IT-314 Software Engineering
Lab6 Point of Sale System
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Use Case Textual Representation: -

"Process Sale"

Actor

- Cashier

Preconditions

- The POS system is operational and ready to use.
- Cashier is logged in to the system.

Postconditions

- Sales are recorded.
- Inventory is updated.
- Receipt is printed.

Basic Flow: -

1. Customer arrives at the POS with items for purchase.
2. Cashier initiates a new sale transaction.
3. For each item:
   a. Cashier scans the item barcode.
   b. System retrieves item details (name, price) from the catalog.
   c. System updates inventory.
   d. System adds the item to the current transaction.
4. System displays the total amount.

5. Customer chooses a payment method (cash, credit card, or check).

6. Cashier processes the payment.

7. System records the sale.

8. System prints the receipt.

9. Cashier gives the receipt and goods to the customer.

Alternative flow: -

4a. Customer has a gift coupon.

5a. Customer decides not to complete the purchase.

"Handle Return"

Actor

- Cashier

Preconditions

- The POS system is operational and ready for use.
- Cashier is logged in to the system.
- Customer has goods to return and the original receipt.

Postconditions

- Return is recorded.
- Inventory is updated.

- Refunds are processed.
- Return receipt is printed.

Basic Flow:

1. Customer arrives at the POS with goods to return and the original receipt.
2. Cashier initiates a new return transaction.
3. Cashier scans or enters details of the items being returned.
4. System verifies return eligibility (e.g., within return period).
5. System calculates the refund amount.
6. Cashier confirms the return reason with the customer.
7. System updates inventory.
8. Cashier processes the refund in the original payment method.
9. System records the return.
10. System prints the return receipt.
11. Cashier gives the return receipt to the customer.

Alternative Flows:

4a. Items are not eligible for return.

7a. Items are damaged or used.

8a. Original payment method is not available.

Identify Entity/Boundary/Control Objects: -

Entity Objects:

- Sale
- Item
- Payment
- Customer
- Cashier
- Inventory
- Coupon
- Return

Boundary Objects:

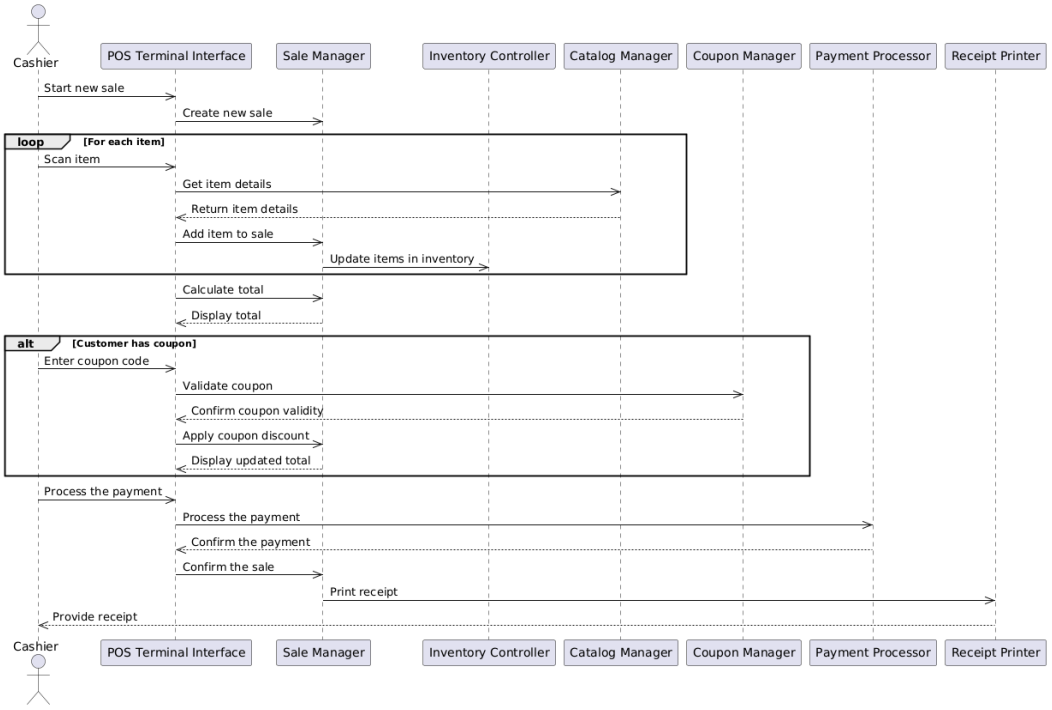
- POS Terminal Interface
- Barcode Scanner
- Receipt Printer
- Payment Terminal

Control Objects:

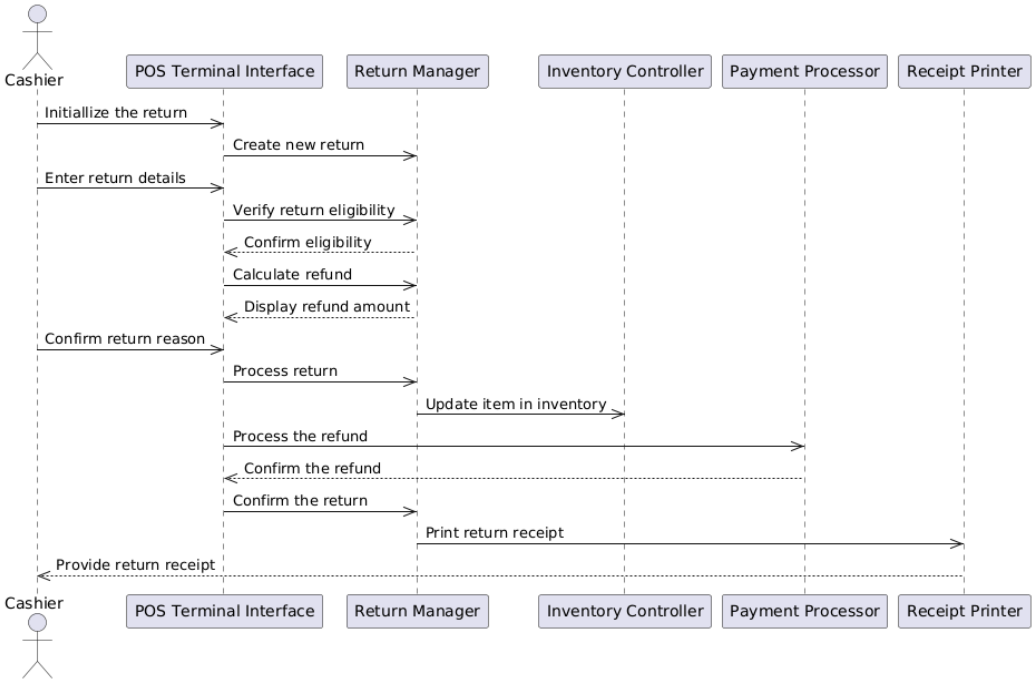
- Sale Manager
- Inventory Controller
- Payment Processor
- Catalog Manager
- Return Manager

Sequence Diagrams : -

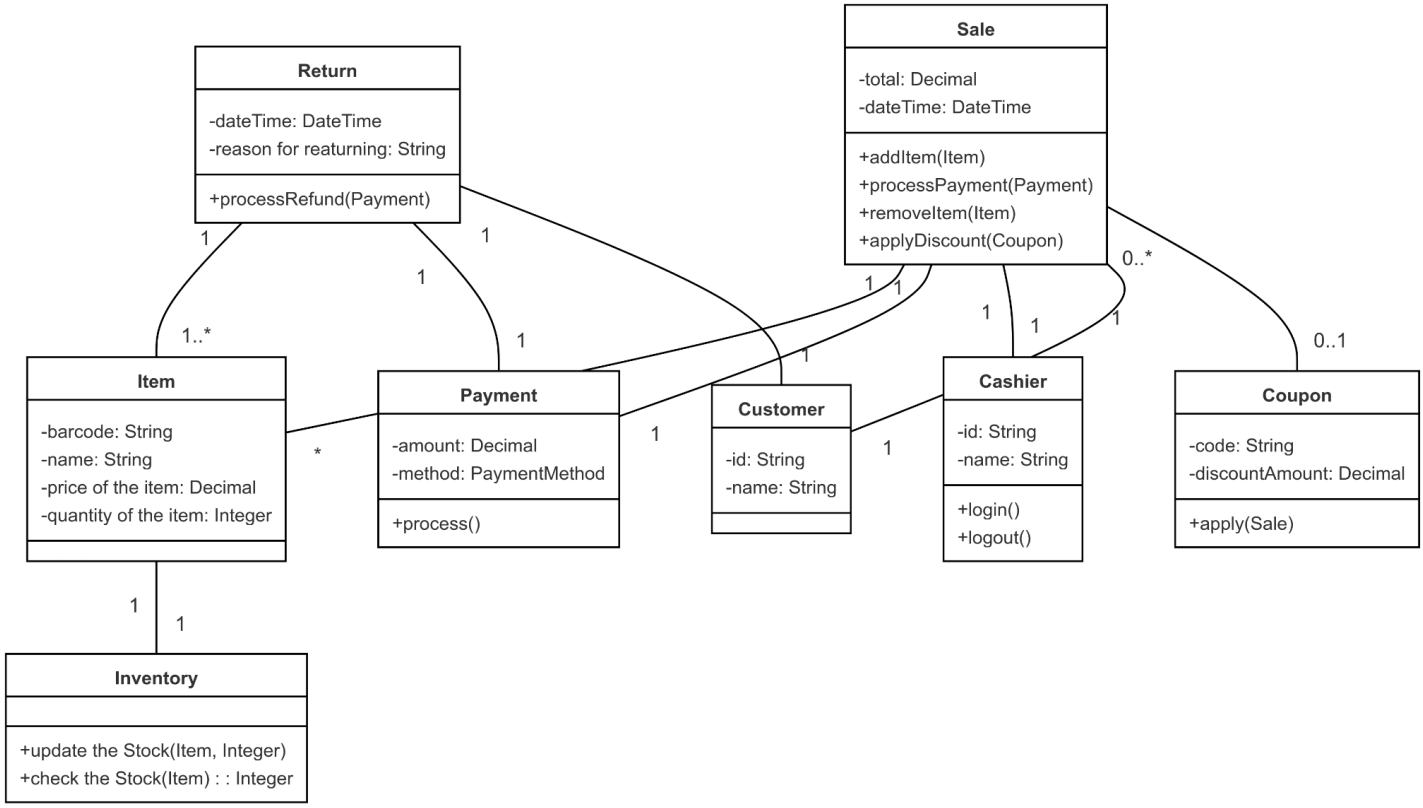
- ## For "Process sale": -



- ## For "Handle Returns": -

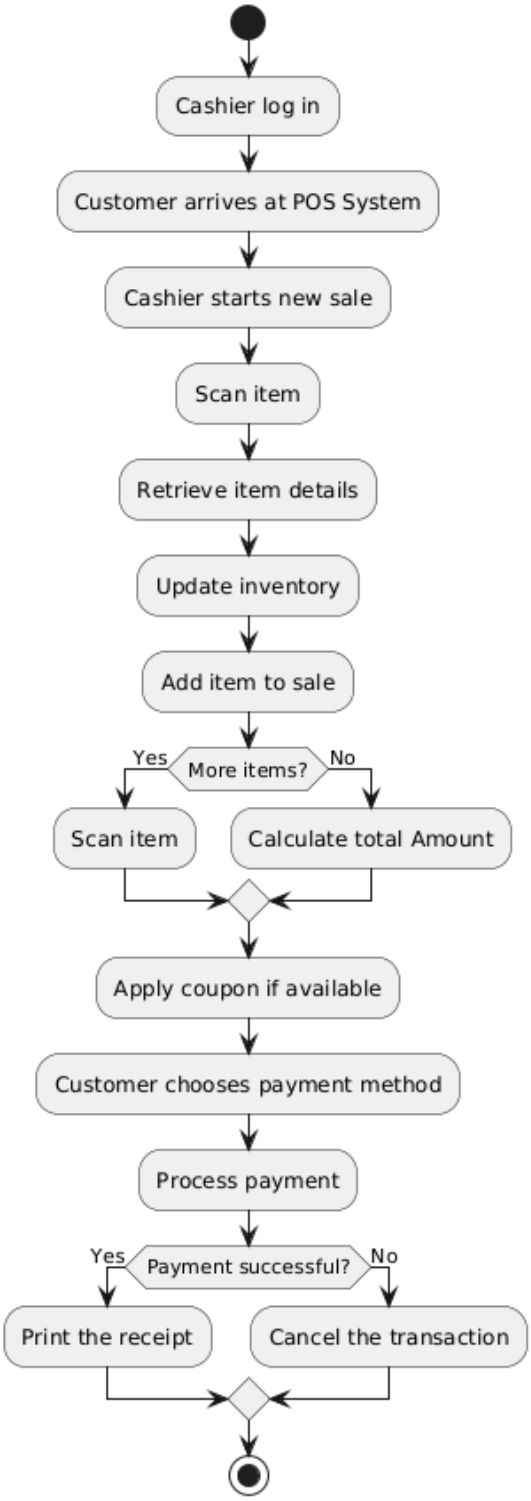
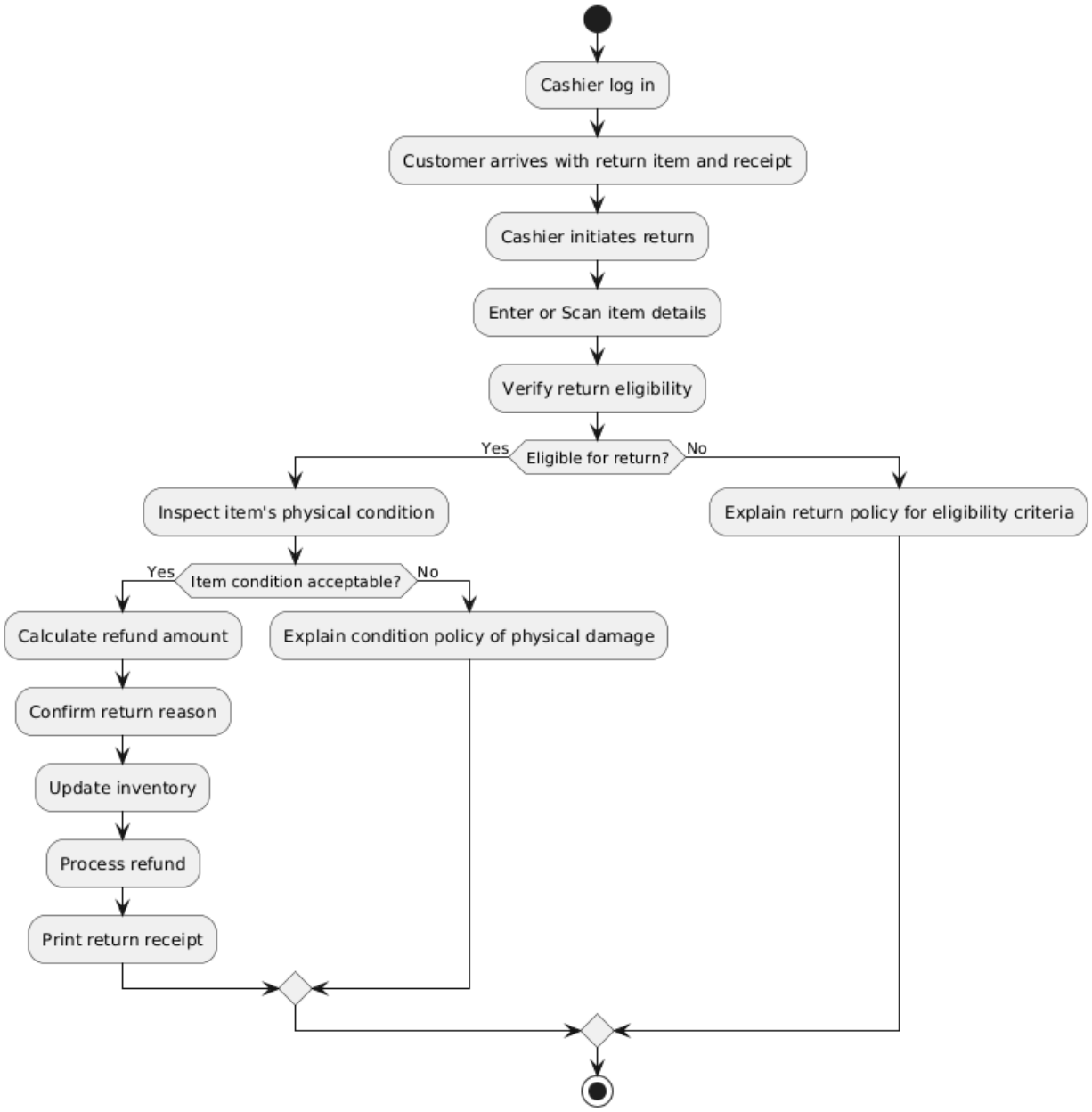


Develop Analysis Domain Models : -



Develop activity diagram : -

- **For "Process Sale"**



- **For "Handle Return"**