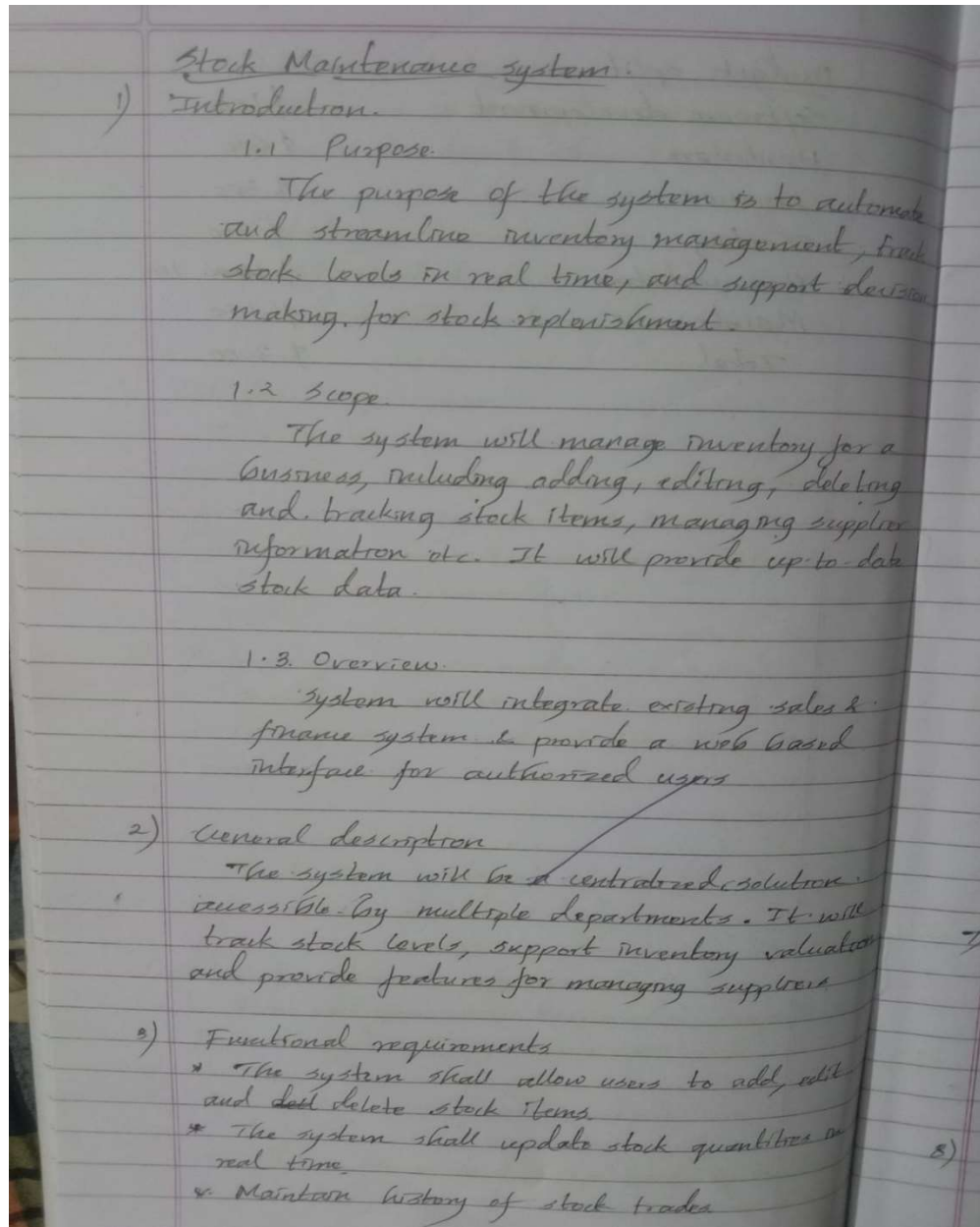


4. Stock Maintenance system

a. SRS Document:



- * Generate automatic alerts when stock levels reach a predefined threshold

4) Interface requirements

- * It will include dashboard views for inventory levels, search options & sorted tables
- * Proctors for getting trade reports
- * Integration with existing systems using RESTful APIs

5) Performance requirements

- * System shall support upto 5000 customers
- * Average response time for stock queries shall be less than 3 seconds
- * Updation of data must be real with delay not exceeding 2 seconds

6) Design constraints

- * System must support multiple user roles with different access levels
- * It should comply with company policies for security & data access

7) Non functional requirements

- * Scalability to increase no of users & data volume
- * Secure authentication measures and role based control access
- * Simple and easy to navigate user interface and documentation

8) Preliminary schedule & Budget

Total duration: 20 weeks

Budget

Software development : \$30000

Hardware (servers) \$15000

Licenses \$5000

Testing \$10000

Management \$5000

Documentation \$5000

Total \$70000

See

b.Advanced Class Diagram:

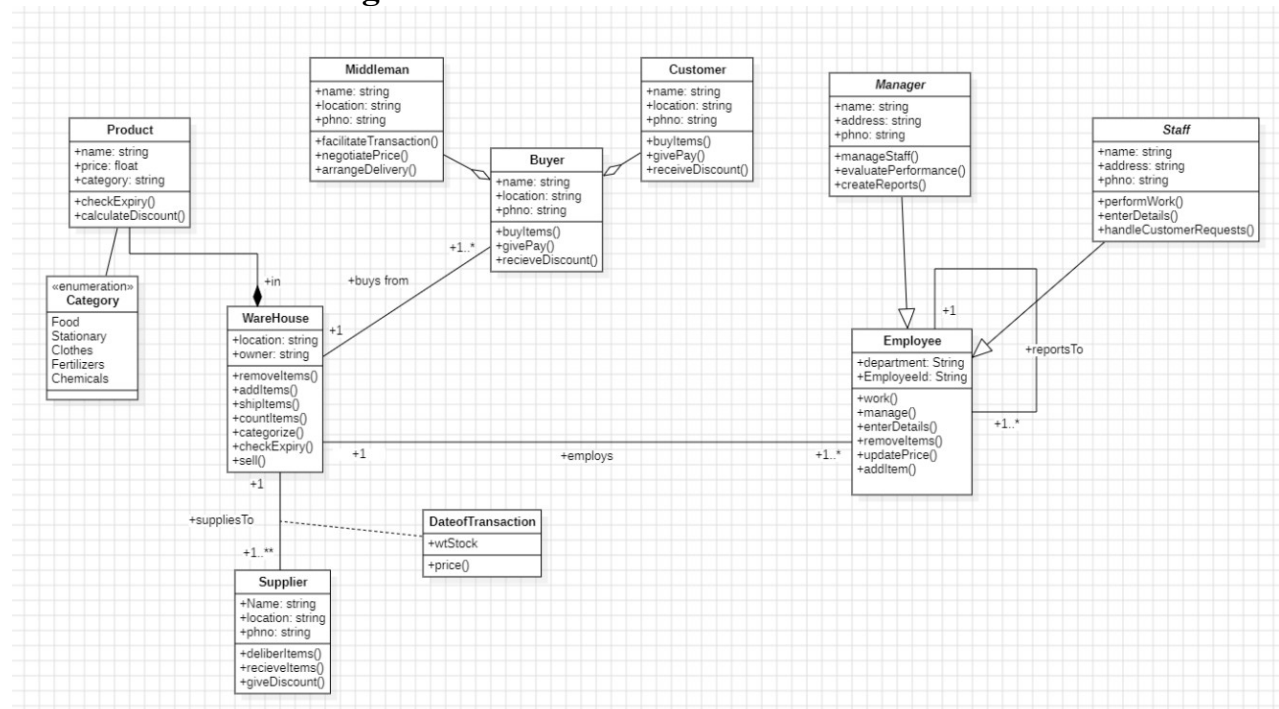


Fig 4.1:

Class diagram represents a system for managing a supply chain or retail business, showcasing the entities involved, their attributes, behaviors, and relationships. It includes classes like Product, Warehouse, Supplier, Middleman, Buyer, Customer, Employee, Manager, and Staff.

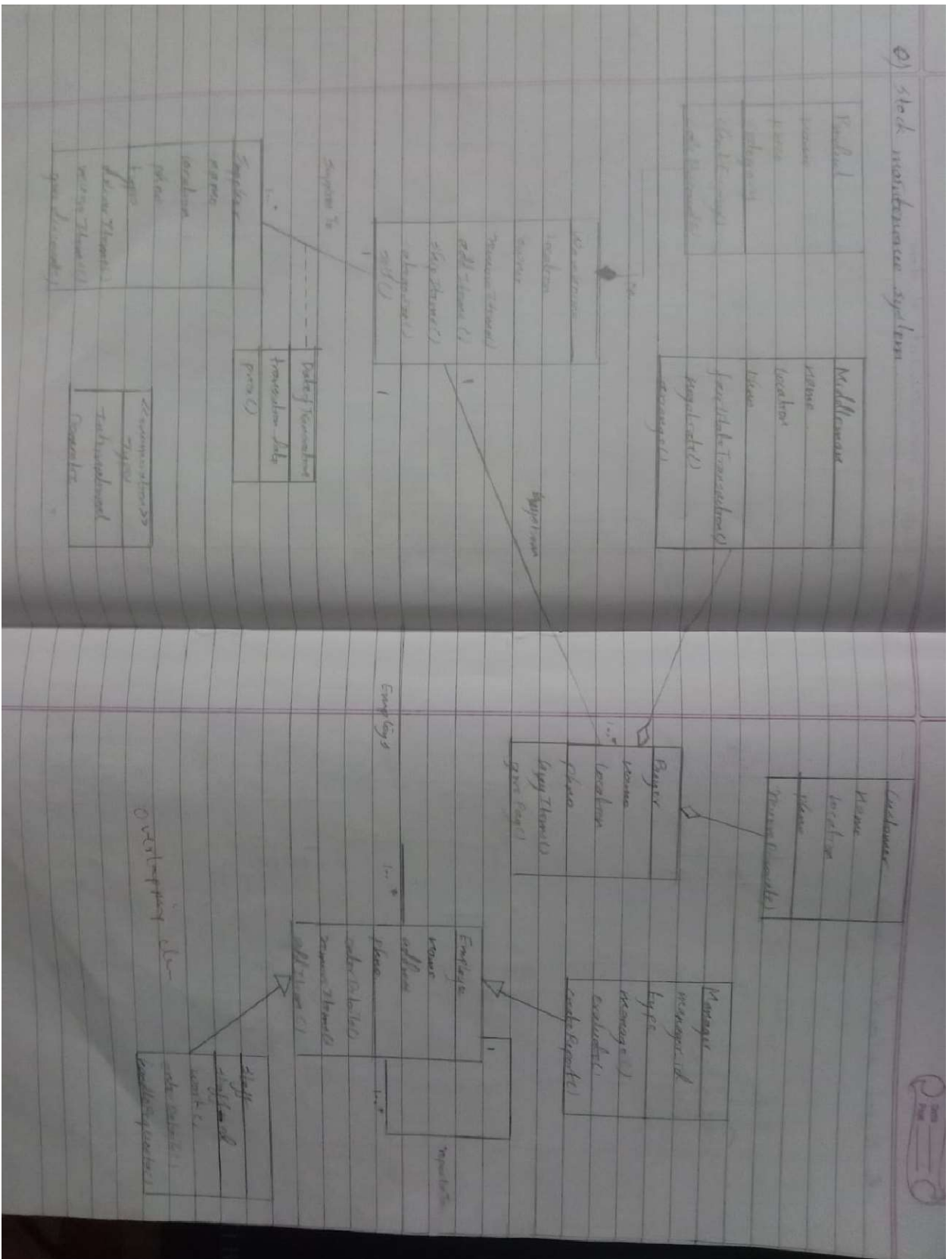
The Product class represents items categorized as Food, Stationary, Clothes, Fertilizers, or Chemicals, with methods to check expiry and calculate discounts. Products are stored and managed in the Warehouse, which handles inventory operations like adding, removing, and categorizing items. Suppliers provide products to the warehouse, while Buyers and Customers purchase them, facilitated by a Middleman who negotiates prices and arranges deliveries.

The Employee class represents workers managing warehouse or customer-related tasks, with roles divided into Staff (handling customer requests) and Managers (supervising staff and generating reports). The Date Of Transaction class records transaction details like stock and pricing.

- Warehouses being supplied by Suppliers and serving Buyers.
- Employees reporting to Managers and working within the warehouse or customer service.

This system models the complex interactions between entities in a supply chain, ensuring efficient inventory and transaction management.

Q) Stock maintenance system



b. Advanced State Diagram:

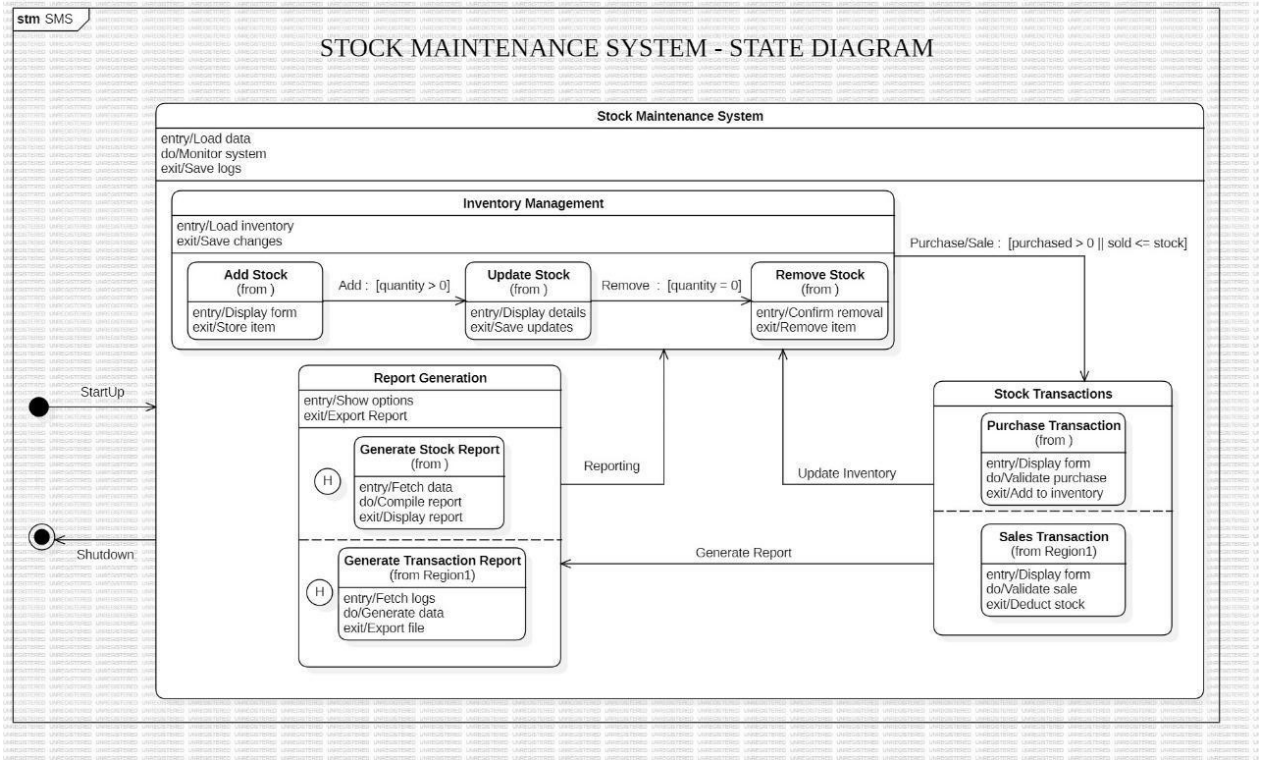


Fig 4.2:

c. Use Case Diagram:

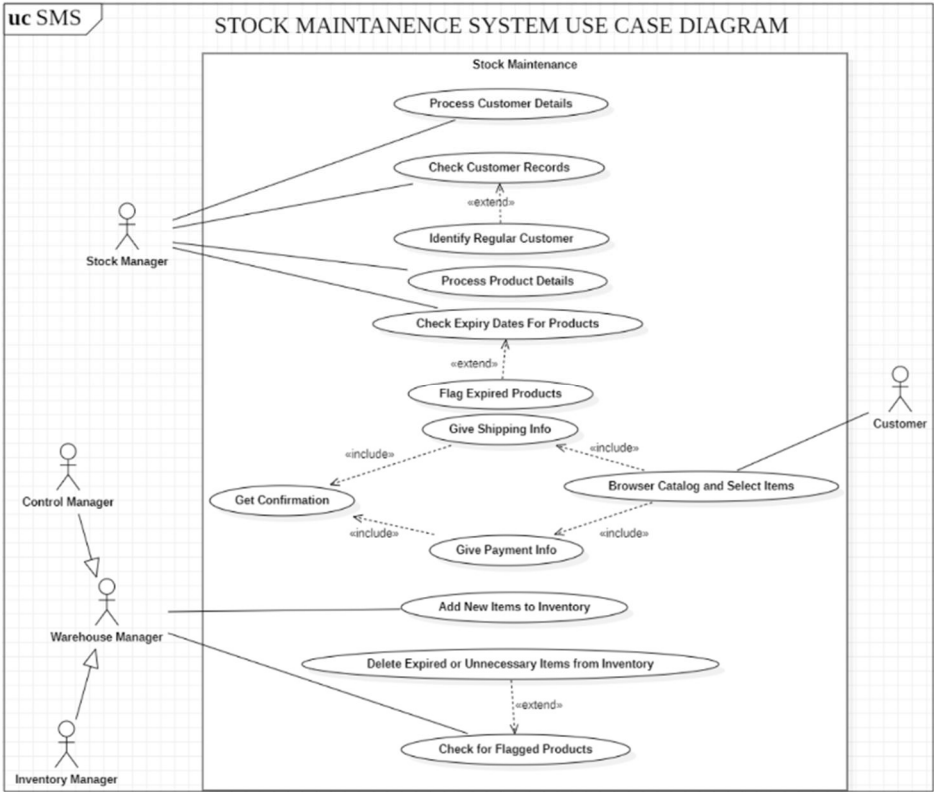


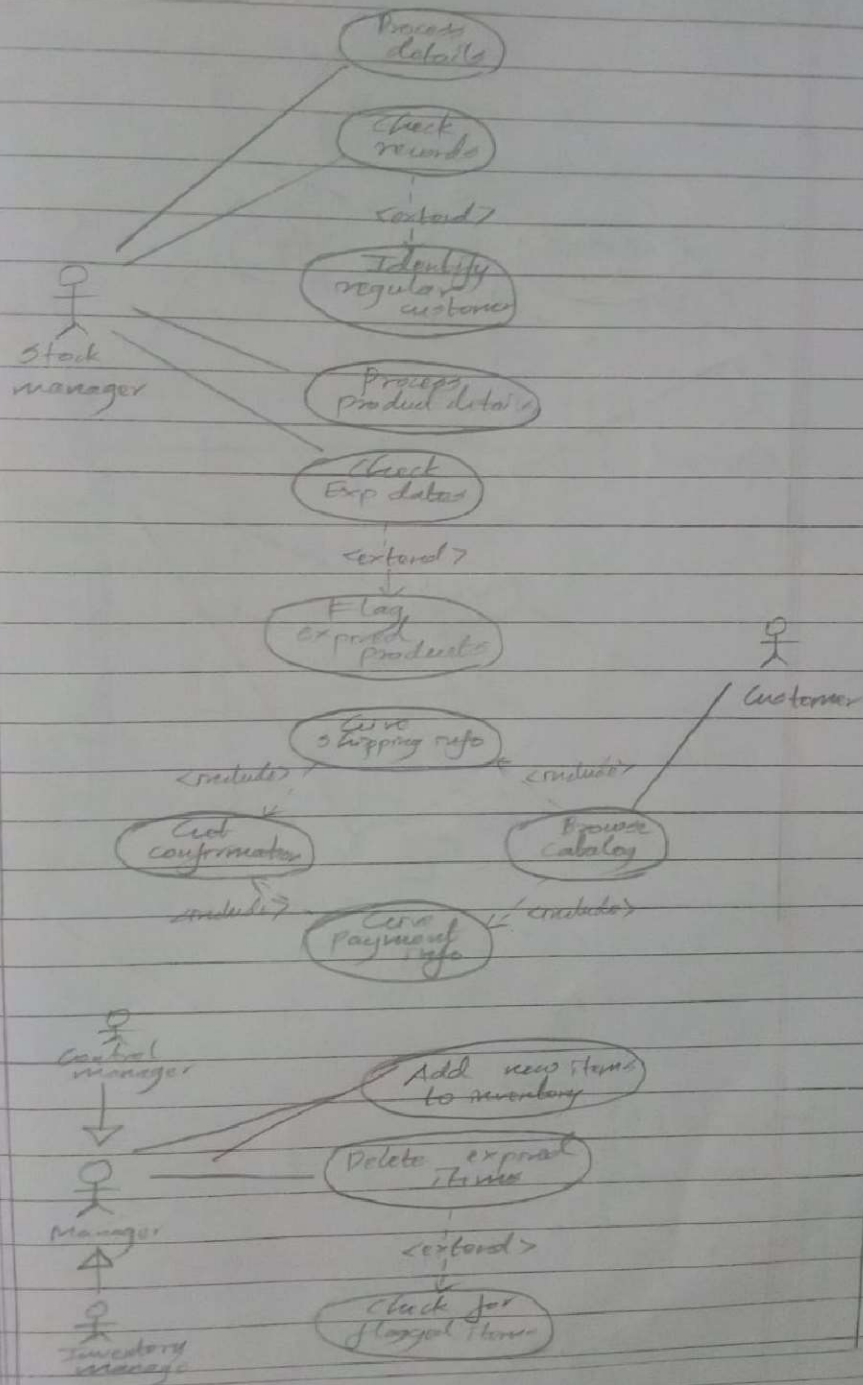
Fig 4.3:

Use case diagram represents a Stock Maintenance System, highlighting the interactions between key actors and system processes:

1. Actors:
 - Stock Manager: Handles customer and product details, checks expiry dates, and flags expired products.
 - Warehouse Manager: Adds new items to inventory.
 - Inventory Manager: Deletes expired or flagged items from inventory.
 - Customer: Browses the catalogue, selects items, and provides payment and shipping details.
2. Key Use Cases:
 - Stock Maintenance: Includes managing customer records, identifying regular customers, and processing product details.
 - Inventory Management: Adding new items and removing expired or unnecessary products.
3. Relationships:
 - Include: Mandatory actions, such as payment info during order processing.
 - Extend: Optional tasks, like flagging expired products during expiry checks.

4) Stock maintenance system

USE CASES



d. Sequence Diagram:

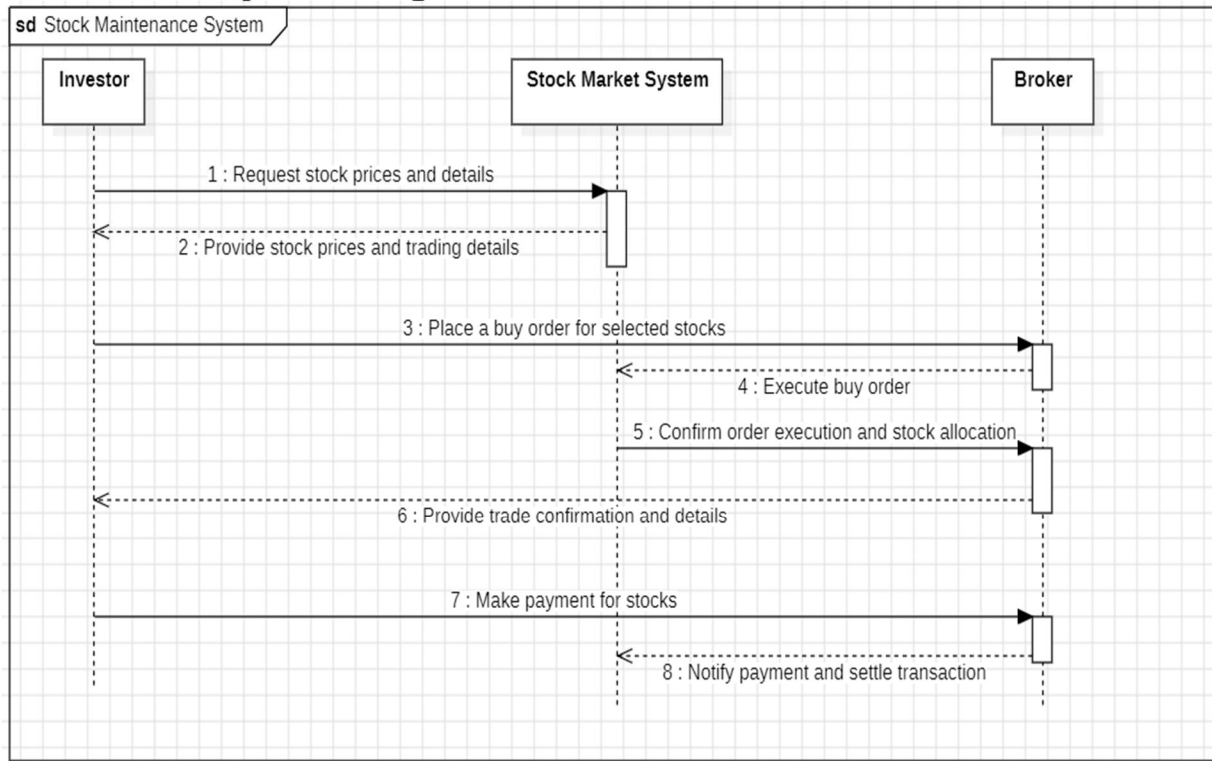
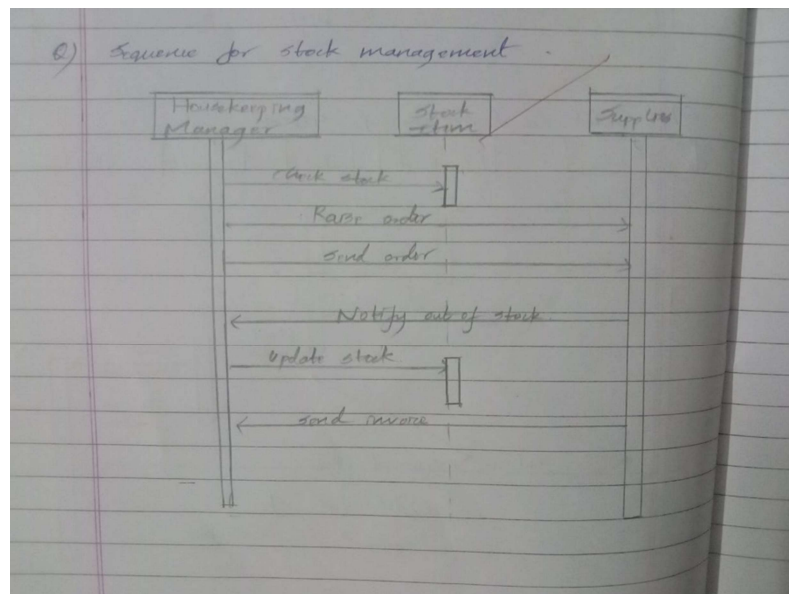


Fig 4.4:



e. Activity Diagram:

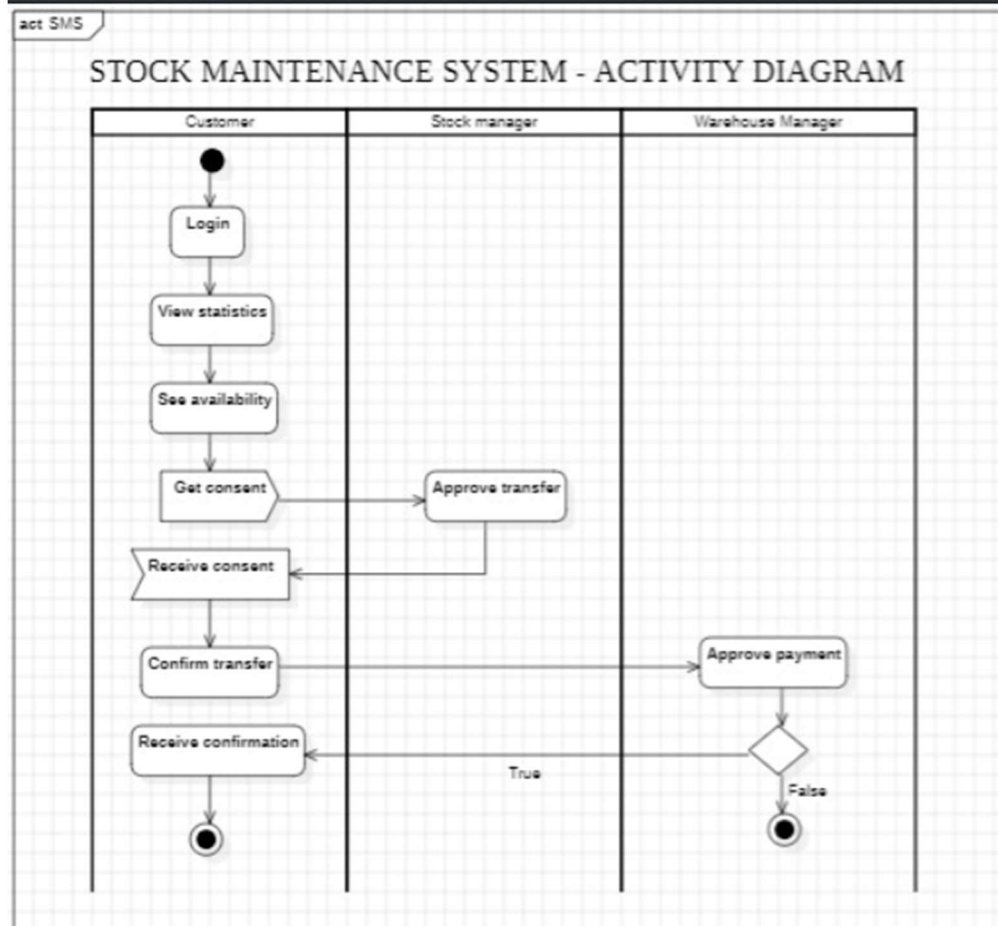


Fig 4.5:

Q) Stock maintenance system

