IT314 : Lab 06

202201410 - Siddhant Kotak

1. Use Case Textual Descriptions

Use Case: Process Sale

Primary Actor: Cashier, Catalog System, Inventory System
Preconditions:

- The cashier is logged into the POS system.
- The customer has selected the goods for purchase.

Main Flow:

1. The cashier scans the barcodes of the products the customer wants to purchase.
2. The POS system retrieves the product name and price from the catalog.
3. The system updates the inventory by deducting the quantities of each product being purchased.
4. The system calculates the total cost of the transaction.
5. If applicable, the cashier applies any discount or gift coupon.
6. The customer chooses a payment method (cash, credit card, or check).
7. The payment is processed.
8. Upon successful payment, the system prints a receipt for the customer.
9. The transaction is saved in the system.

Alternate Flows:

- **Invalid Item Scanned**: If the system cannot find the item in the catalog, it notifies the cashier.
- **Payment Fails**: If payment fails, the system prompts the cashier to retry or choose an alternative payment method.

Postconditions:

- The sale is recorded, inventory is updated, and the receipt is printed.

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Use Case: Handle Return

Primary Actor: Cashier
Preconditions:

- The customer has the original receipt for the product they wish to return.

Main Flow:

1. The cashier scans the product to be returned and enters the transaction ID from the original receipt.
2. The POS system retrieves the transaction details.
3. The system verifies that the product is eligible for return.
4. The cashier selects the return reason and processes the return.
5. The system updates the inventory to reflect the returned product.
6. The system calculates the refund amount based on the original purchase.
7. The customer chooses a refund method (cash, credit, etc.).
8. The system processes the refund.
9. The system prints a return receipt for the customer.

Alternate Flows:

- **Item Not Eligible for Return**: If the item is ineligible (outside return period, damaged, etc.), the system notifies the cashier and the return is rejected.

Postconditions:

- The return is recorded, inventory is updated, and the refund is issued.

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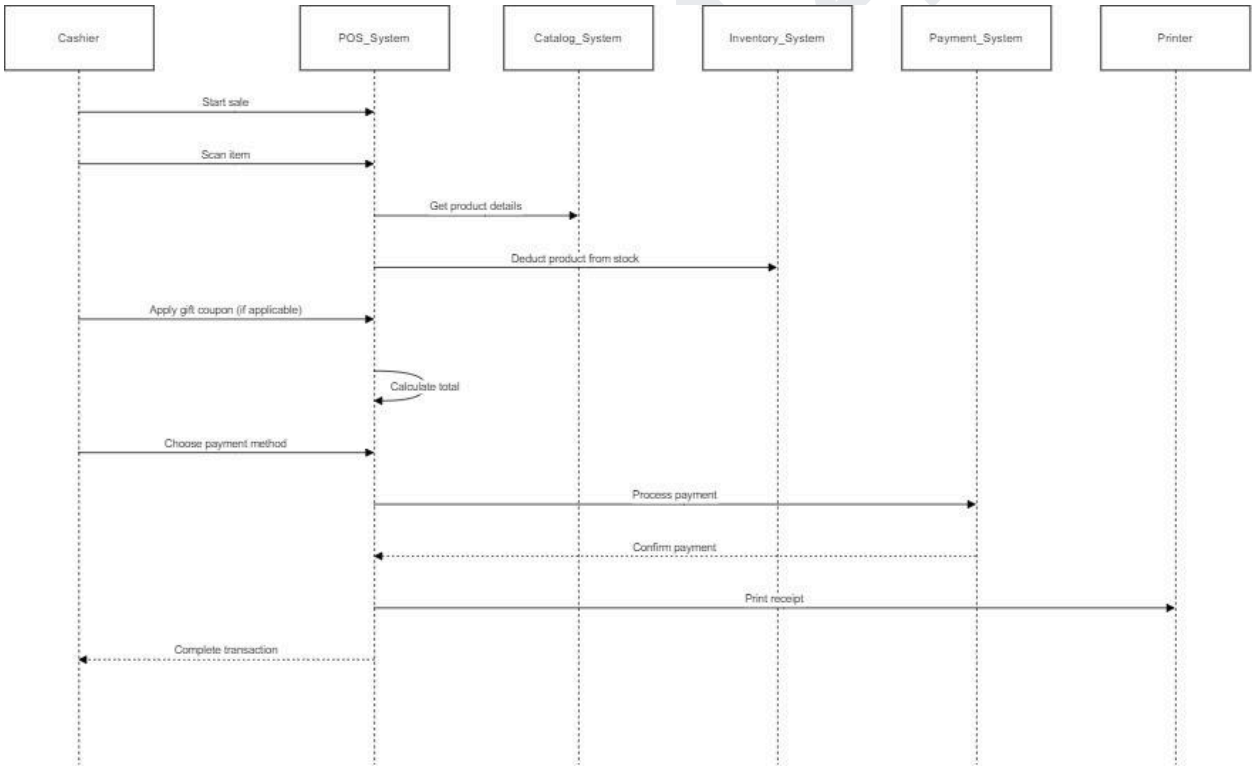
2. Entity/Boundary/Control Objects

- **Entity Objects**:
    - Product
    - Sale
    - Receipt
    - Customer
    - Payment
- **Boundary Objects**:
    - POS Interface
    - Payment Gateway

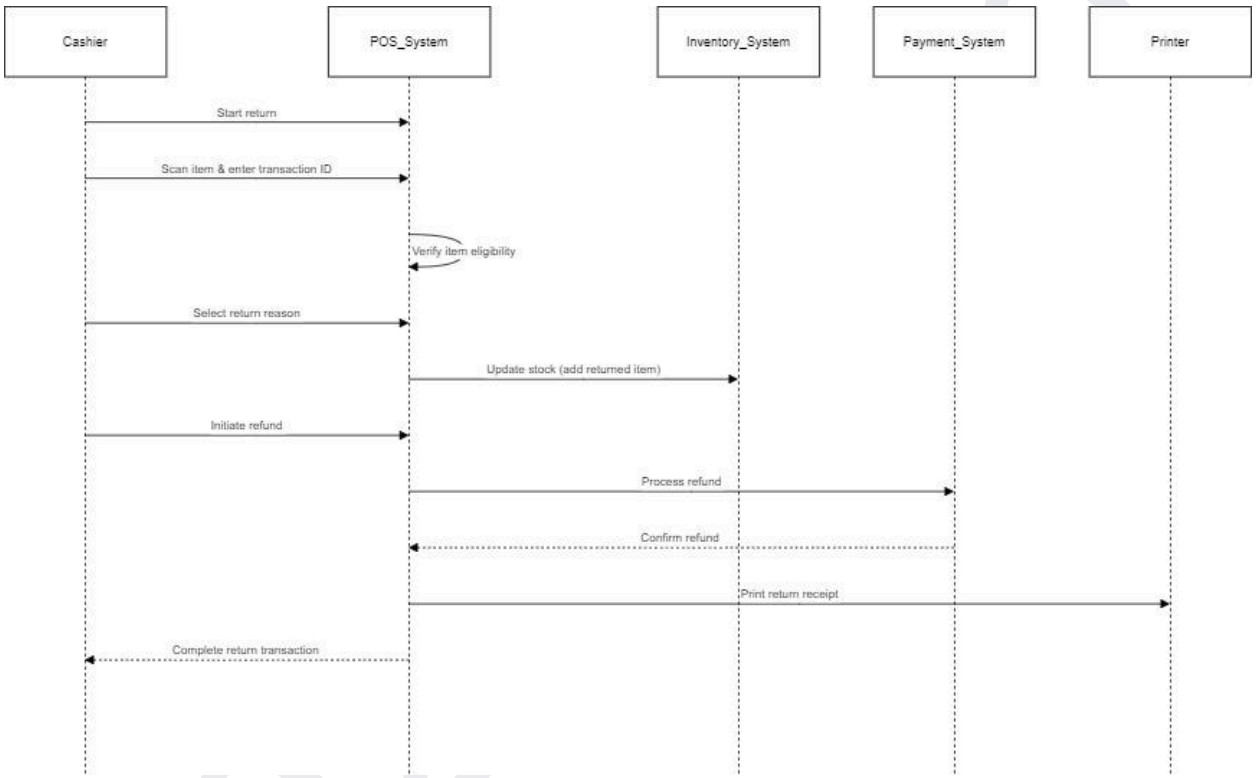
    - Printer Interface
- **Control Objects**:
    - Transaction Controller
    - Payment Controller
    - Inventory Controller

3. Sequence Diagrams

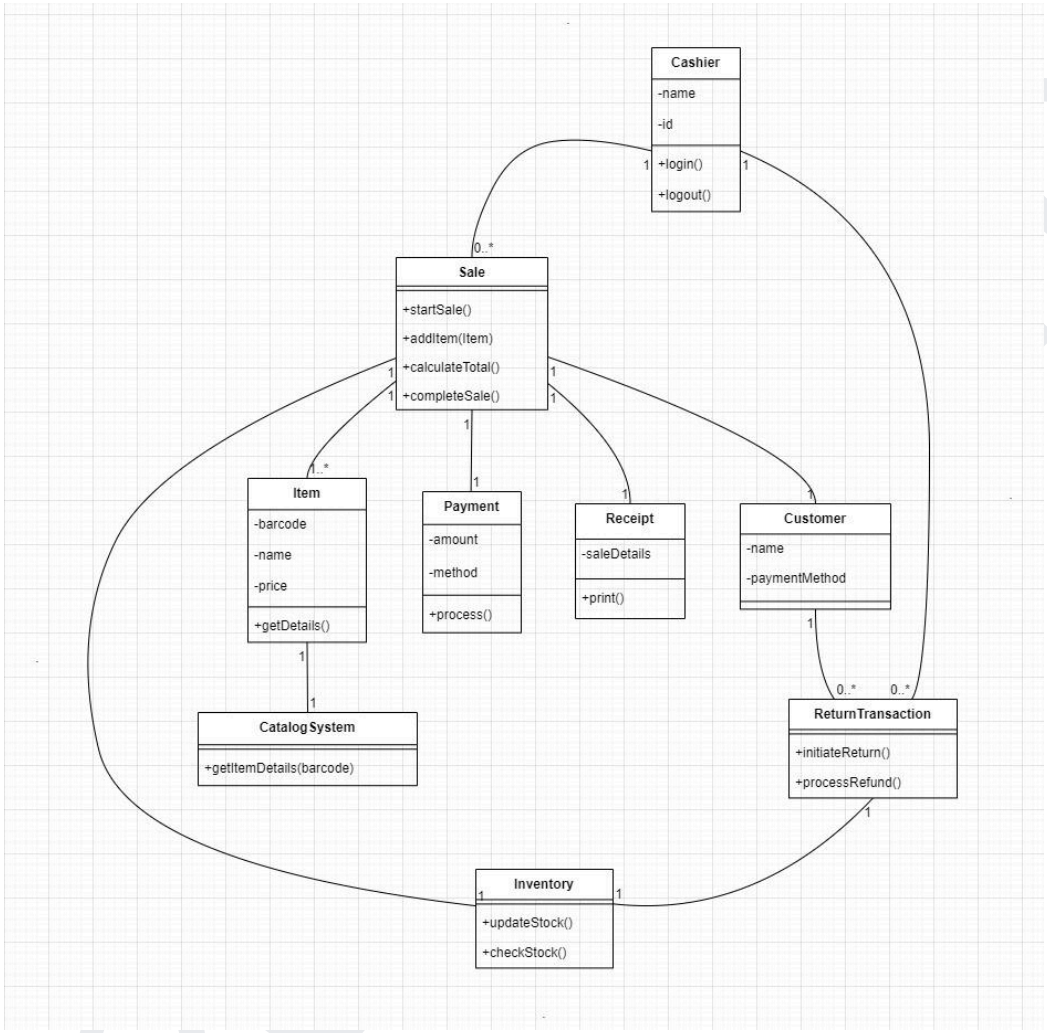
- **Use Case: Process Sale**



- **Use Case: Handle Returns**

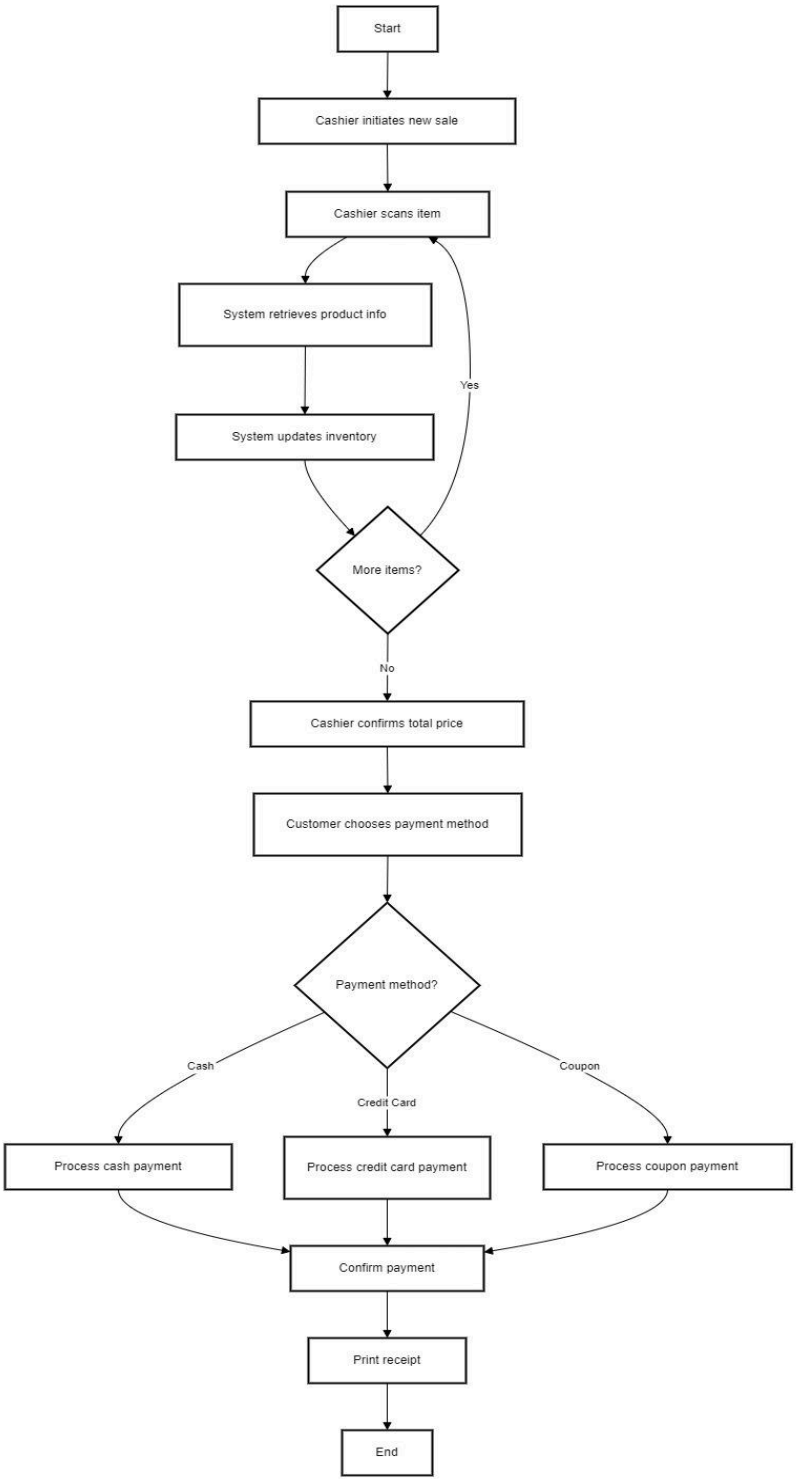
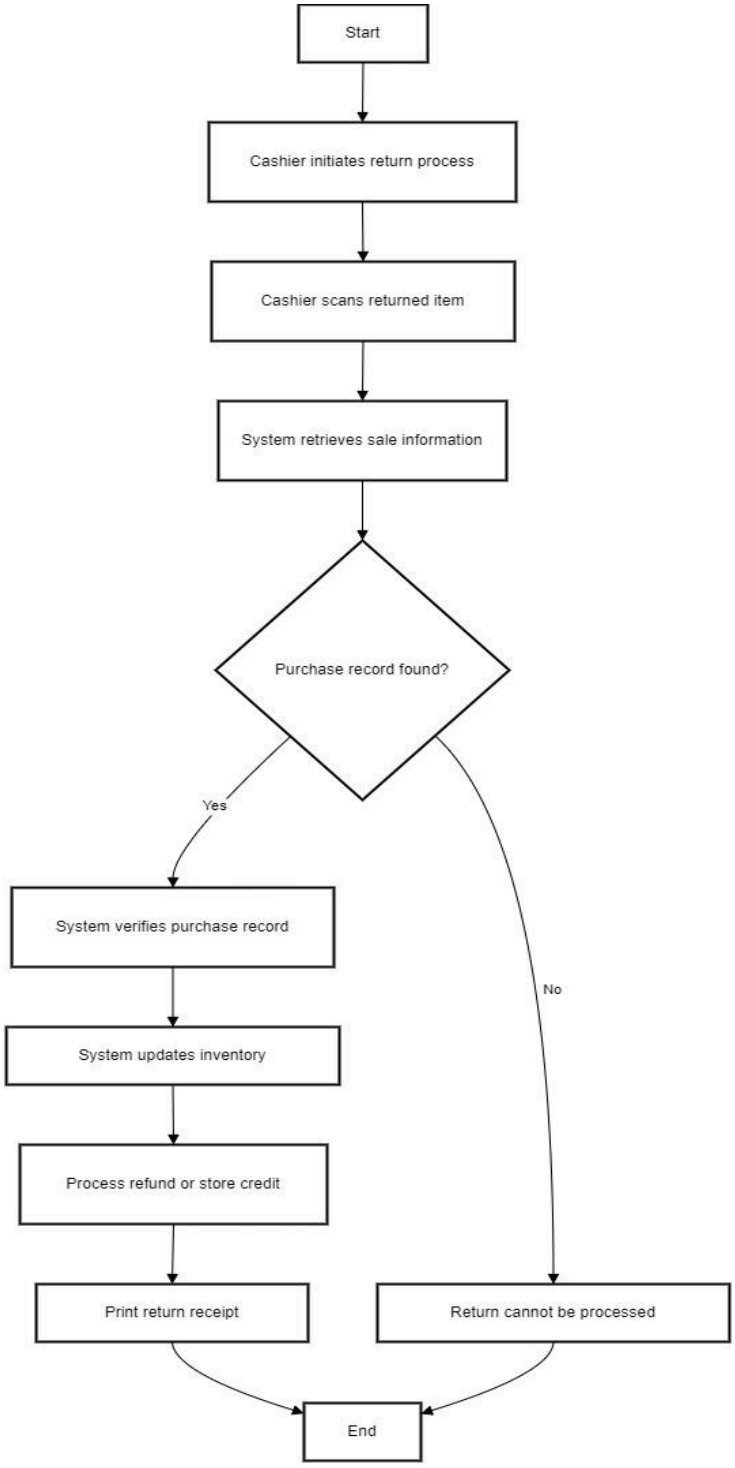


4. Analysis Domain Model



5. Activity Diagrams

- **Use Case: Process Sale**



- **Use Case: Handle Returns**