Table Design

1. Users Table

This table will store basic information for both farmers and regular users.

Column Name	Data Type	Description
user_id	INT	Primary key, Auto Increment
email	VARCHAR (250)	Unique, User's email for login
password_hash	VARCHAR (250)	Hashed password
role	ENUM ('farmer', 'buyer')	User role type
created_at	TIMESTAMP	Account creation timestamp
updated_at	TIMESTAMP	Last update timestamp

2. User Details Table

This table will store additional details for users.

Column Name	Data Type	Description
userdetails_id	INT	Primary key, Auto Increment
user_id	INT	Foreign Key to Users table
name	VARCHAR(250)	Full name of the user
address	TEXT	Address
mobile_number	VARCHAR (15)	Mobile Number
location	VARCHAR (250)	Location
aadhar_number	VARCHAR (12)	Aadhar number
bank_name	VARCHAR (250)	Bank name
account_number	VARCHAR (20)	Bank account number

ifsc_code	VARCHAR(11)	IFSC code
delivery_address	TEXT	Delivery address (for buyers)

3. Rambutan Varieties Table

This table will store information about different rambutan varieties.

Column Name	Data Type	Description
variety_id	INT	Primary Key, Auto Increment
name	VARCHAR (250)	Name of the rambutan variety
description	TEXT	Description of the variety

4. Rambutan Post Table

This table will store rambutan products posted by farmers.

Column Name	Data Type	Description
post_id	INT	Primary Key, Auto Increment
user_id	INT	Foreign key to UserDetails table
product	ENUM (Varieties List)	Type of rambutan variety
category	ENUM ('fresh_fruit', 'juice', 'pickle', 'wine')	Product category
quantity_type	ENUM ('Kg','L')	Quantity unit type
quantity	INT	Total quantity
quantity_left	INT	Remaining quantities
price_per_unit	DECIMAL (10,2)	Price per unit
image_url	VARCHAR (250)	URL to the product image
description	TEXT	Description of the product

5. Transactions Table

This table will record transactions for purchasing rambutan or products.

Column Name	Data Type	Description
transaction_id	INT	Primary Key, Auto Increment
user_id	INT	Foreign Key to Users table (buyer)
farmer_id	INT	Foreign Key to Users table(farmer)
product_id	INT	Foreign Key to Products table
variety_id	INT	Foreign Key to Rambutan Varieties table
quantity	DECIMAL (10,2)	Quantity of rambutan/product
total_amount	DECIMAL (10,2)	Total amount paid
transaction_date	TIMESTAMP	Date and time of the transaction
status	ENUM ('pending', 'completed', 'cancelled')	Status of the transaction

6. Wishlist Table

This table stores products users have added to their wishlist.

Column Name	**Data Type**	**Description**
wishlist_id	INT (PK, Auto Increment)	Unique identifier for wishlist item
user_id	INT (FK to Users)	Reference to user
post_id	INT (FK to RambutanPost)	Reference to product
added_at	TIMESTAMP	Date added

7. Orders Table

This table helps manage and track the entire order process, from creation to fulfillment and payment.

Column Name	Data Type	Description
order_id	INT	Primary Key, Auto Increment
user_id	INT	Foreign Key to Users table (buyer)
order_date	TIMESTAMP	Date and time when the order was placed
total_amount	DECIMAL(10,2)	Total amount for the order
payment_status	ENUM ('pending', 'completed', 'failed', 'refunded')	Status of the payment
order_status	ENUM ('processing', 'shipped', 'delivered', 'cancelled')	Status of the order fulfillment
shipping_id	INT	Foreign Key to Shipping Information table
payment_method	VARCHAR(250)	Method used for payment (e.g., credit card, PayPal)

8. Shipping Information Table

This table will store shipping details for the orders.

Column Name	Data Type	Description
shipping_id	INT	Primary Key, Auto Increment
order_id	INT	Foreign Key to Orders table
user_id	INT	Foreign Key to Users table (buyer)
address	TEXT	Shipping address
delivery_date	TIMESTAMP	Estimated delivery date
shipping_status	ENUM('pending', 'shipped', 'delivered', 'returned')	Status of the shipping

9. Payment Details Table

This table will handle all the payment-related information for transactions.

Column Name	Data Type	Description
payment_id	INT	Primary Key, Auto Increment
order_id	INT	Foreign Key to Orders table
user_id	INT	Foreign Key to Users table
payment_method	VARCHAR (50)	Method of payment (e.g., Credit Card, PayPal)
payment_status	ENUM ('pending', 'completed', 'failed', 'refunded')	Status of payment
transaction_id	VARCHAR (250)	Transaction identifier from payment gateway
payment_date	TIMESTAMP	Date and time of the payment

10. Feedback Table

This table stores feedback or reviews from users about products or the overall service.

Column Name	Data Type	Description
feedback_id	INT	Primary Key, Auto Increment
user_id	INT	Foreign Key to Users table
product_id	INT	Foreign Key to Products table
rating	INT	Rating given by the user (1-5 scale)
comments	TEXT	Detailed feedback or comments
created_at	TIMESTAMP	Feedback submission timestamp

11. Notification Table

This table stores notifications sent to users (such as order status updates, bids accepted, etc.).

Column Name	Data Type	Description
notification_id	INT	Primary Key, Auto Increment
user_id	INT	Foreign Key to Users table
message	TEXT	Notification message
read_status	BOOLEAN	Whether the notification has been read
created_at	TIMESTAMP	Notification creation timestamp

12. Delivery Boy Registration Table

This table stores basic details for delivery boy accounts.

Column Name	Data Type	Description
deliveryboy_id	INT	Primary Key, Auto Increment
Email	VARCHAR (250)	Unique, Email ID for login
password_hash	VARCHAR (250)	Hashed password
full_name	VARCHAR (250)	Full name of the delivery boy
phone	VARCHAR (15)	Contact number
is_available	BOOLEAN	Availability status
created_at	TIMESTAMP	Account creation timestamp
updated_at	TIMESTAMP	Last update timestamp

13. Delivery Statistics Table

This table stores statistics related to delivery performance.

Column Name	Data Type	Description
stats_id	INT	Primary Key, Auto Increment
deliveryboy_id	INT	Foreign Key to Delivery boy registration table
total_deliveries	INT	Total deliveries completed
today_deliveries	INT	Deliveries completed today
rating	DECIMAL (3,2)	Average rating out of 5.0

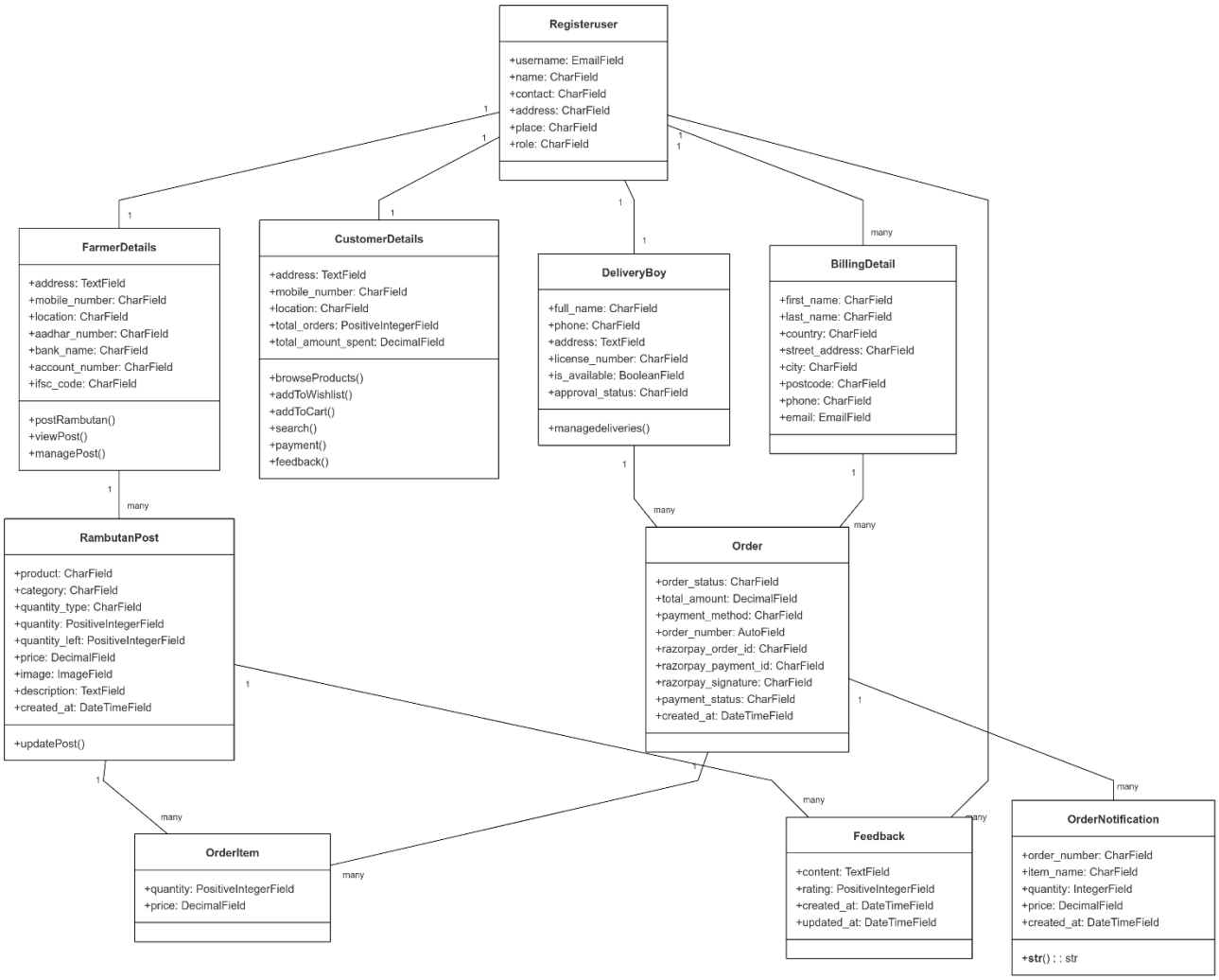
14. Order Assignment Table

This table tracks the orders assigned to delivery boys.

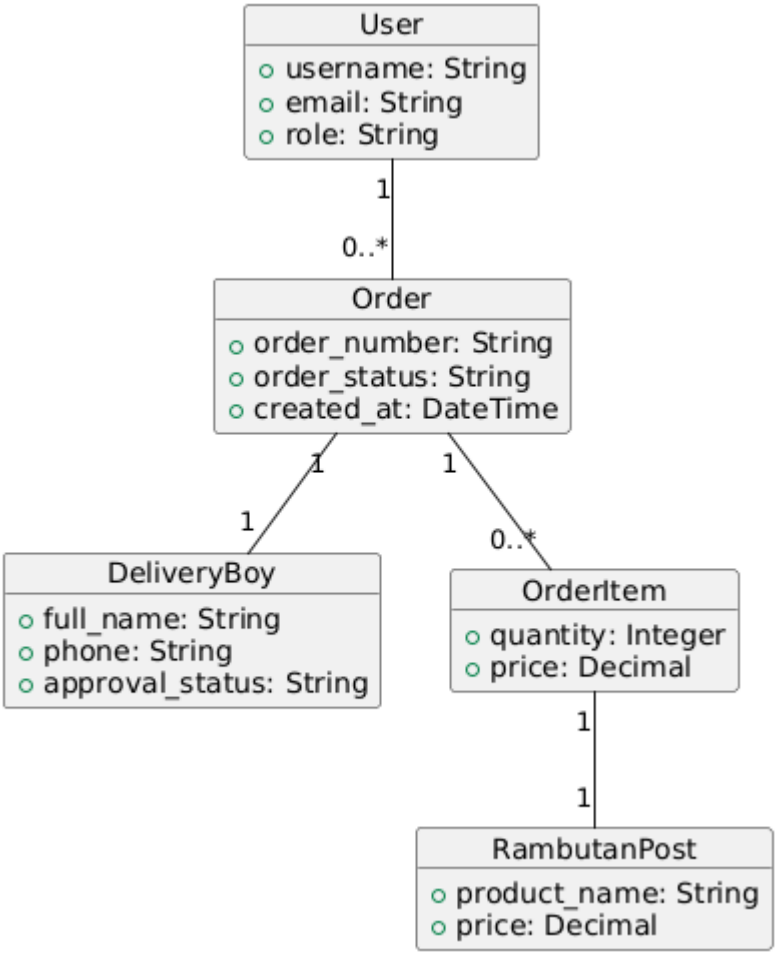
Column Name	Data Type	Description
assignment_id	INT	Primary Key, Auto Increment
order_id	INT	Foreign Key to Orders table
deliveryboy_id	INT	Foreign Key to Delivery Boy Registration table
status	ENUM	Order status (pending,in_progress,completed)

UML Designs

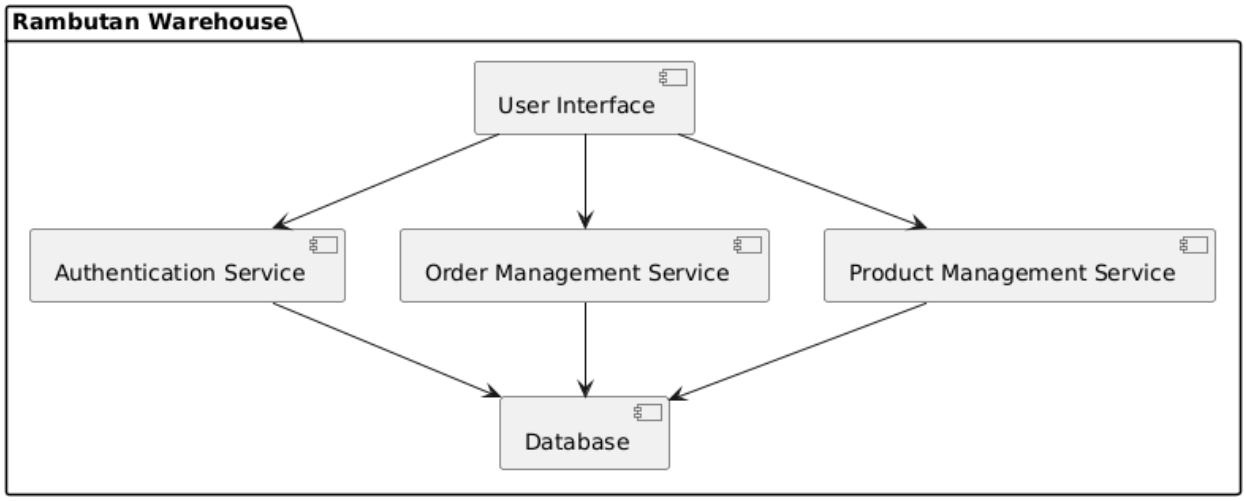
1. Class diagram



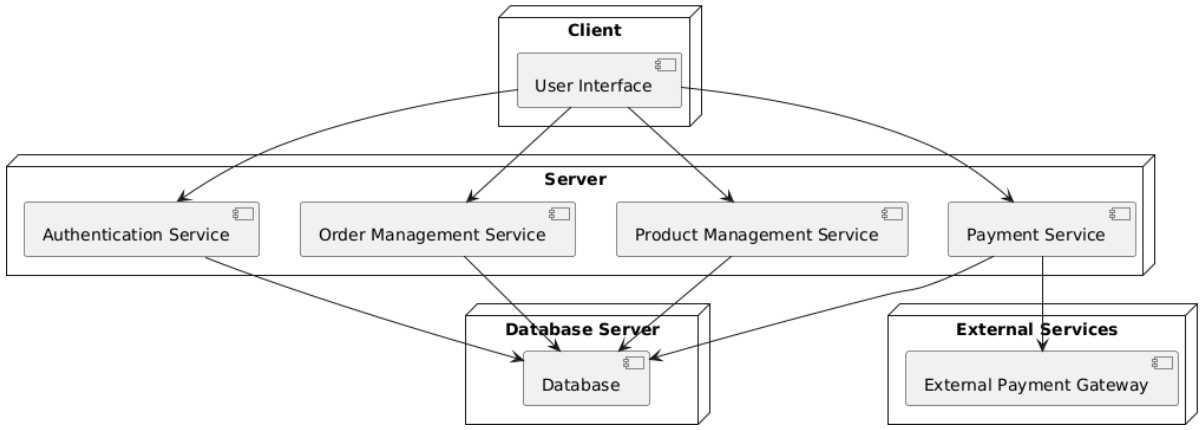
2. Object Diagram



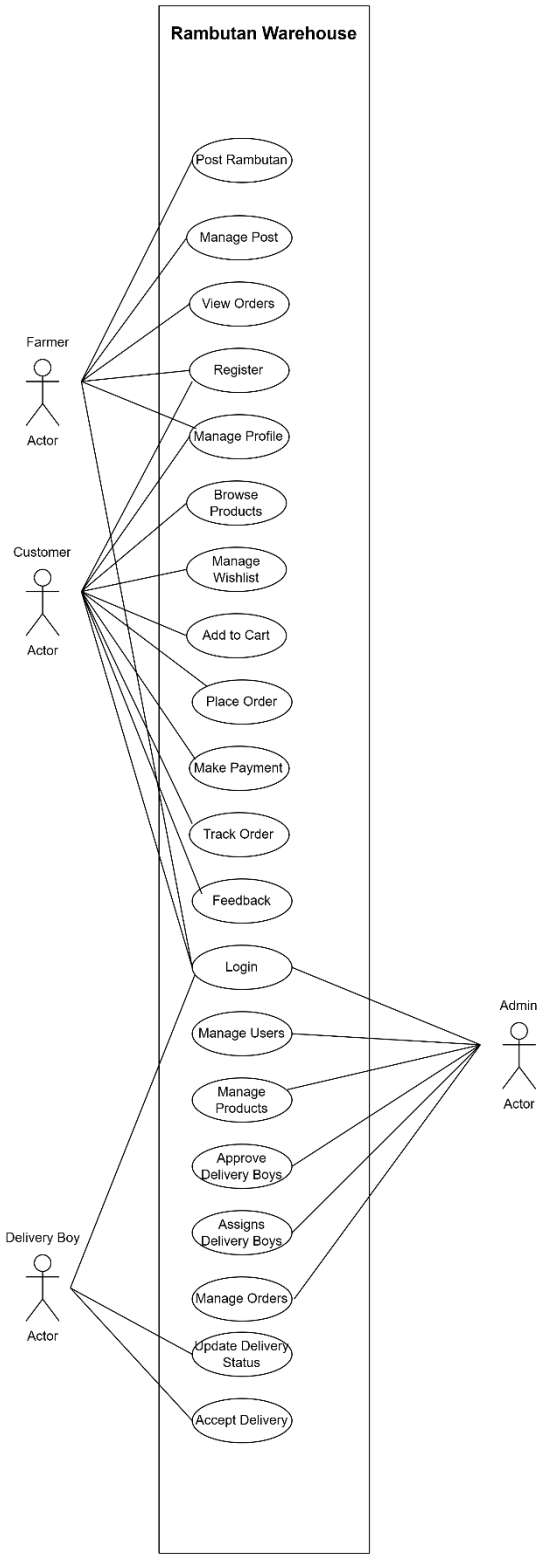
3. Component Diagram



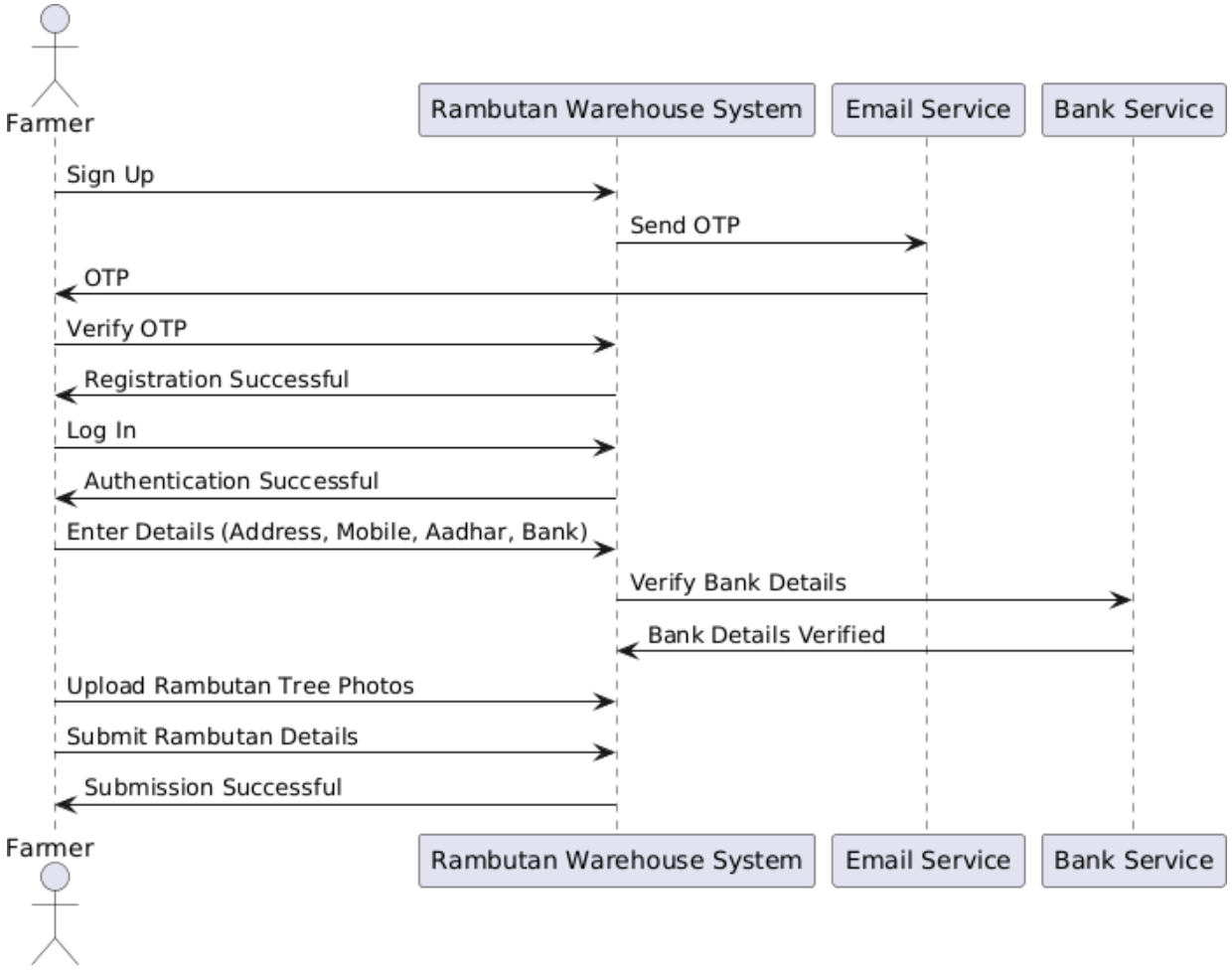
4. Deployment Diagram

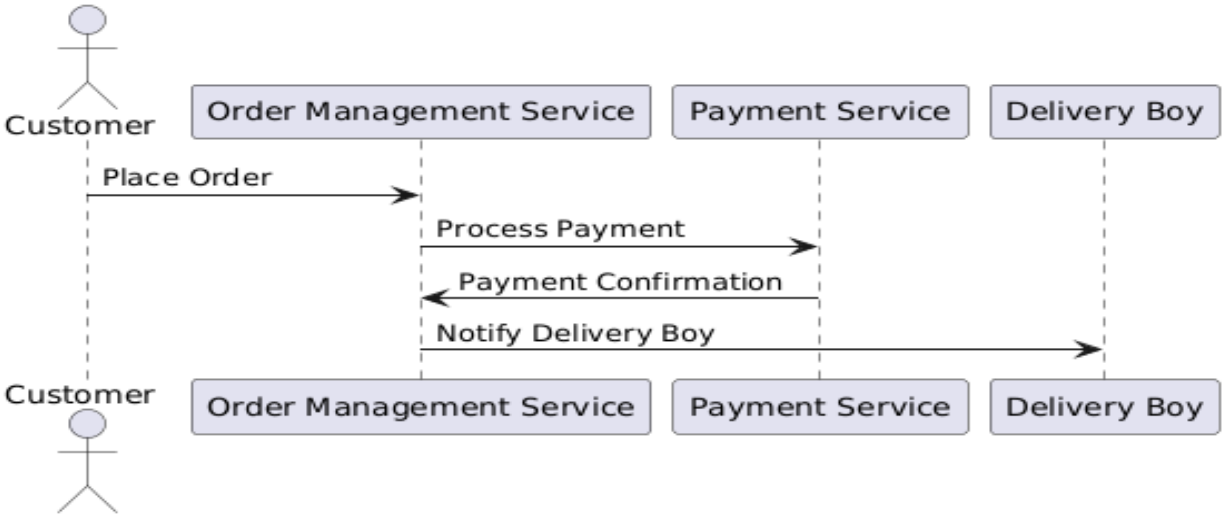


5. Use case

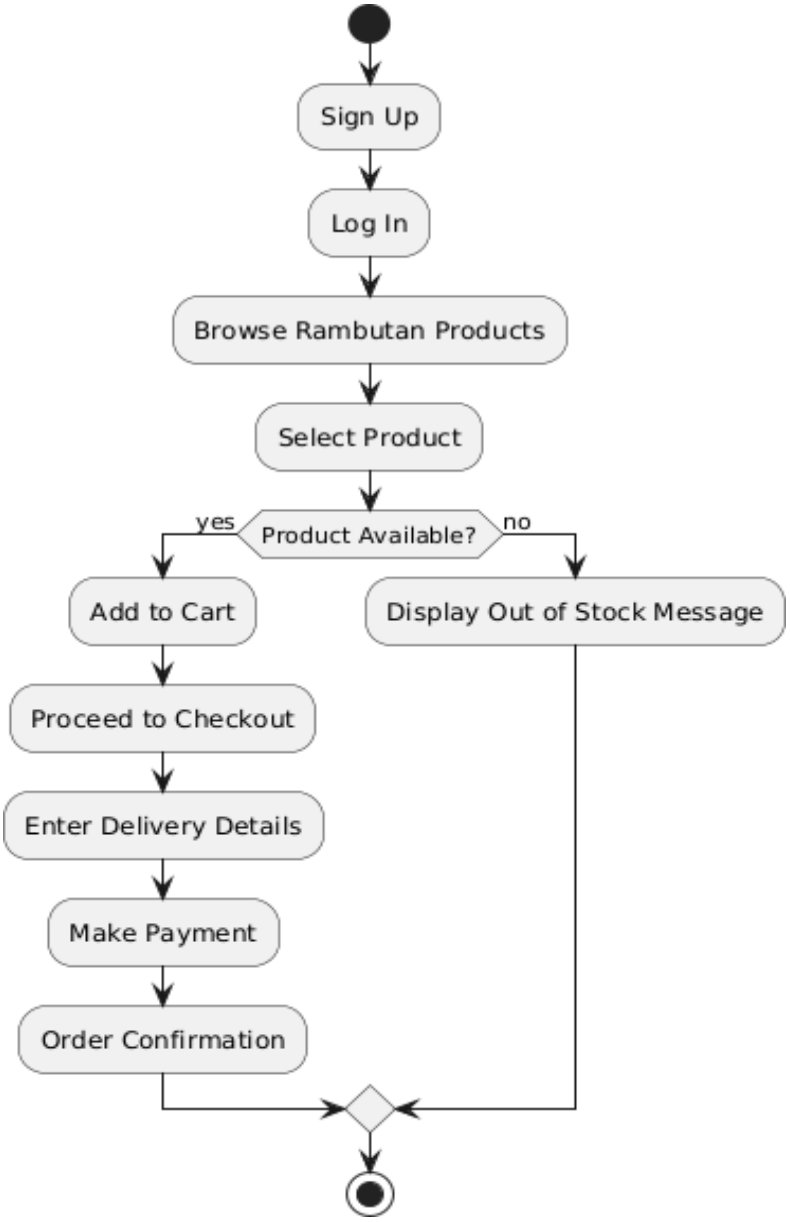
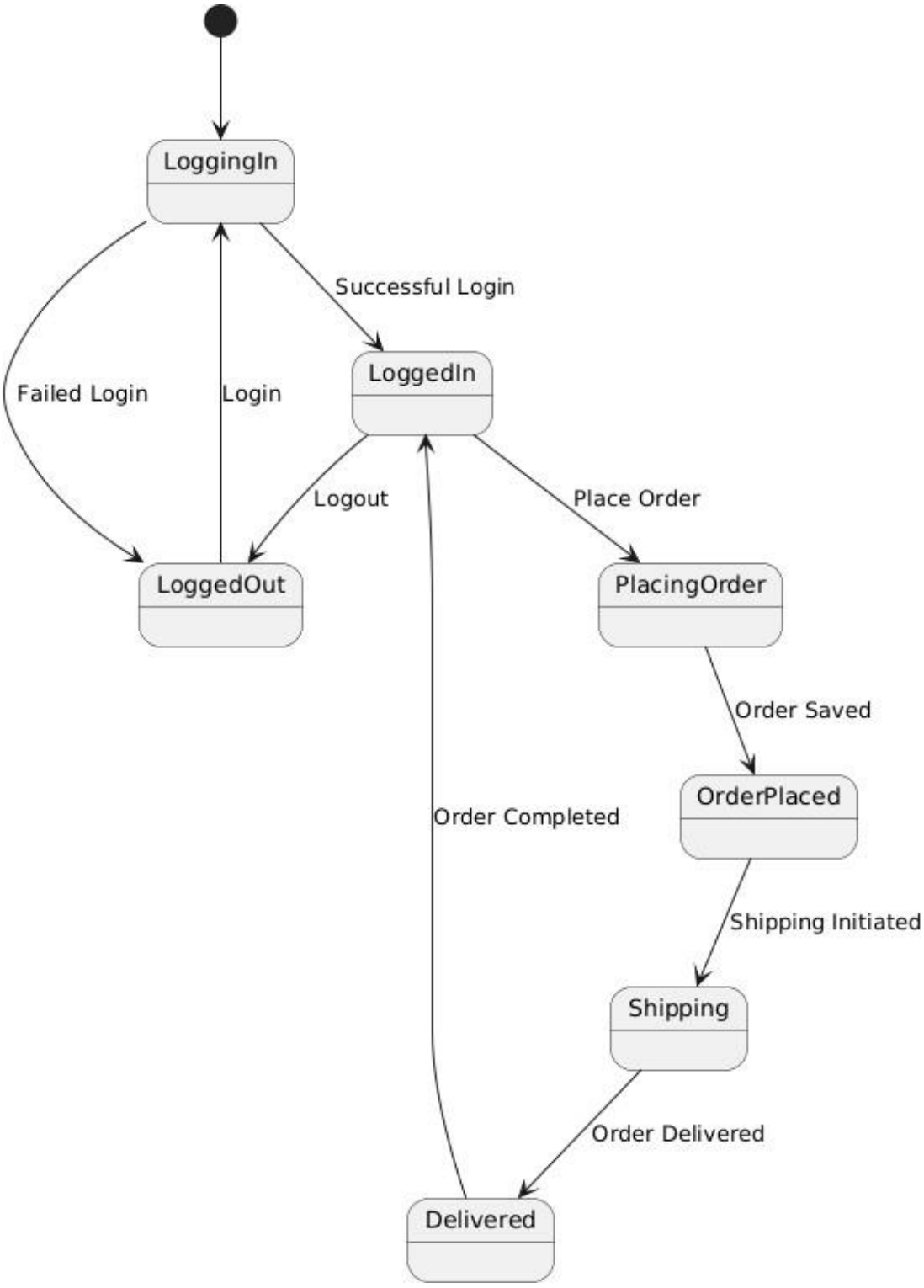

Rambutan Warehouse
Post Rambutan
Manage Post
View Orders
Register
Manage Profile
Browse Products
Manage Wishlist
Add to Cart
Place Order
Make Payment
Track Order
Feedback
Login
Manage Users
Manage Products
Approve Delivery Boys
Assigns Delivery Boys
Manage Orders
Update Delivery Status
Accept Delivery
Farmer
Actor
Customer
Actor
Delivery Boy
Actor
Admin
Actor

6. Sequence Diagram





7. Activity Diagram



8. State Chart Diagram