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IT314 LAB6 SOFTWARE ENGINEERING

(1.1) Process Sale:

Primary Actor: Cashier

Goal: To process a customer's purchase and complete the sale.
Precondition: The customer has selected items for purchase and the cashier is logged in.

Main Flow:
1. The cashier starts a new sale by scanning the item barcode.
2. The POS system communicates with the catalog system to get the item details (price, description, etc.).
3. The POS system adds the item to the sale.
4. This process is repeated for all items the customer wishes to buy.
5. The cashier selects the payment method (cash, credit, etc.).
6. The POS system calculates the total and updates the inventory system.
7. The payment is processed.
8. A receipt is printed and handed to the customer.

Postcondition: The sale is completed, and the inventory is updated.
Alternative Flow: If the payment fails, the system prompts for another payment method or cancels the transaction.

(1.2)Handle Return:

Actor: Cashier

Preconditions:
- Cashier is logged into the POS system
- Customer has item(s) to return

Main Flow:
1. Cashier initiates return process.
2. If customer has receipt Cashier scans or enters receipt details System retrieves original transaction.
3. For each item to be returned Cashier scans item barcode System verifies item and System checks return policy compliance.
4. System calculates refund amount.
5. Cashier confirms return with customer.
6. System updates the inventory.
7. Cashier processes refund.
8. System records return transaction

Postconditions:
- Return is recorded in the system
- Inventory is updated
- Refund is processed
- Return receipt is printed

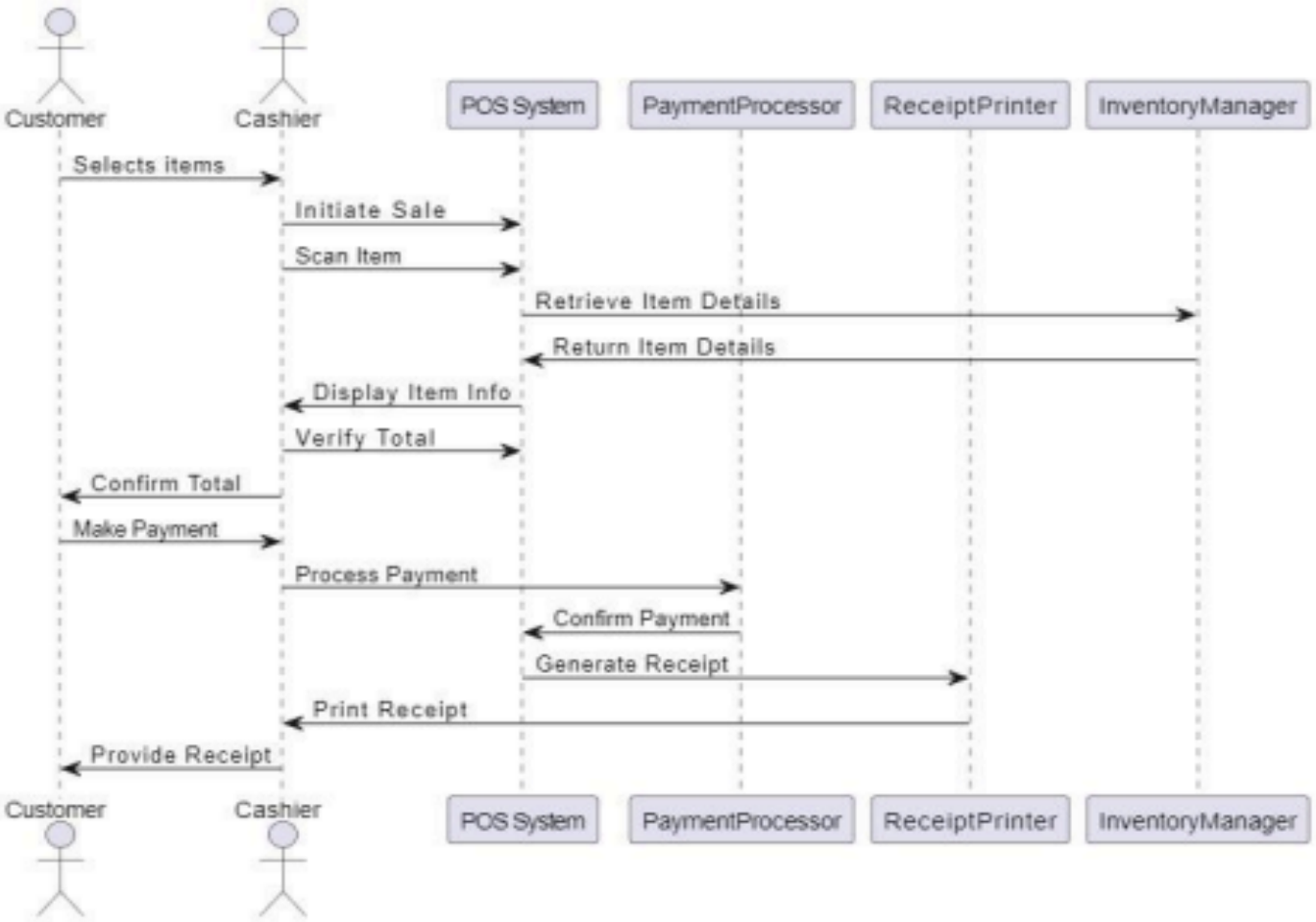
2. Identify Entity/Boundary Control Objects
Entity Objects:
- Sale
- Item
- Payment
- Customer
- Cashier
- Inventory
- Coupon
- Return

Boundary Objects:
- POS Terminal Interface
- Barcode Scanner
- Receipt Printer
- Payment Terminal

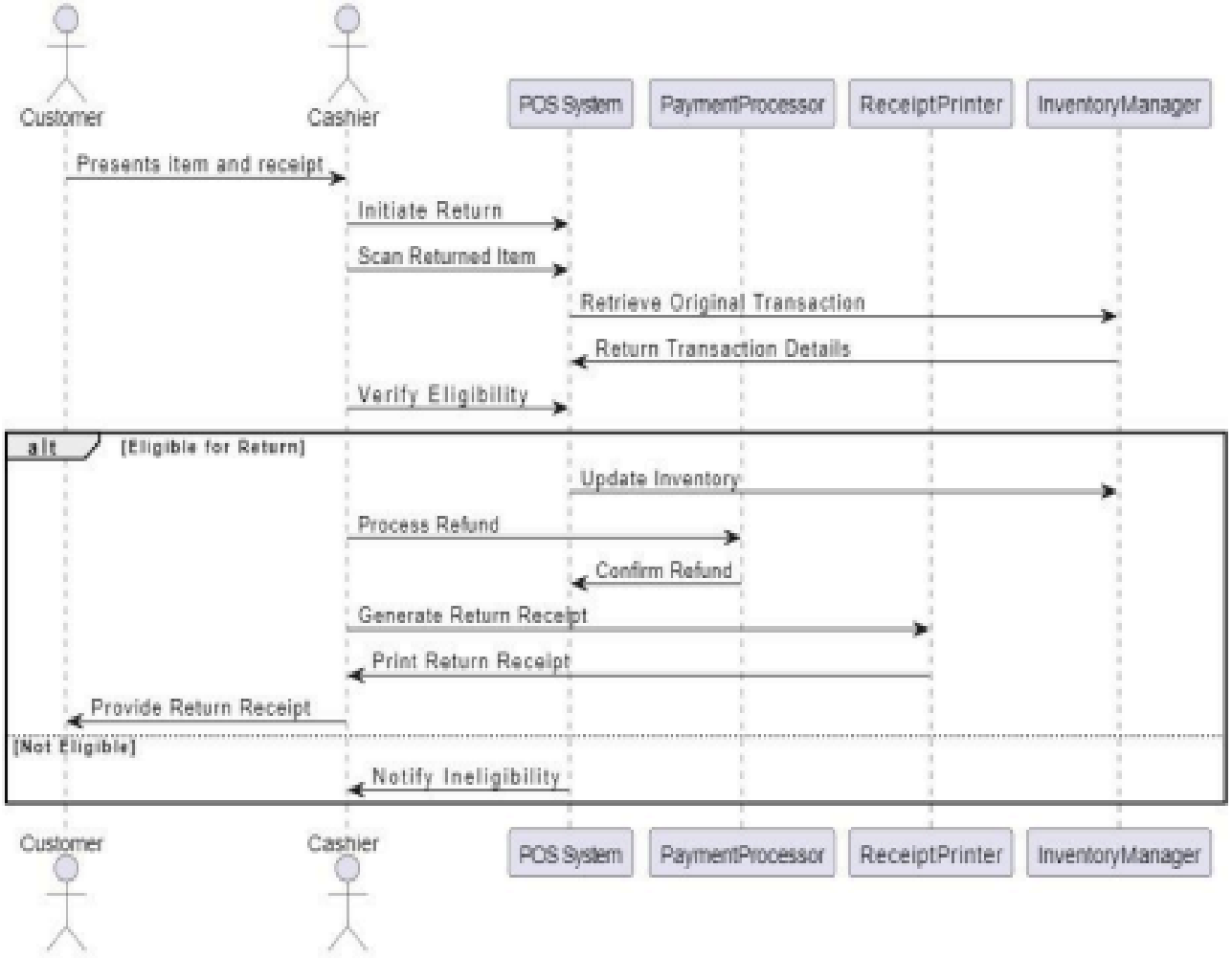
Control Objects:
- Sale Manager
- Inventory Controller
- Payment Processor
- Catalog Manager
- Return Manager

3). Develop Sequence Diagrams

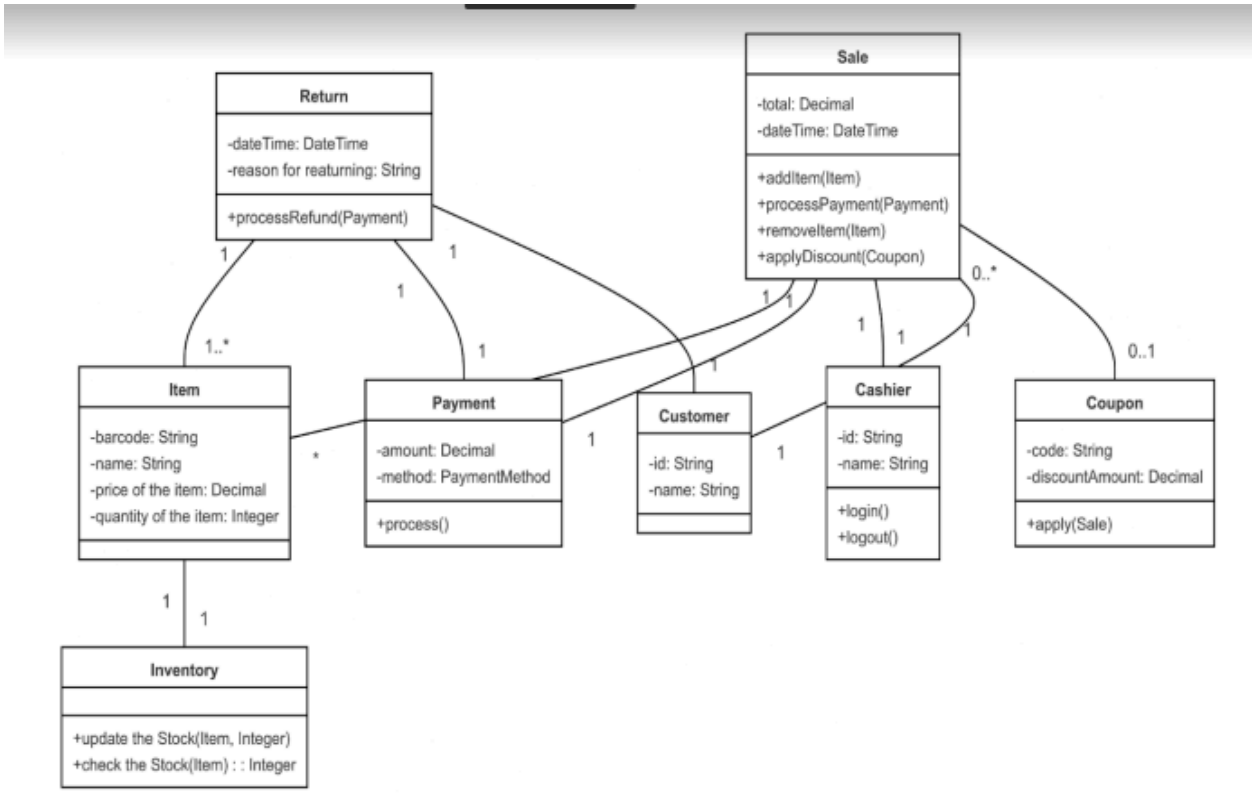
● Process Sale:



- **Handle Return:**

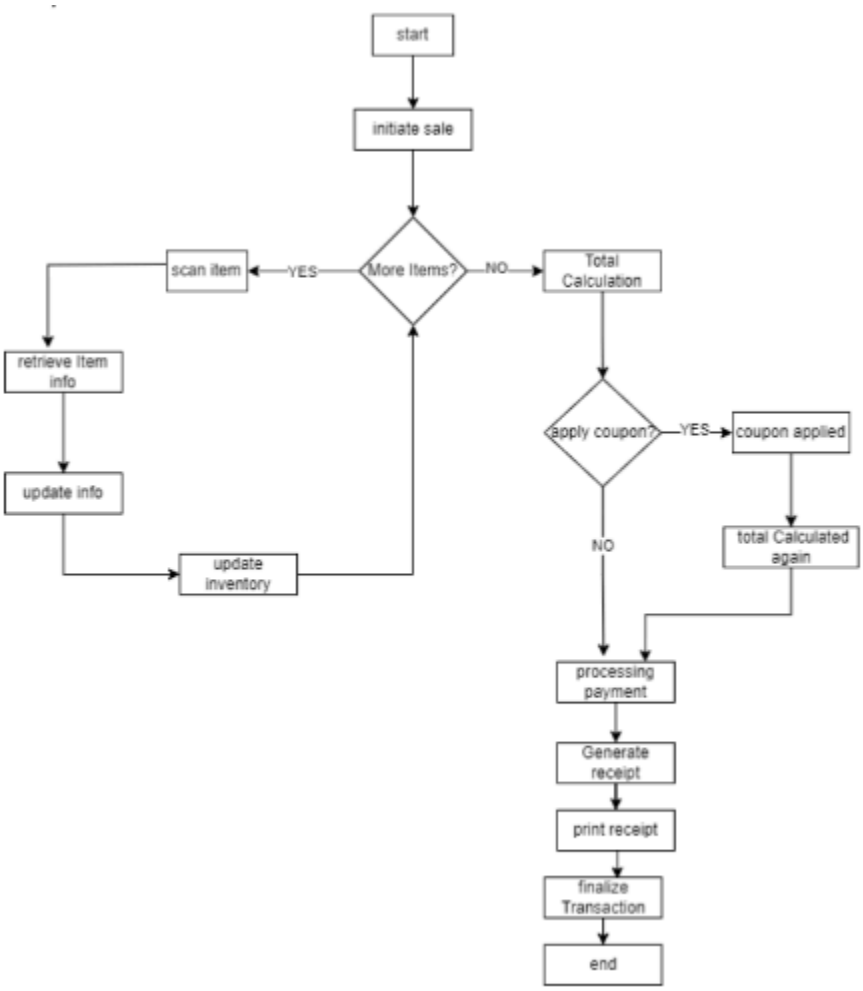
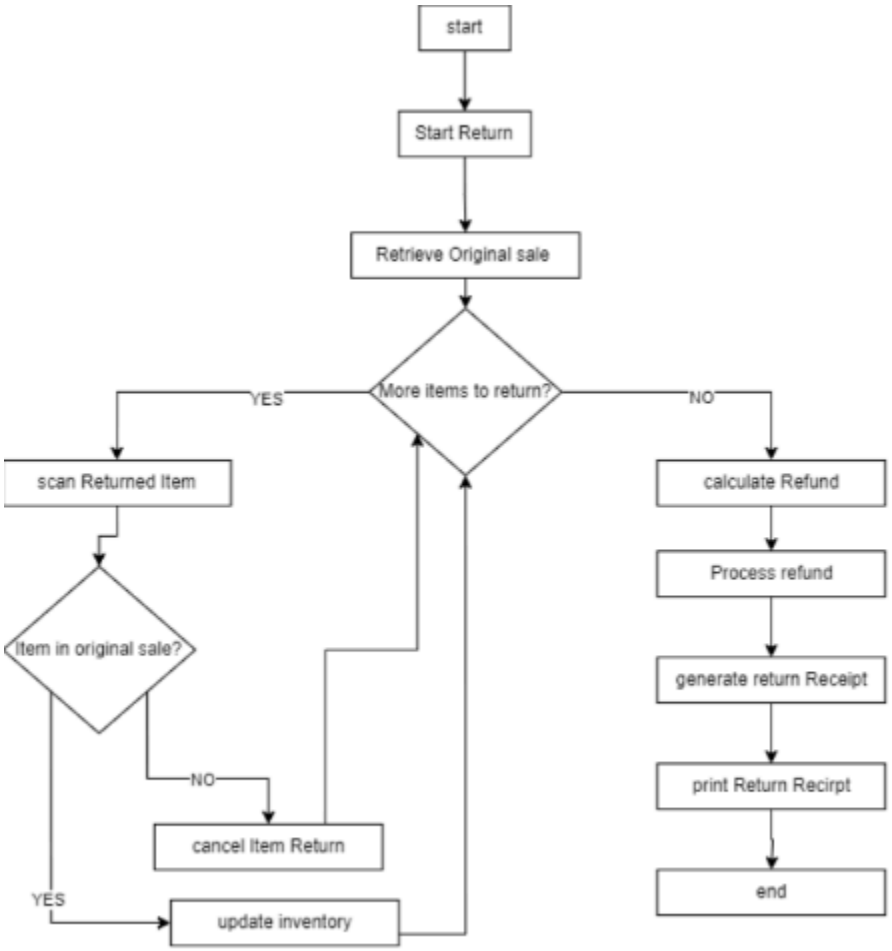


4. Develop Analysis Domain Models



(5) Activity Diagrams:

5.1) Process Sale:



5.2) Handle Return: