

Documentation Of OOSE Project

An Inventory Management System



An Inventory Management System

Group:

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Proposal

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Inventory management helps companies identify which and how much stock to order at what time. It tracks inventory from purchase to the sale of goods. The practice identifies and responds to trends to ensure there's always enough stock to fulfil customer orders and proper warning of a shortage.

- Inventory management System increases your company/business profit
- Inventory Management System improves customer satisfaction
- Inventory Management System make it easy to run your business
- Avoids risk of human error
- Save your endless hours and ensures that you don't make mistakes
- Improves supply chain operations
- Reduced cost

Scope:

Inventory management helps to manage the stock of the company. It provides pertinent details of the products to the purchasing department. Less Storage: When the inventory management provides accurate information to management, they buy according to them, which helps the company store fewer products.

Inventory management helps improve the productivity of the machines and human resources. Employees are aware of stocks and the quantity that require to produce.

Increase Profits: Inventory management helps to improve the profits of the company. It helps provide accurate information about stocks, saving unnecessary expenses on stocks.

To complete this project we will be using (Visual Studio Code (VS code)) as an IDE. And, Language:

- JavaScript

Mark-up Languages:

- HTML
- CSS

Functional & Non-Functional Requirements

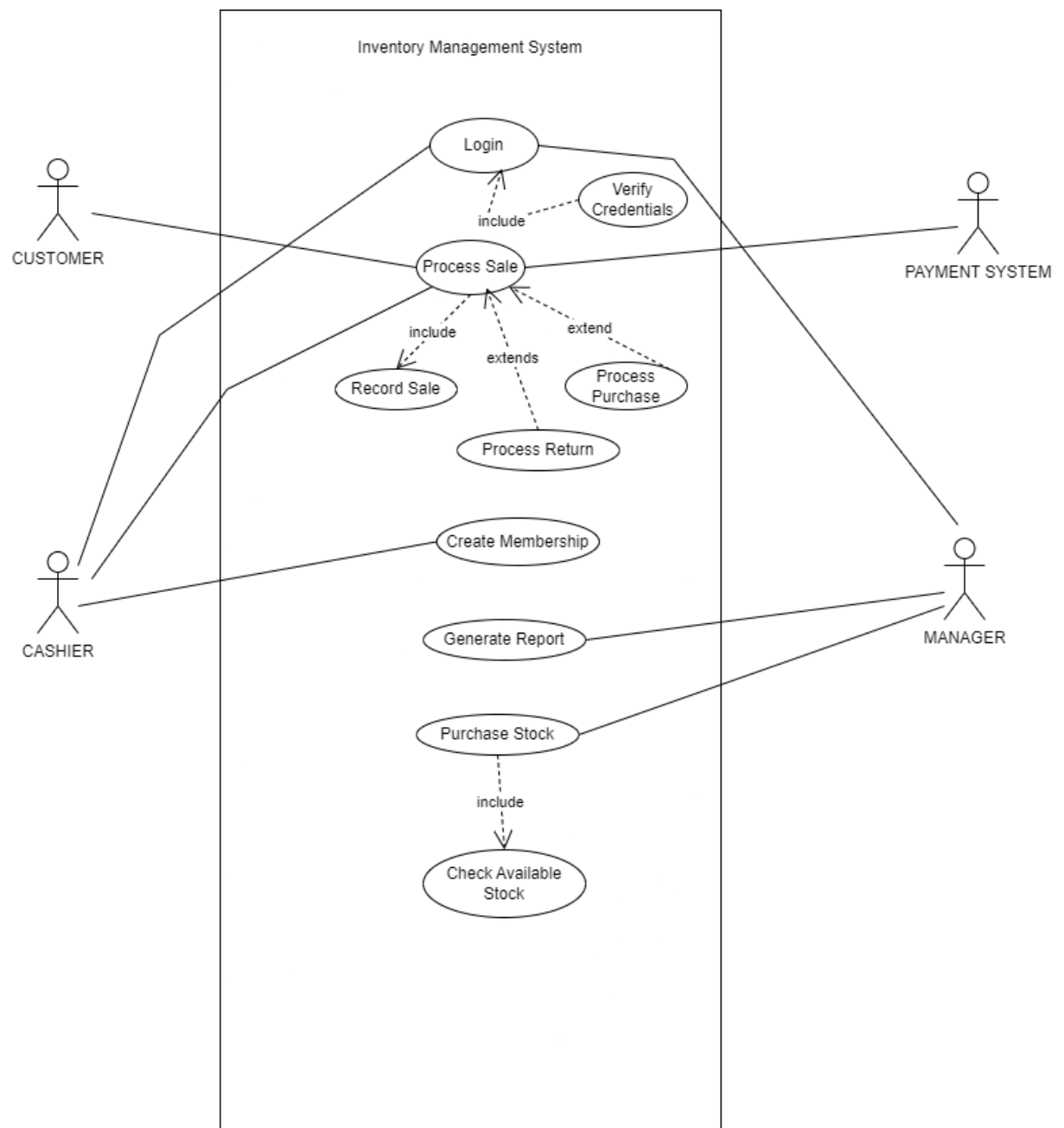
Functional Requirements:

The System aims at providing an efficient interface to the user for managing inventory, and it shall also provide the user with varied options for managing the inventory through various functions at hand. The design is such that the user does not have to update the inventory every time manually. The ingredient levels are continuously monitored based on their usage and are checked for the threshold levels in the inventory, and accordingly, the user is alerted about low levels of certain ingredients.

Non-Functional Requirements:

- Usability
- Reliability
- Performance
- Legal to use

Use Case Diagram



Fully Dressed Use Cases:

Use Case UC1: Generate Report

Scope: Inventory Management System

Level: User-goal

Primary Actor: Manager

Stack Holders & Interests:

Manager: Wants to know about the monthly Sales Report, most sold products, Returns completed, Number of visited customers, Most sales time. Wants to know about the available stock, out-of-stock items, incoming stocks, and Payments report.

Pre-Condition: Manager is successfully logged in. Database System is running.

Post-Condition: The requested report is generated and saved into a CSV file with full details. A printable PDF file is created. The final report is shown on the screen.

- **Main Success Scenario:**
- Manager login to the system.
- Starts the Report process.
- Enter the required information query.
- The system displays the data on the screen and asks for confirmation.
- After confirmation, the report is exported in PDF and CSV format.

Extensions:

If the data retrieval fails because of missing data or other database-related issues.

- Manager starts backup and recovery process.
- Recovers the data.
- Restart the Report process.

Special Requirements:

The displayed report must be in a proper format.

Technology and Data Variation List:

Export file format must be CSV or PDF or both

Frequency of Occurrence: As requested by Manager.

Use Case UC2: Sales

Scope: Sales

Level: User-goal

Primary Actor: Cashier

Stack Holders & Interests:

Cashier: Wants easy product entry, faster bill generation, and stock updates.

Customer: Wants fast service with minimal effort, easily visible display of entered items and prices. Wants proof of purchase to support returns.

Manager: Wants the sale to be recorded with date, time, and complete details of Purchased items. Wants stock report to be updated and should be notified about nearly out-of-stock items.

Payment System: Wants to receive digital authorization requests in the correct format and protocol.

Pre-Condition: Cashier is successfully logged in. The System is up and running.

Post-Condition: The sale is recorded with date and time, inventory is updated, Receipt is generated, and Payment records are updated.

Main Success Scenario:

- The cashier starts a new sale.
- All items are entered into the System one by one until all are done.
- The calculated total with taxes is shown to the customer and is asked for payment.
- The customer chooses a payment method, and the Payment system handles the transaction.
- The Receipt is generated.
- The System records the sale, the payment record is saved, and inventory is updated.

Extensions:

The manager overrides the process.

- Login to System as manager
- Checks balance, cancel a sale, delete an item from system.
- Restarts the system.

Customer wants to change payment method.

- Payments System reverts to initial state.
- Customer chooses payment method.
- The sale process continues.

Customer wants to return an item.

- Cashier asks for receipt.
- Checks receipt in system.
- If record is found, cashier proceeds with return process.
- If record is not found, cashier declines return and ask for some other proof.

Special Requirements:

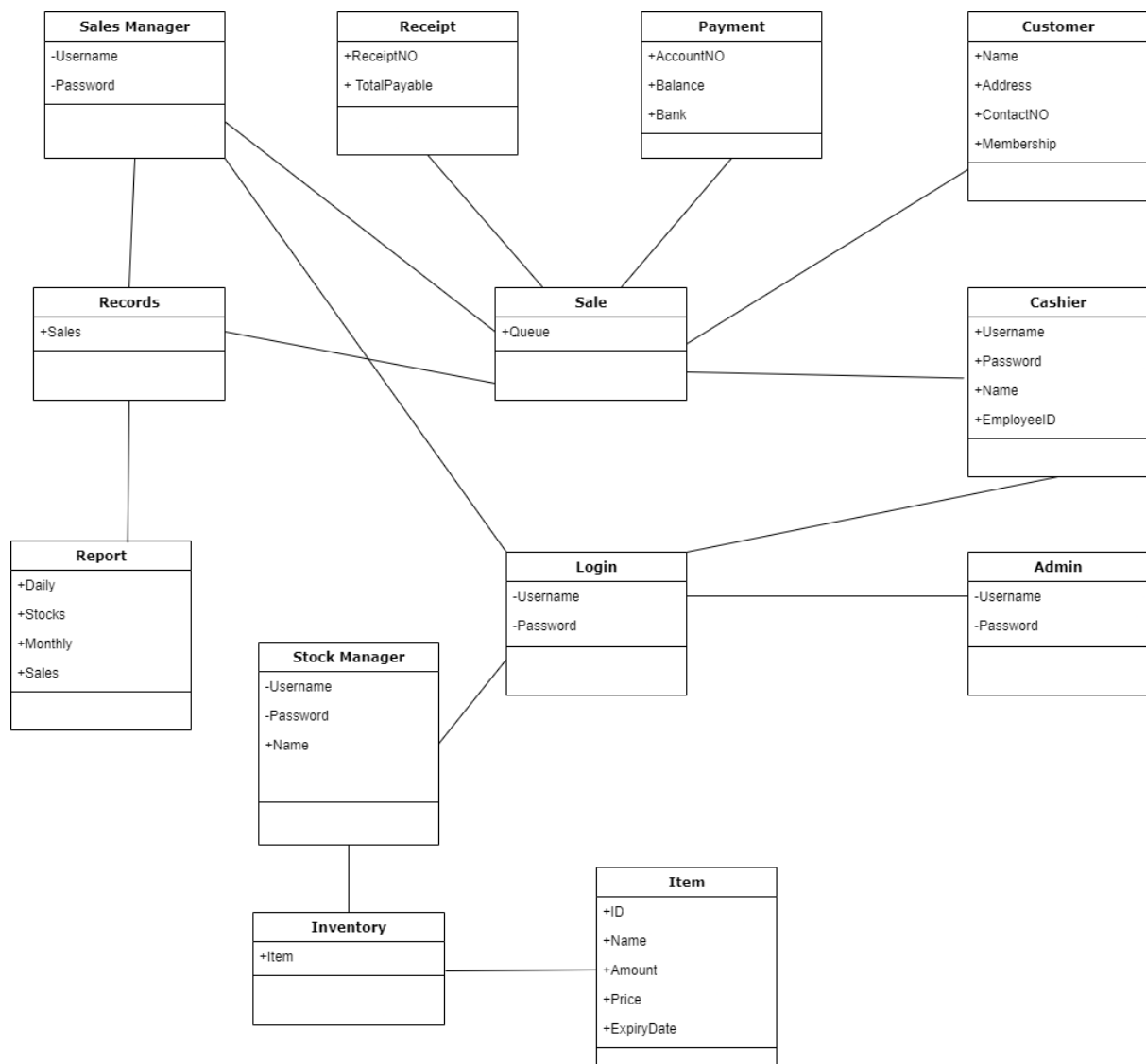
The payment process must take less than 30 seconds. Items and calculated prices must be visible to the customer.

Technology and Data Variation List: Item identifier must be done with a barcode scanner or manual input.

Frequency of Occurrence: Depending on customer arrival.

Domain Model Classes:

- Sale
- Sale Manager
- Receipt
- Payment
- Customer
- Cashier
- Admin
- Report
- Login
- 10.Items
- 11.Inventory
- 12.Stock Manager
- 13.Records

Domain Model

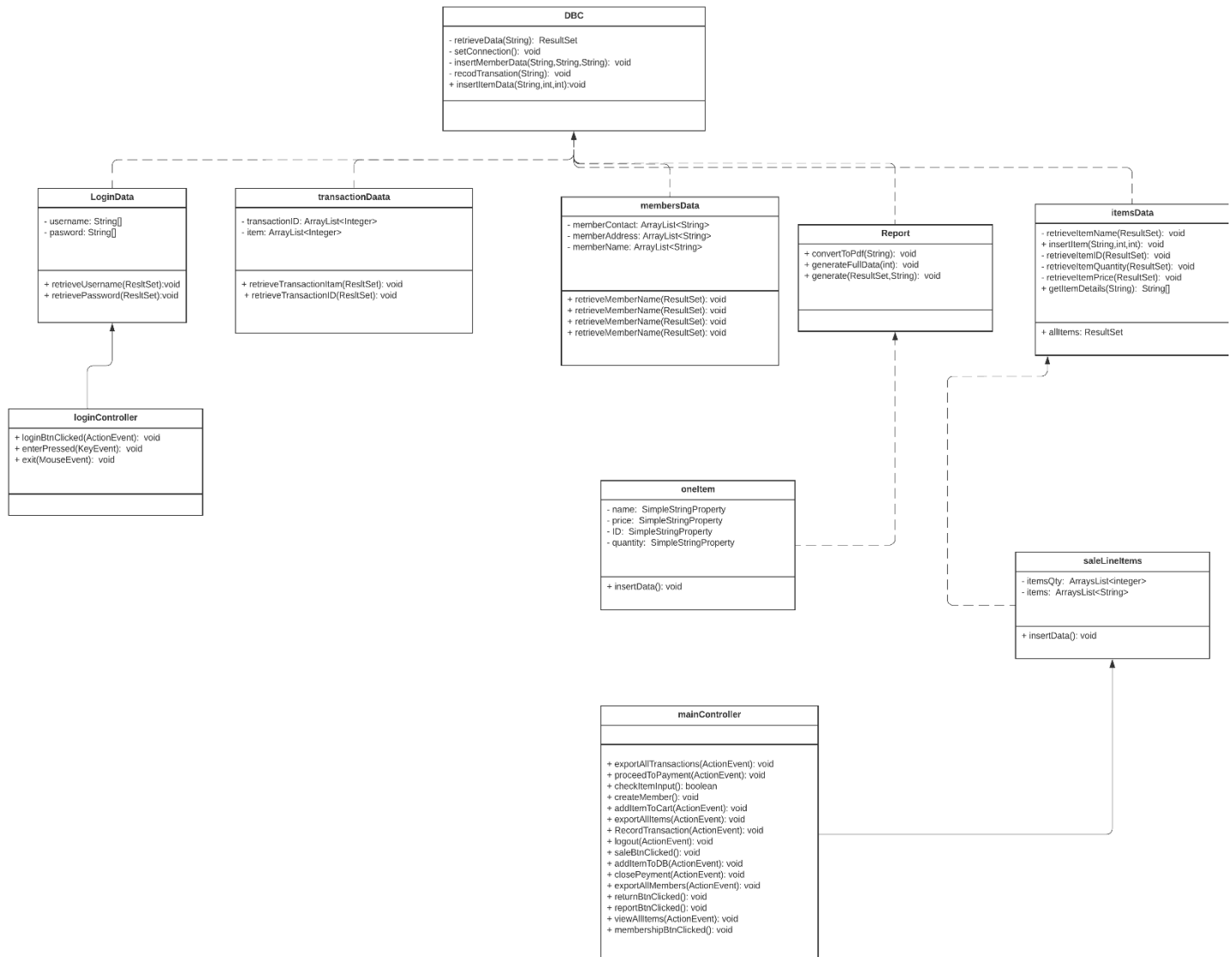
Classes of Your Semester Project

- Login Data
- Login Controller
- transaction Data
- members Data
- items Data
- report
- one Item
- sale Line Item
- main Controller

Draw Class Diagram of Your Semester Projec

UML class

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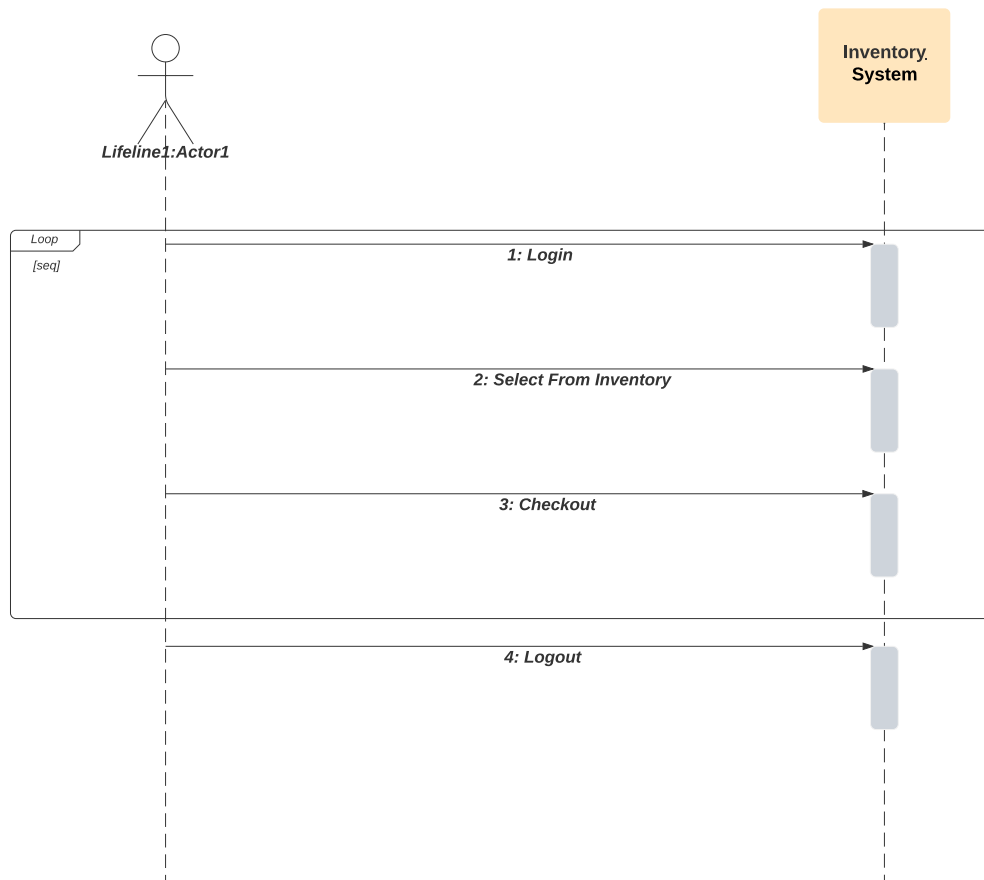


System Sequence Diagrams

SSD: LOGIN:

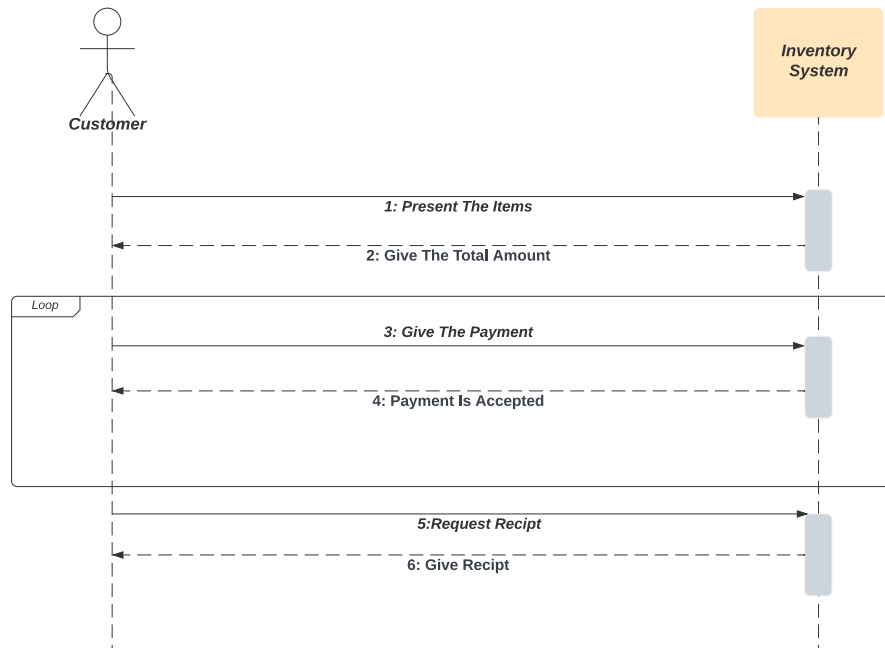
Sequence diagram

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**SSD: Process Sale:**

Sequence diagram-Process Sale

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Operation Contracts

Operation Contract: LOGIN

- Operation: Login (int id, String name)
- Cross references: use case Login
- Precondition: customers should enter name and id for Login
- Post condition: Customer should select inventory and checkout.

Operation Contract: PROCESS SALE:

- Operation: Process Sale(int payment, String Item)
- Cross references: use case Process Sale
- Precondition: Stock Manager should request to generate purchase order
- Post condition: Stock Manager will receive purchase order

Component Diagram

Inventory Database: This component serves as the central repository for storing all the information about the items in the inventory, such as product details, quantities, and supplier information.

Stock: This component continuously monitors the inventory levels by accessing the Inventory Database and keeping track of the quantities available for each item.

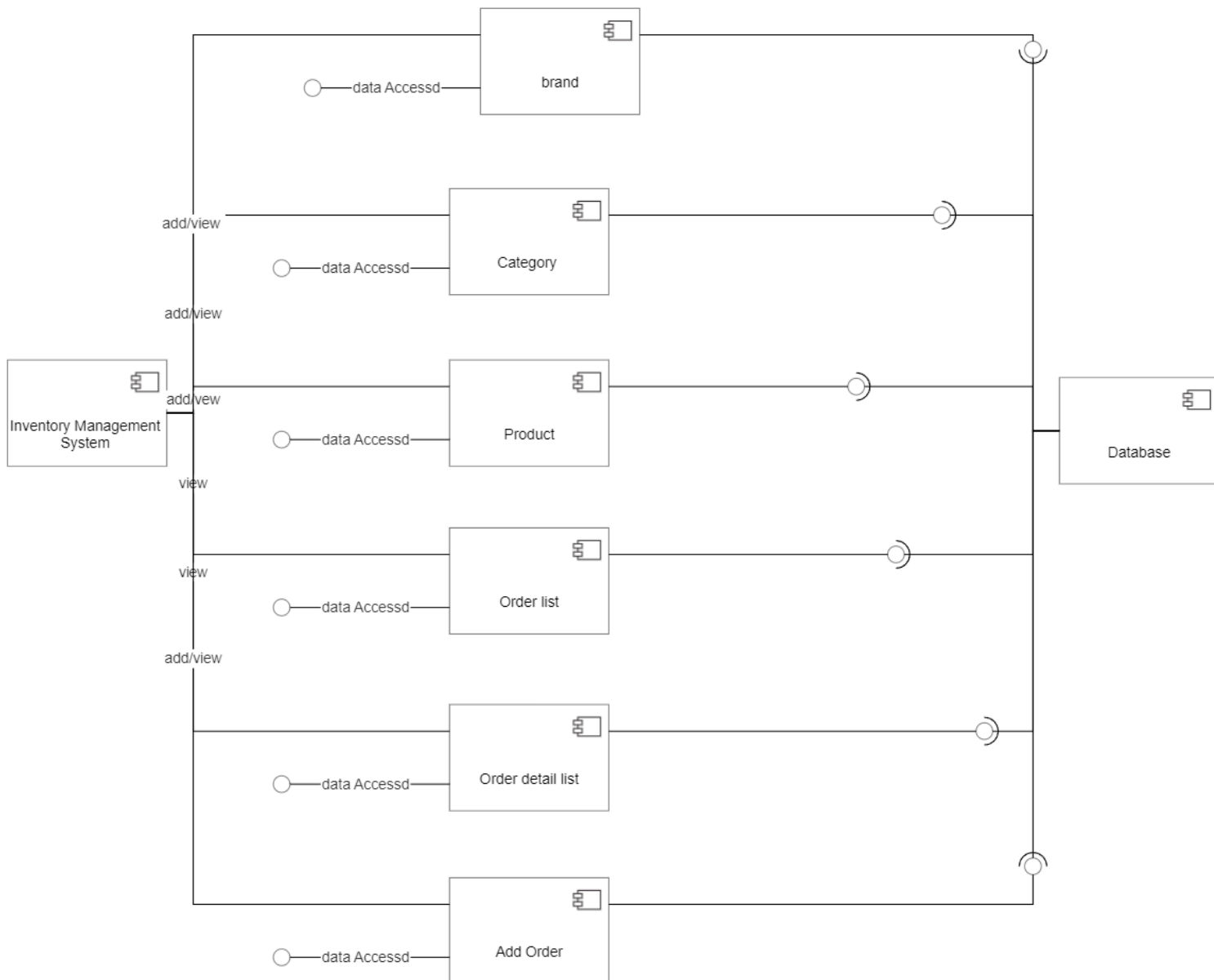
Reordering System: This component handles the process of generating purchase orders or replenishment requests when the inventory level of an item falls below a certain threshold. It interacts with the Inventory Database and external suppliers.

Order Management: This component manages incoming orders, allocates inventory for order fulfillment, updates stock levels upon order completion, and handles order-related processes. It interacts with the Inventory Database.

External Systems: This component represents the integration of the inventory management system with external systems such as point-of-sale (POS), e-commerce platforms, accounting software, or supply chain management tools. It facilitates data exchange and coordination between these systems.

User Access and Permissions: This component manages user authentication, access control, and permissions within the inventory management system. It ensures that authorized users can interact with the system based on their assigned roles and permissions.

Component Diagram



Test Case 1: Verify if a user will be able to login with a valid Credentials

Table 6.1: User login to the system (Test Case 1)

ID	Objective	Input data	Expected outcome	Actual outcome/Verdict
TC01	Check if the system lets users login to the system that are already registered	Credentials Email password	The system will let user login to the system	Pass

Table 6.3: User login to the system (Test Case 3)

ID	Objective	Input data	Expected outcome	Actual outcome/Verdict
TC03	Check whether system lets unauthorized users login to the system or not.	Email: dnfsj@gmail.com Password: Nothing	System should not let users login to the system	Pass

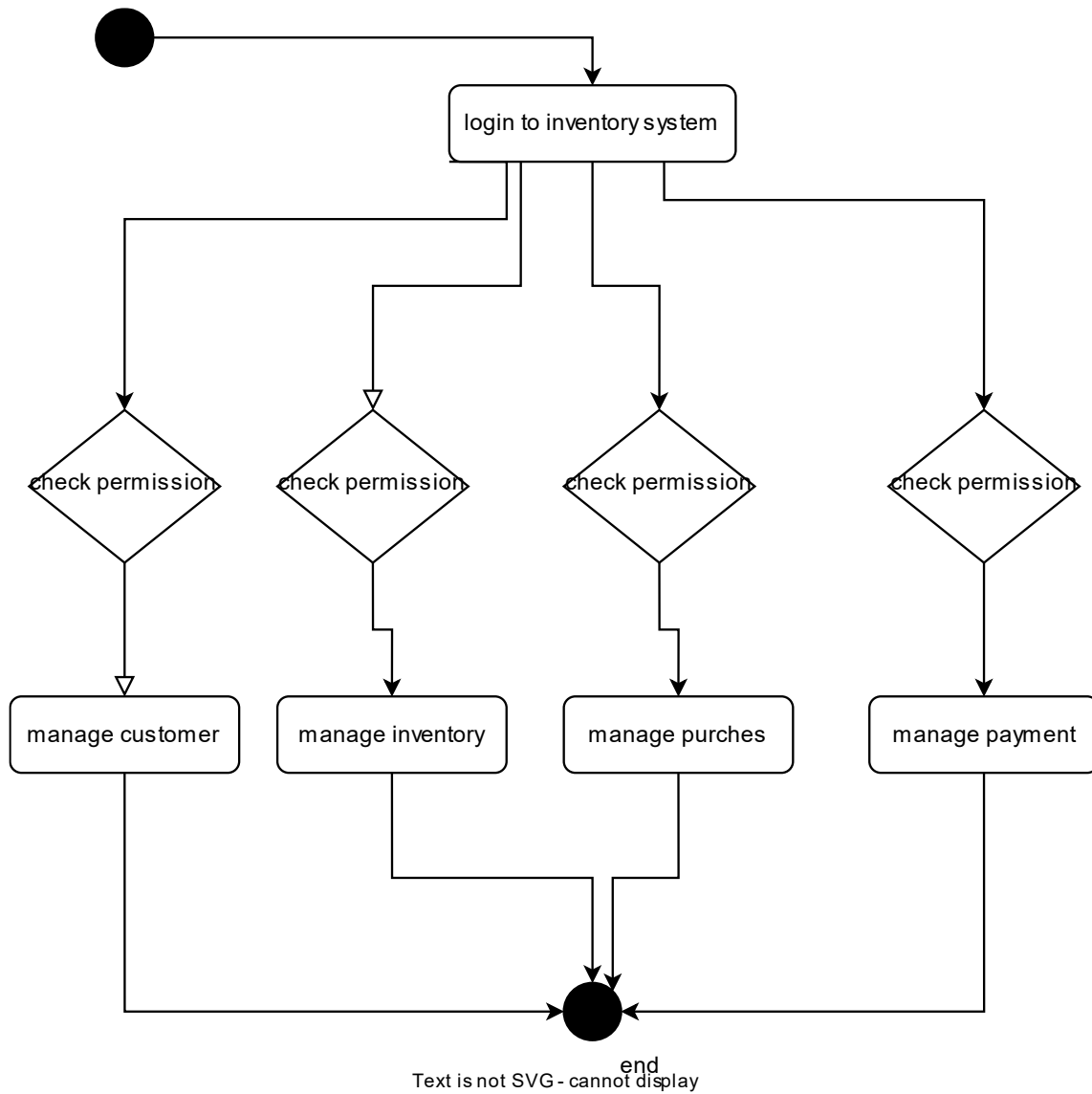
Money Flow:

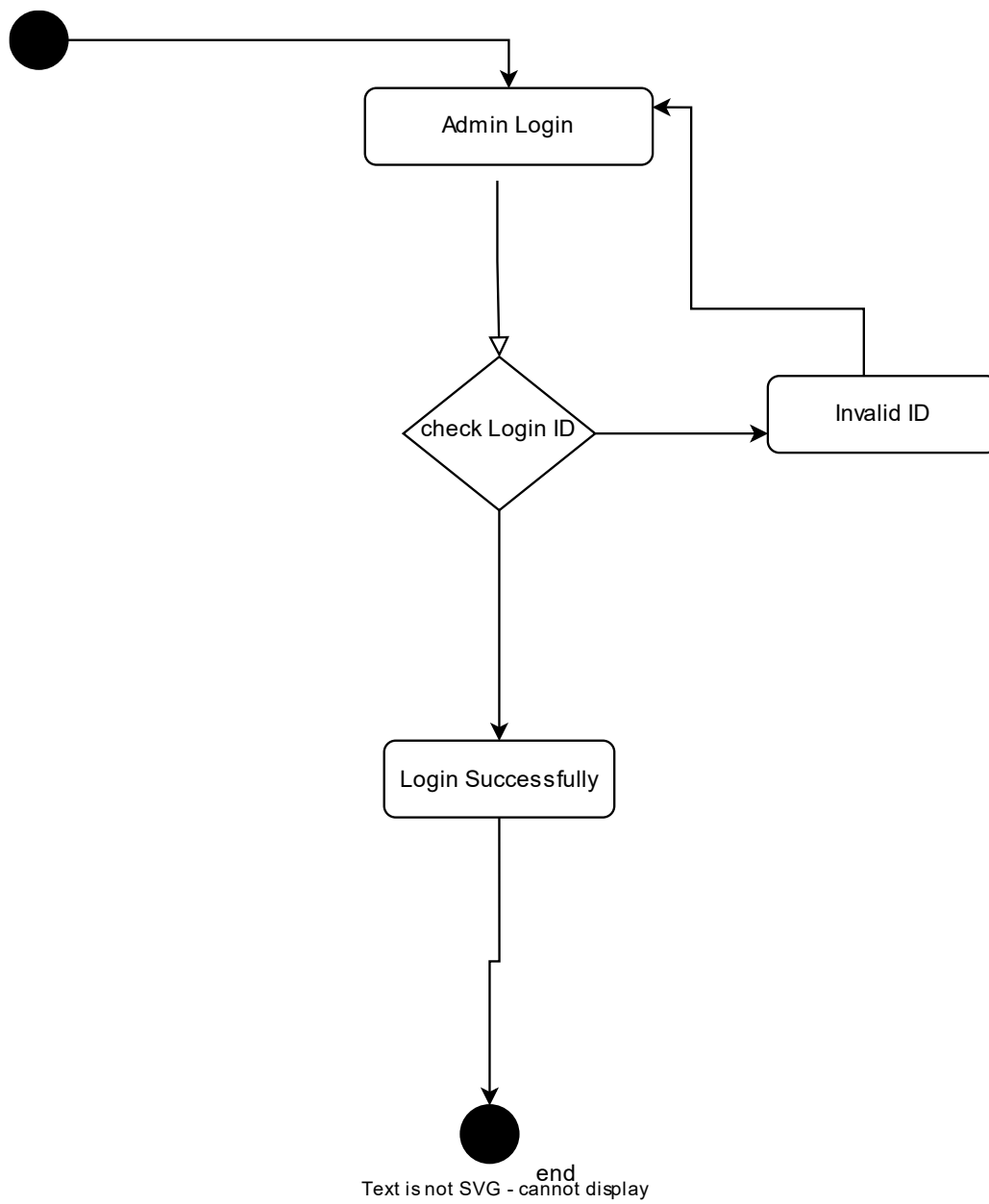
Test Case 1: Verify if Administrator is able to view money flow or not:

Table 6.8: View Money Flow (Test Case 1)

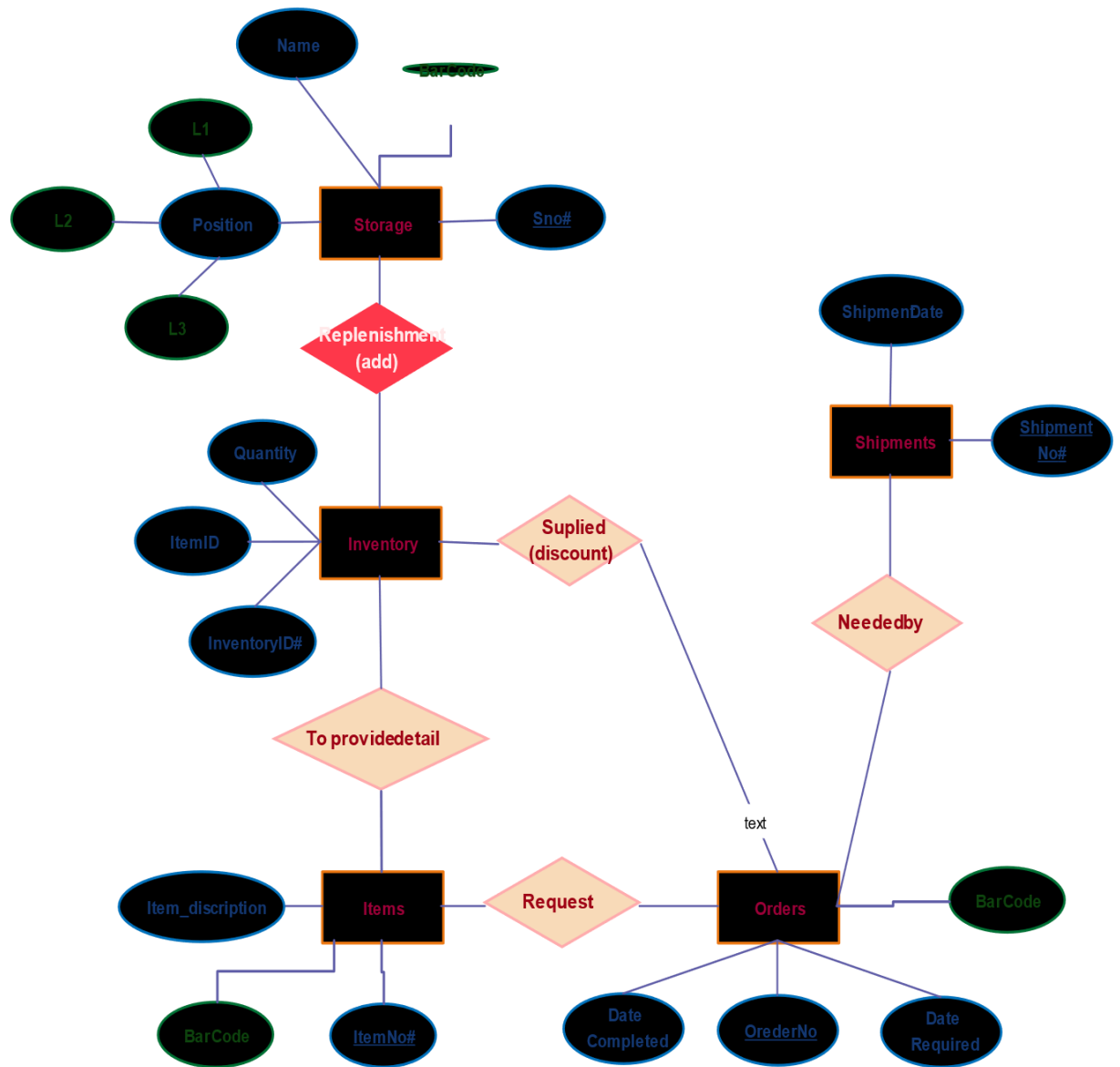
ID	Objective	Input data	Expected outcome	Actual outcome/Verdict
TC01	Check if the Administrator Is able to view money flow of the project	Administrator selects inventory and click on view money flow button	The system should show money flow of the selected project	Pass

Activity Diagram

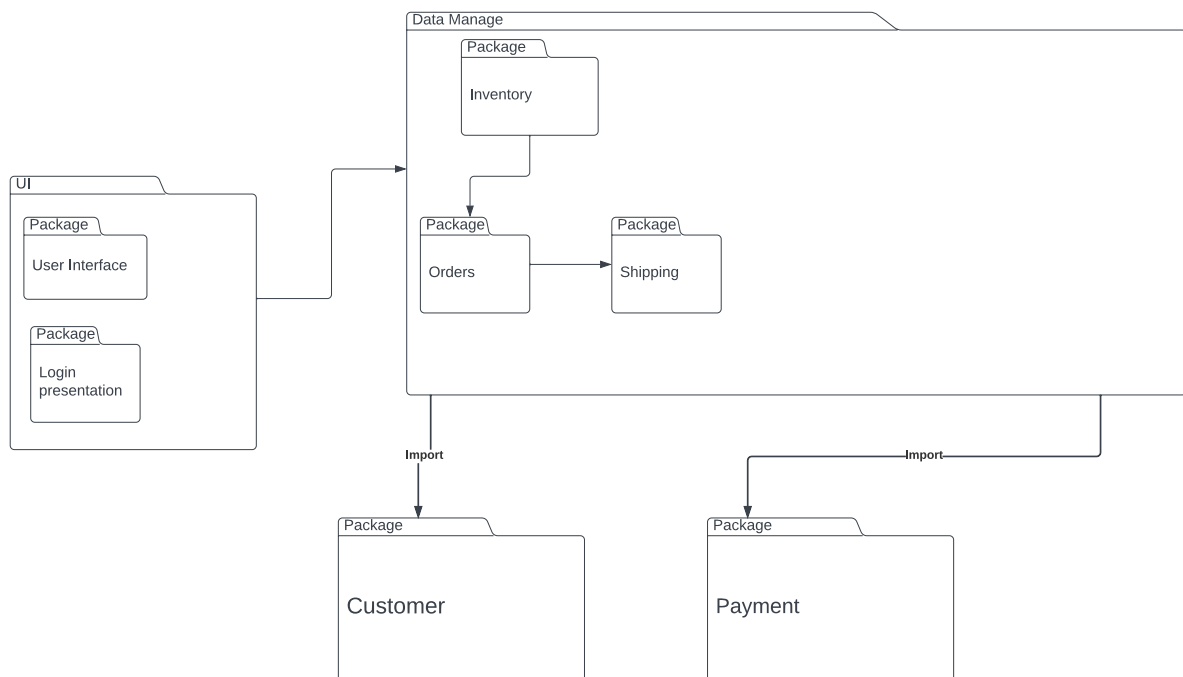




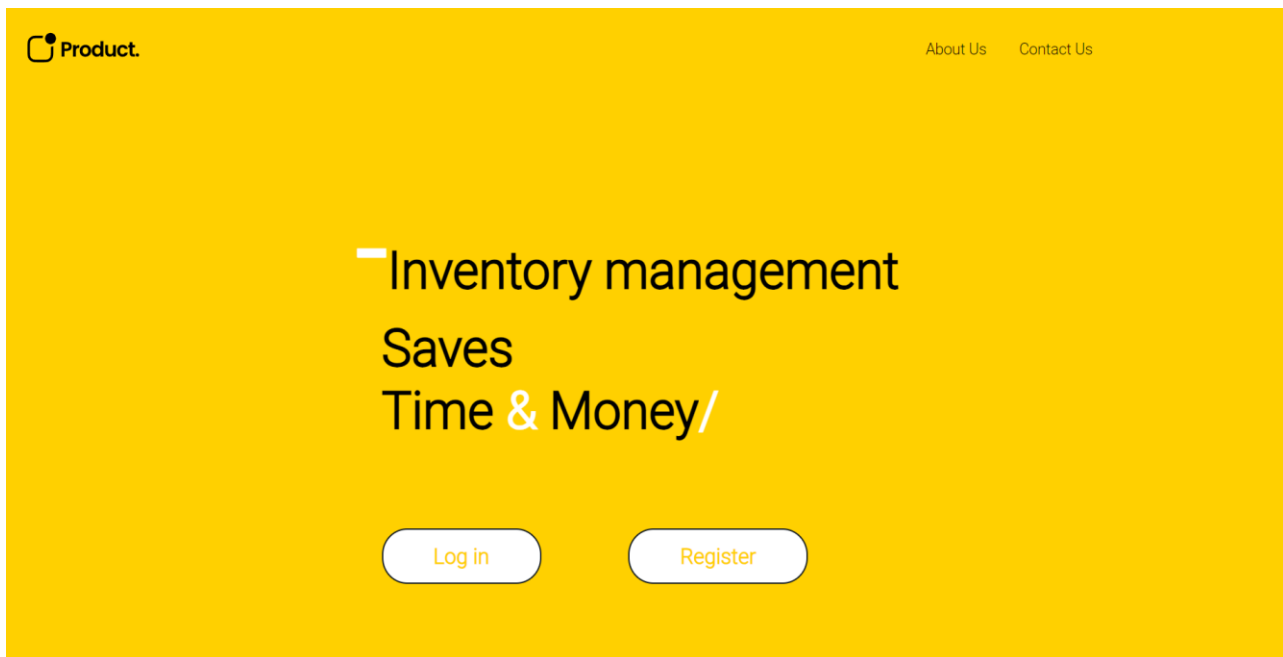
ERD



Package Diagram



Landing Page:

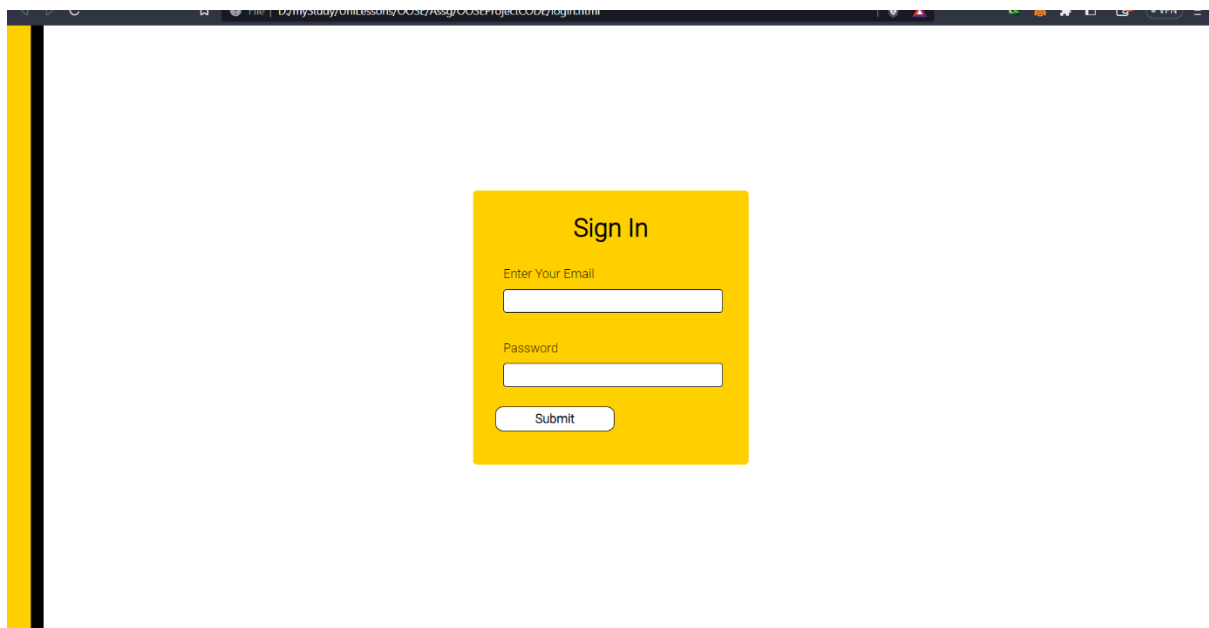


Register:

The registration form is titled 'Sign Up' and is set against a yellow background. It contains the following fields and controls:

- First Name:** Text input with placeholder 'e.g. Osman'.
- Last Name:** Text input with placeholder 'e.g. Granday'.
- Password:** Text input.
- Confirm Password:** Text input.
- Enter Your Email:** Text input with placeholder 'e.g. osman@Domain'.
- Enter NIC Number:** Text input with placeholder 'e.g. 434XXX-XXXX-XXXX'.
- Gender:** Radio buttons for 'Male', 'Female', and 'Other'.
- Date of Birth:** Text input with placeholder 'dd/mm/yyyy' and a calendar icon.
- Current Date:** Text input with placeholder 'dd/mm/yyyy' and a calendar icon.
- City:** Text input with placeholder 'e.g. Abbottabad'.
- Buttons:** 'Reset' and 'Submit' buttons at the bottom.

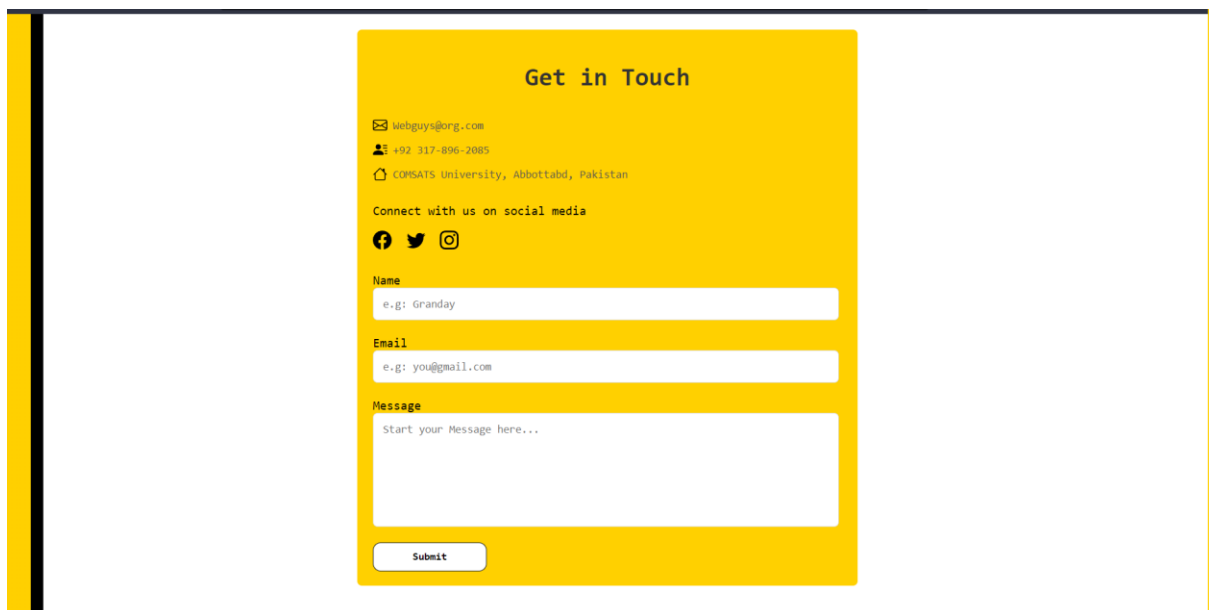
Login:



A screenshot of a web browser displaying a 'Sign In' form. The form is centered on a white background with a yellow border. It contains the following elements:

- Sign In** (Section Header)
- Enter Your Email** (Text label)
- (Email input field)
- Password** (Text label)
- (Password input field)
- (Submit button)

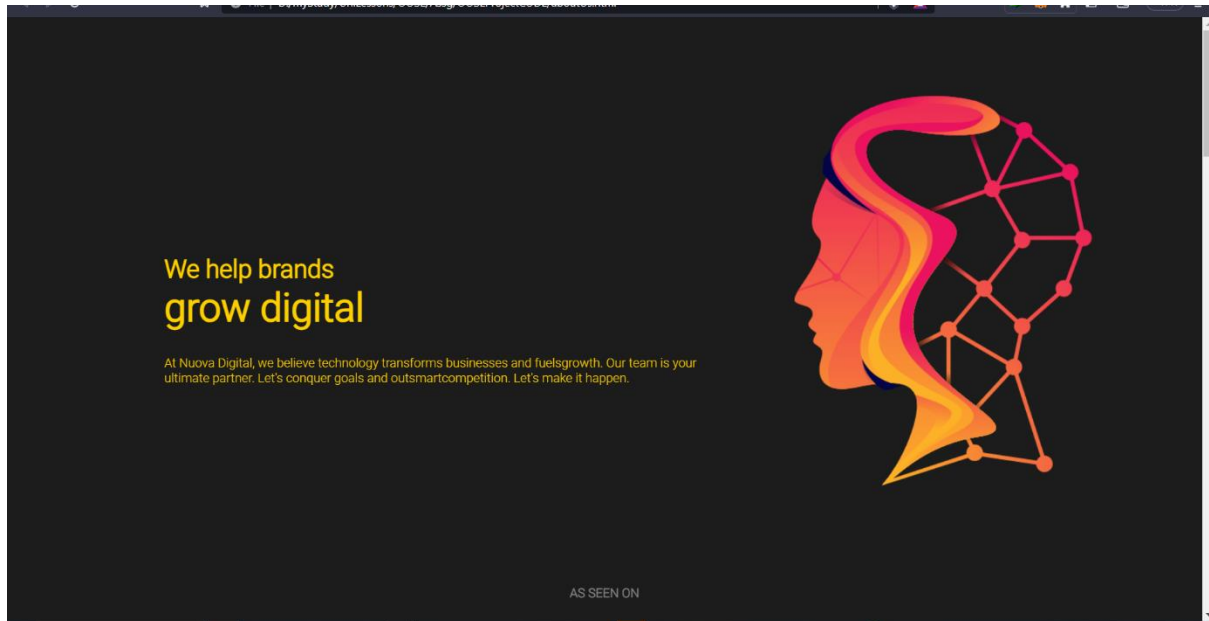
Get in Touch :

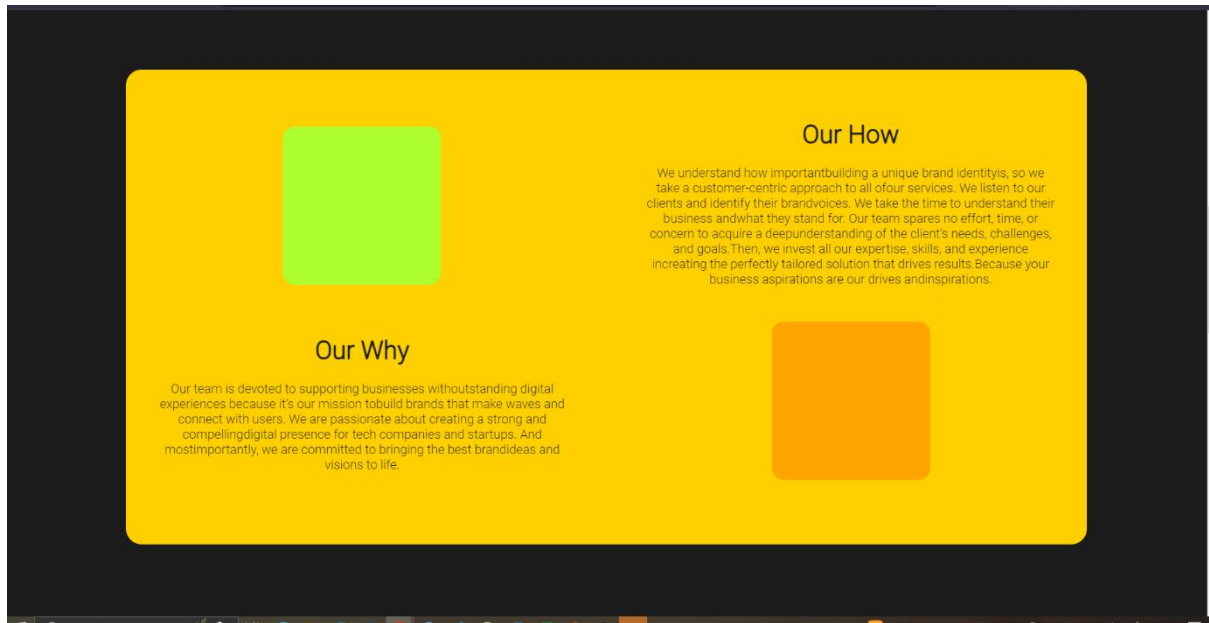


A screenshot of a web browser displaying a 'Get in Touch' form. The form is centered on a white background with a yellow border. It contains the following elements:

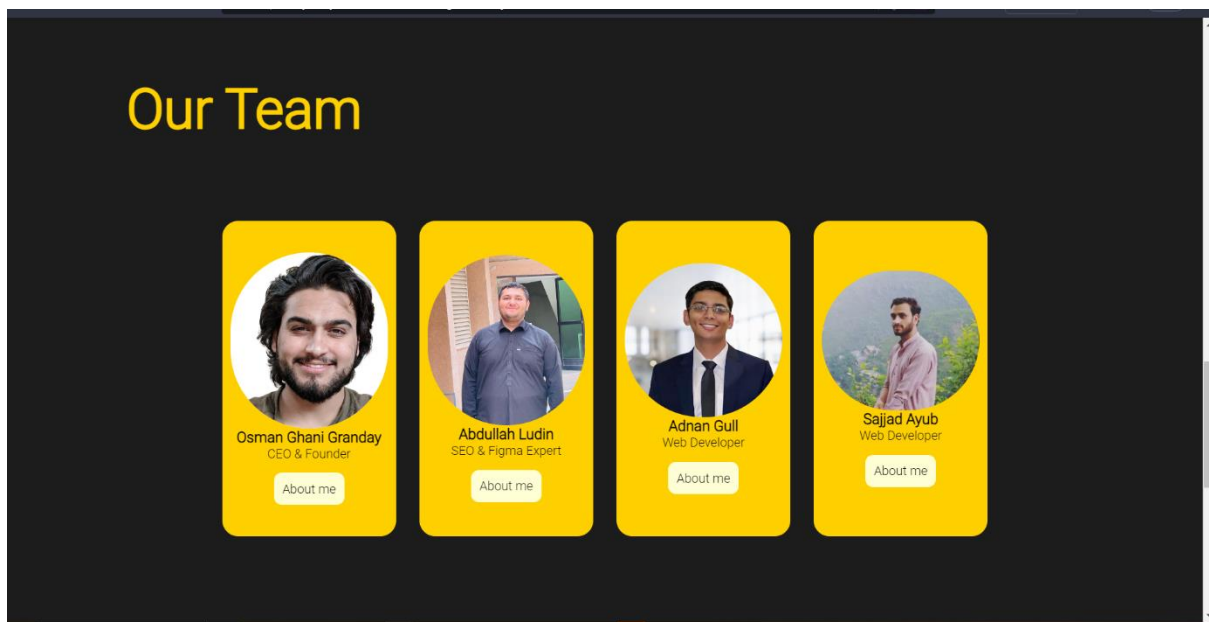
- Get in Touch** (Section Header)
- Contact Information:**
 - Email: webguys@ong.com
 - Phone: +92 317-896-2085
 - Address: COMSATS University, Abbottabad, Pakistan
- Connect with us on social media** (Text label)
- [Facebook](#) [Twitter](#) [Instagram](#) (Social media icons)
- Name** (Text label)
- (Name input field)
- Email** (Text label)
- (Email input field)
- Message** (Text label)
- (Message input field)
- (Submit button)

About Us:





Our Team:



The Dashboard:

[Inventory Management](#) [Home](#) [More Info](#)

Inventory Manager

[Clear All](#)

[Current Inventory](#) [Incoming Purchase](#) [Outgoing Orders](#)

Current Inventory

[Clear Inventory](#)

Product Name:

Product Brand:

Quantity:

Product Price:

[Add](#) [Reset](#)

#	Name	Brand	Quantity	Price
1	Acer Nitro 7	Acer	10	Rs 30000
2	Asus Rog 17	Asus	15	Rs 50000
3	HP Rog 17	HP	20	Rs 45000

