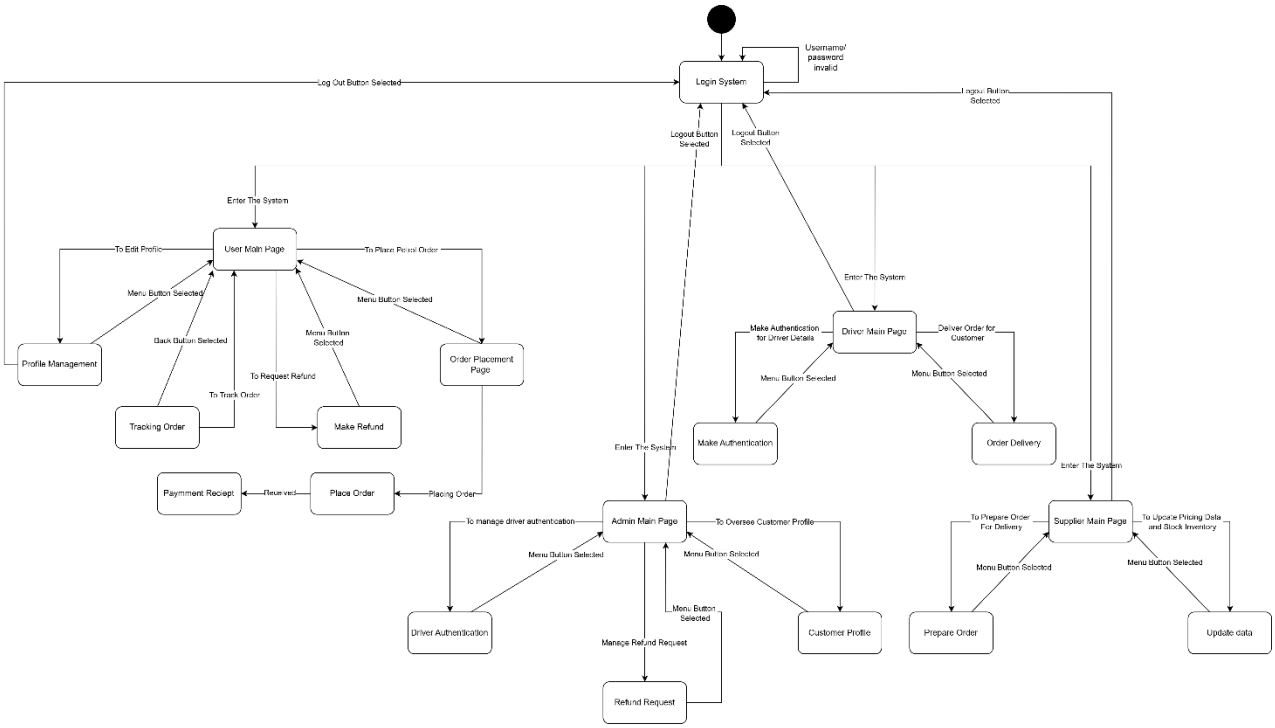


Figure 6.1. Overall component diagram

6.1.1 Component 1 : User

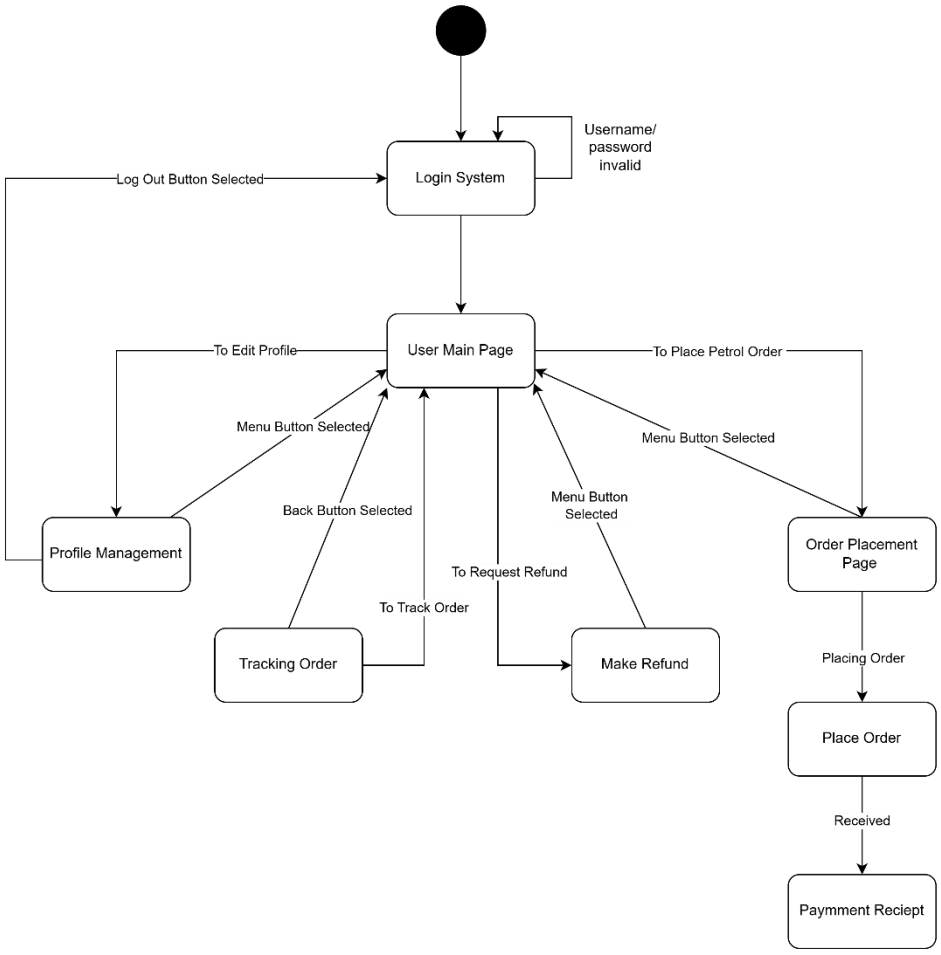


Figure :6.1.1. User component diagram

1. **Login System**: This is the authentication mechanism where customer log in to access the system.

2. **User Main Page**: This is the primary interface or dashboard for cutomers.

3. **Profile Management**: This involves managing and updating the customers' profile details.

4. **Order Placement**: This involves placing orders.

5. **Tracking Order**: This is to monitor the delivery or status of orders.

6. **Make Refund**: This action is to initiate refund requests.

7. **Payment Receipt**: This refers to payment processing which includes payment receipts as record.

6.1.2 Component 2 : Driver

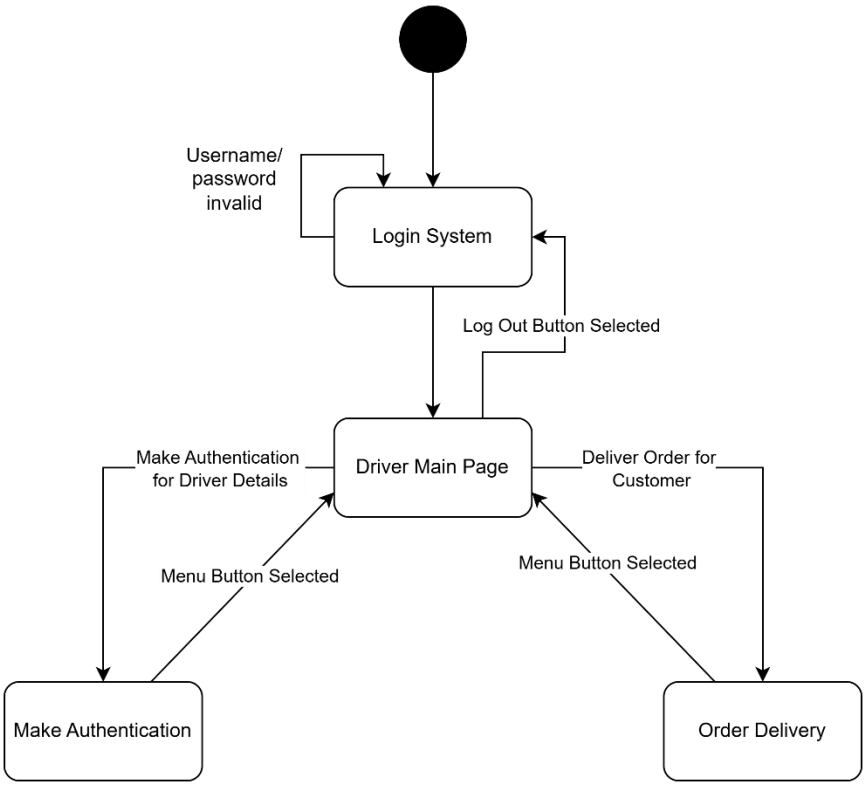


Figure : 6.1.2 Driver component design

1. **Login System**: This is the authentication mechanism where drivers, log in to access the system.

2. **Make Authentication**: This action involves verifying the identity of the driver to ensure secure access to the system.

3. **Driver Main Page**: This is the primary interface or dashboard for drivers.

4. **Order Delivery:** This action pertains to the process of delivering orders to customers.

6.1.3 Component 3 : Admin

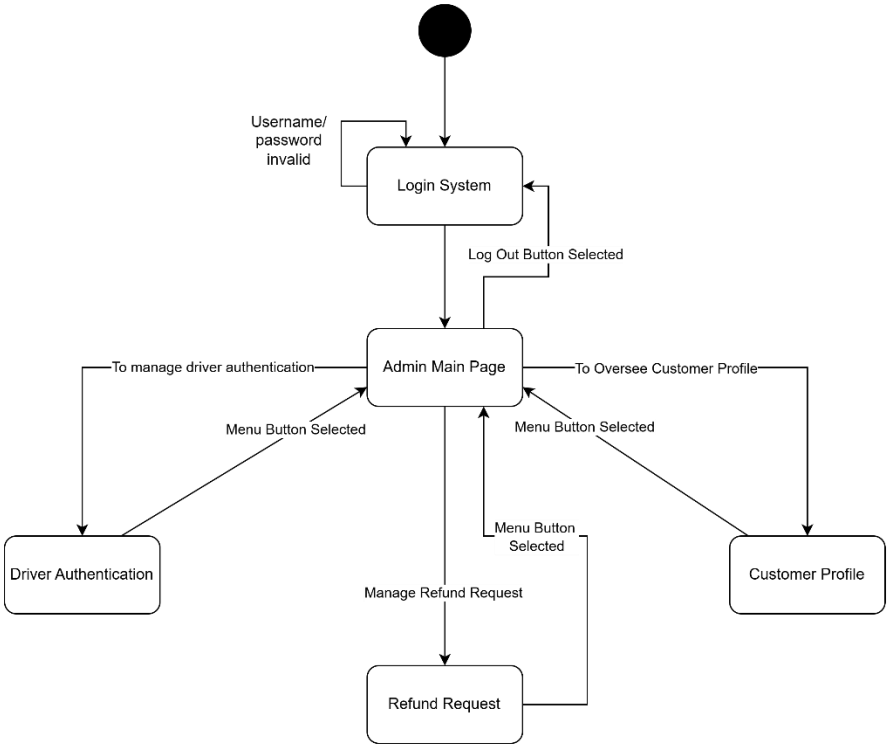


Figure : 6.1.3. Admin component design

1. Login System: This is the authentication mechanism where admin log in to access the system.

2. Manage Driver Authentication: This involves overseeing the process of accepting or rejecting driver that apply to register.

3. Admin Main Page: This is the primary interface or dashboard for admin.

4. Customer Profile: This action involves monitoring and managing customer information and profiles within the system to ensures that customer doesn't violates the regulation.

5. Refund Request: This is the specific task to reject or accept customer refund requests.

6.1.4 Component 4 : Supplier

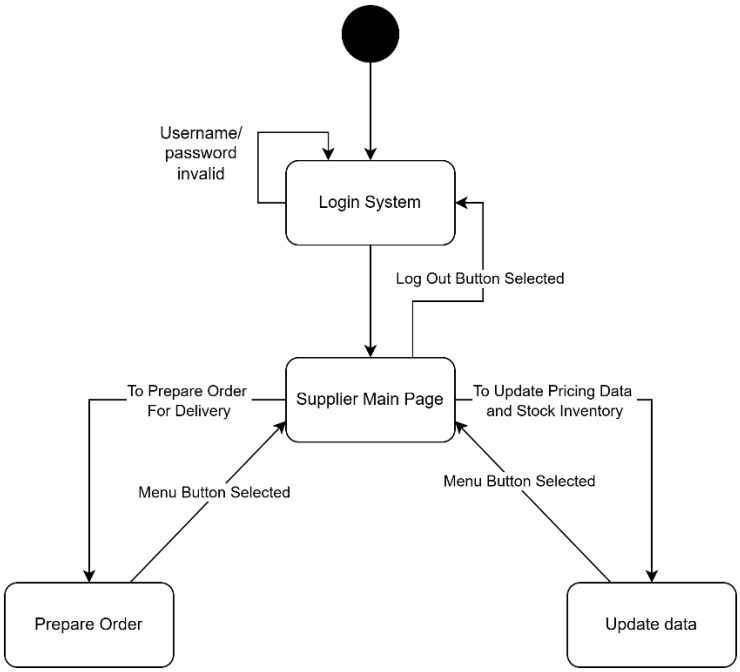
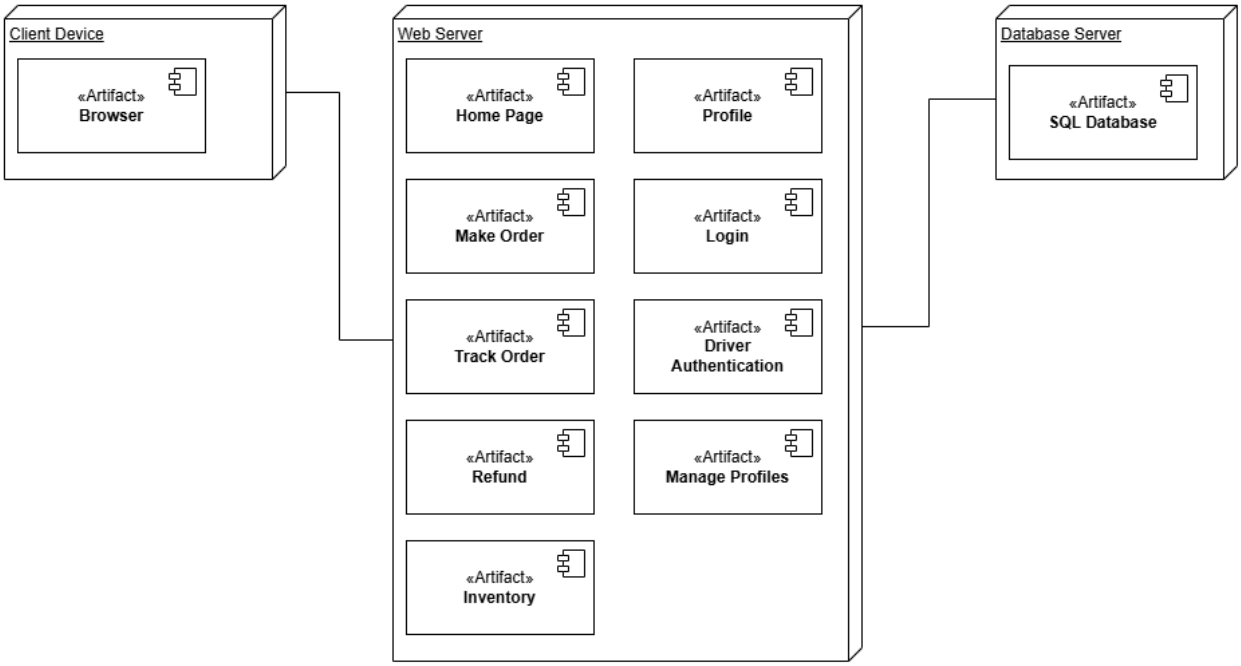


Figure : 6.1.4 Supplier component design

1. Login System: This refers to the mechanism where users log in to access the system.
2. Prepare Order: This refers to preparing order according to customer needs for driver to pickup.
3. Update Pricing Data: This refers to the process of modifying the pricing information and stock inventory within the system.
4. Supplier Main Page: Supplier main interface or dashboard.

7 Deployment Design

7.1 Deployment Diagram



For deployment diagram, HTML is chosen as the front-end interface, allowing users to interact with the system through their mobile devices using web browsers for convenience. The application leverages PHP as the server-side scripting language to process requests and establish a connection to the back-end SQL database, ensuring easier data management and retrieval.