



IT314 SOFTWARE ENGINEERING

LAB-06

DETROJA AVI-202201452

Use Case Textual Descriptions

1. Process Sale:

Actors: Cashier, Customer

Precondition: The cashier must be logged into the POS system.

Basic Flow:

1. The customer presents items for purchase at the counter.
2. The cashier initiates a new sale transaction in the POS system.
3. The cashier scans the barcode of each item.
4. The POS system retrieves item details (name, price) from the catalog and updates the inventory system to deduct stock.
5. The system calculates the total amount, applying any gift coupons or discounts.
6. The customer makes a payment using cash, credit card, or check.
7. Upon successful payment, the system prints a receipt.

Postcondition: The sale transaction is completed, stock levels are updated, and the receipt is issued.

2. Handle Return:

Actors: Cashier, Customer

Precondition: The cashier must be logged into the POS system. The customer must have a valid receipt for the items being returned.

Basic Flow:

1. The customer requests to return an item.
2. The cashier retrieves the original sale using the receipt.
3. The cashier scans the items to be returned.
4. The POS system verifies the items against the original sale and updates the inventory system to restore stock levels.
5. The system calculates the amount to be refunded to the customer.
6. The refund is processed in the same payment method used during the original transaction (cash, credit, or check).
7. The system prints a return receipt.

Postcondition: The return transaction is completed, stock levels are updated, and the refund is issued.

Entity/Boundary/Control Objects:**1. Process Sale:****• Entities:**

- Item
- Sale Transaction
- Payment
- Catalog
- Inventory System
- Gift coupon
- Receipt

- **Boundary Objects:**
 - Barcode Scanner
 - Payment Terminal
 - Receipt Printer
 - User Interface (POS Screen)
- **Control Objects:**
 - Sale Controller
 - Payment Controller
 - Inventory Controller

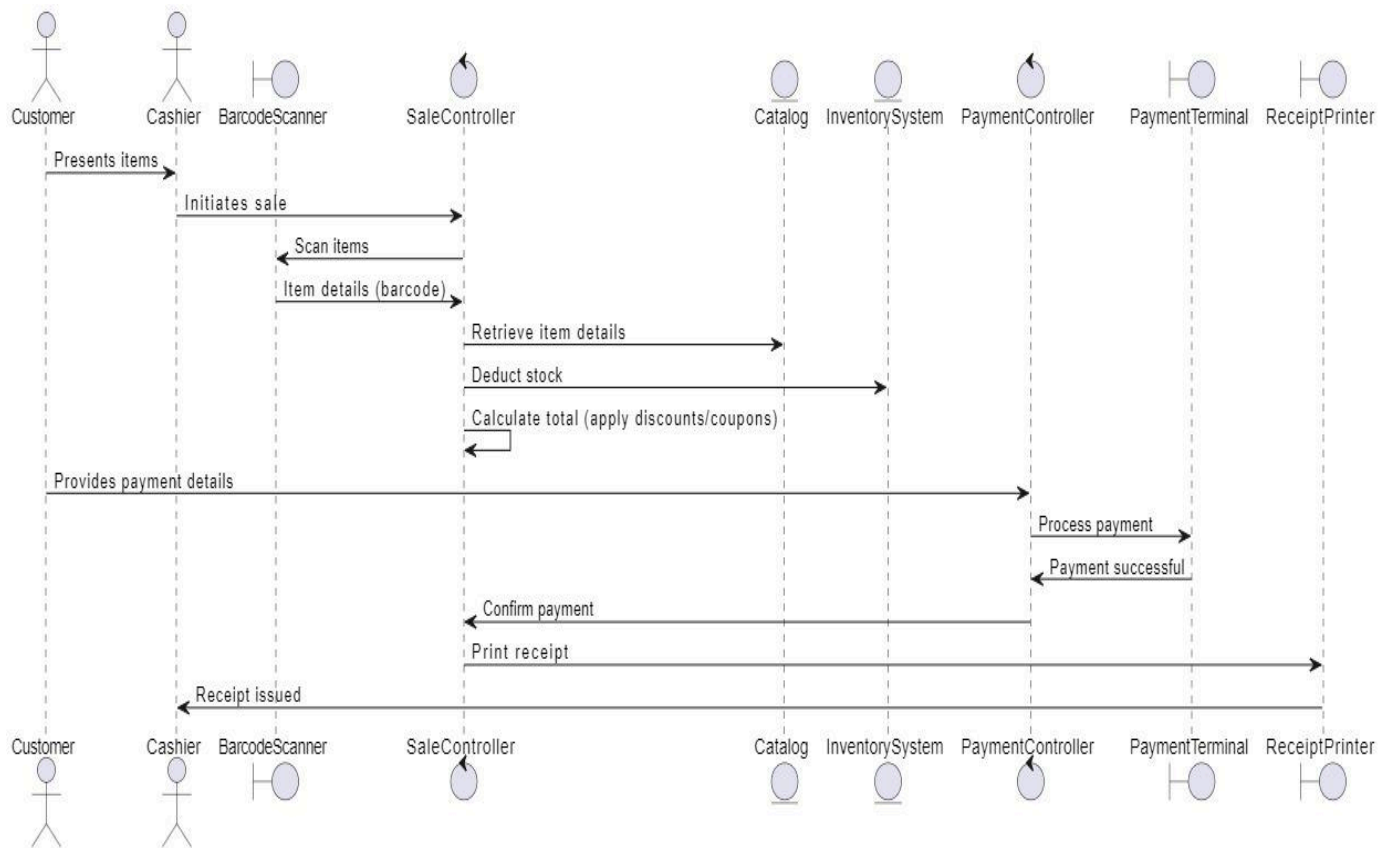
2. Handle Return:

- **Entities:**
 - Item
 - Return Transaction
 - Refund
 - Catalog
 - Inventory System
 - Original Sale
- **Boundary Objects:**
 - Barcode Scanner
 - Payment Terminal
 - Receipt Printer
 - User Interface (POS Screen)

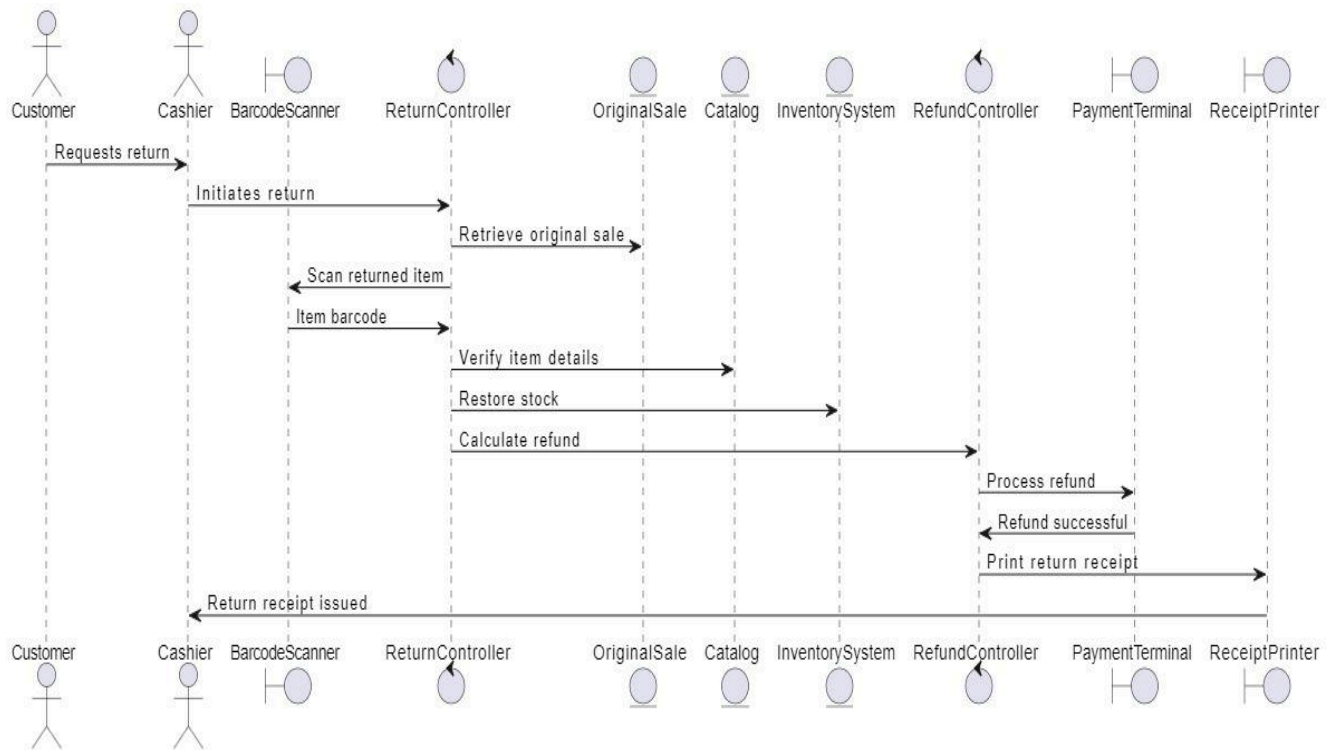
- **Control Objects:**
 - Return Controller
 - Refund Controller
 - Inventory Controller

Sequence Diagrams

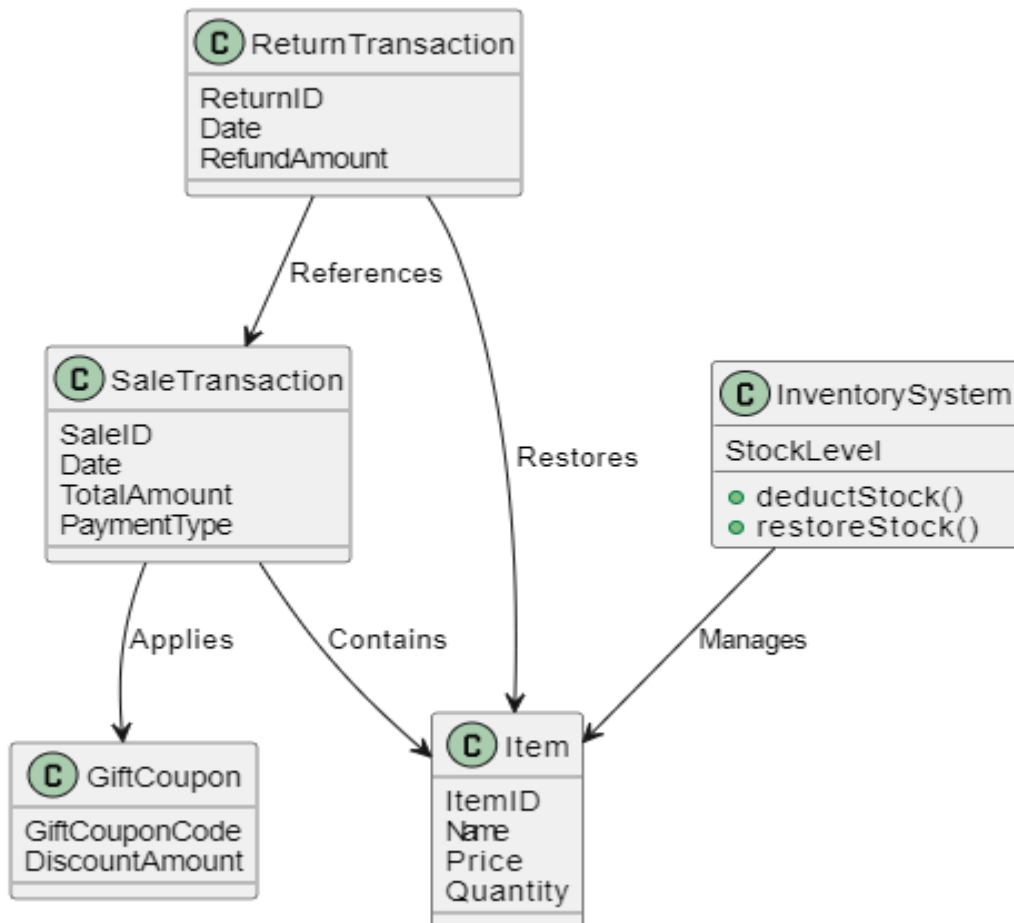
Process Sale Sequence Diagram



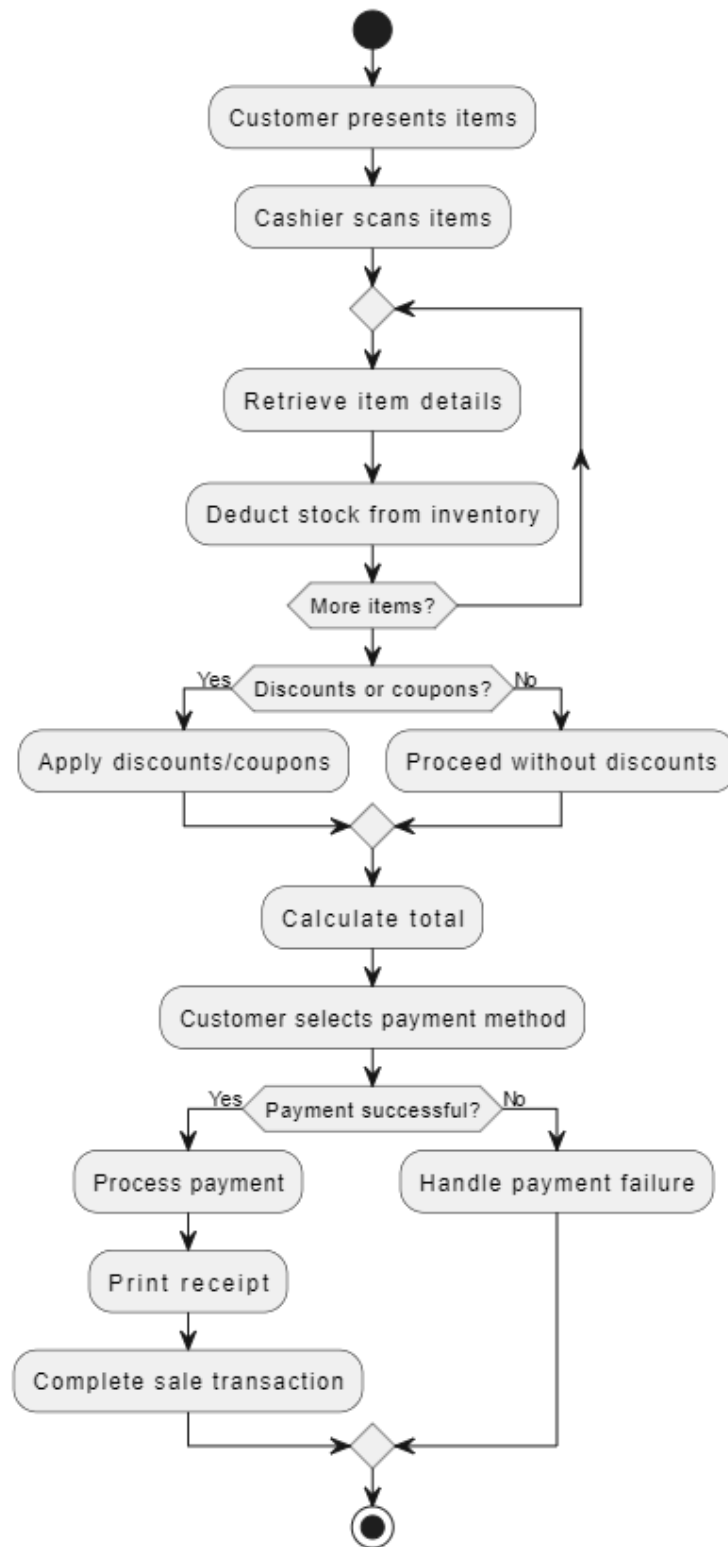
Handle Return Sequence Diagram



Analysis Domain Model



Process Sale Activity Diagram



Handle Return Activity Diagram

