



IT – 314 software engineering
202201156 – Aman Mangukiya
Lab 6 – Point of sale system

Process Sale

Actor:

- Cashier

Preconditions:

- The POS (Point of Sale) system is active and functioning.
- The cashier is logged into the system.

Postconditions:

- The transaction is successfully recorded in the POS system.
- The inventory reflects updated stock levels.

- A receipt is printed and handed to the customer.

Basic Flow:

1. The customer arrives at the POS with items to purchase.
2. The cashier initiates a new sale transaction.
3. For each item:
 - a. The cashier scans the item's barcode.
 - b. The system retrieves item details (name, price) from the catalog.
 - c. The system updates the inventory to reflect the item's sale.
- d. The system adds the item to the current transaction.
4. The system calculates and displays the total amount for the transaction.
5. The customer selects a payment method (cash, credit card, or check).
6. The cashier processes the payment through the Payment Processor.
7. The system records the completed sale.
8. The system prints a receipt.
9. The cashier hands the receipt and purchased items to the customer.

Alternative Flows:

- **3b. Item Not Found in Catalog:**
 1. If the system cannot find the scanned item in the catalog, the cashier manually enters the item details .
- **4a. Customer Uses a Gift Coupon:**
 1. The cashier applies the gift coupon to the sale.
 2. The system recalculates the total to reflect the coupon discount.
- **5a. Customer Cancels the Purchase:**

1. If the customer decides not to proceed with the purchase, the cashier cancels the transaction.
 2. The system reverts any inventory updates made during the transaction.
- **6a. Payment Processing Failure:**
 1. If the payment fails, the system notifies the cashier of the failure.
 2. The cashier asks the customer to provide an alternative payment method.

Entity Objects:

1. Sale
2. Item
3. Payment
4. Customer
5. Cashier
6. Inventory
7. Coupon
8. Return

Boundary Objects:

1. POS Terminal Interface
2. Barcode Scanner
3. Receipt Printer
4. Payment Terminal

Control Objects:

1. Sale Manager
2. Inventory Controller

- 3. Payment Processor
- 4. Catalog Manager
- 5. Return Managertes.

Handle Return

Actor:

- Cashier

Preconditions:

- The POS system is fully operational and ready for use.
- The cashier is logged into the system with appropriate access rights.
- The customer has the goods to be returned along with the original receipt for the purchase.

Postconditions:

- Return is recorded in the system
- Inventory is updated
- Refund is processed
- Return receipt is printed and given to the customer

Basic Flow:

1. The customer arrives at the POS with goods to return and the original receipt.
2. The cashier initiates a new return transaction.

3. The cashier scans or manually enters the details of the items being returned.
4. The system verifies if the return is eligible (e.g., within the return period).
5. The system calculates the refund amount based on the items returned.
6. The cashier confirms the reason for the return with the customer.
7. The system updates the inventory to reflect the returned items.
8. The cashier processes the refund using the original payment method.
9. The system records the return transaction.
10. The system prints the return receipt.
11. The cashier hands the return receipt to the customer.

Alternative Flows:

- 4a. Items are not eligible for return:
 1. System notifies Cashier
 2. Cashier informs customer
 3. Return process is terminated
- 7a. Items are damaged or used:
 1. Cashier assesses the condition
 2. System may adjust the refund amount or reject the return
- 8a. Original payment method is not available:
 1. Cashier selects an alternative refund method
 2. System processes the refund using the alternative method

Objects:- Entity Objects

1. Sale
2. Item
3. Payment
4. Customer
5. Cashier
6. Inventory
7. Coupon
8. Return

Boundary Objects

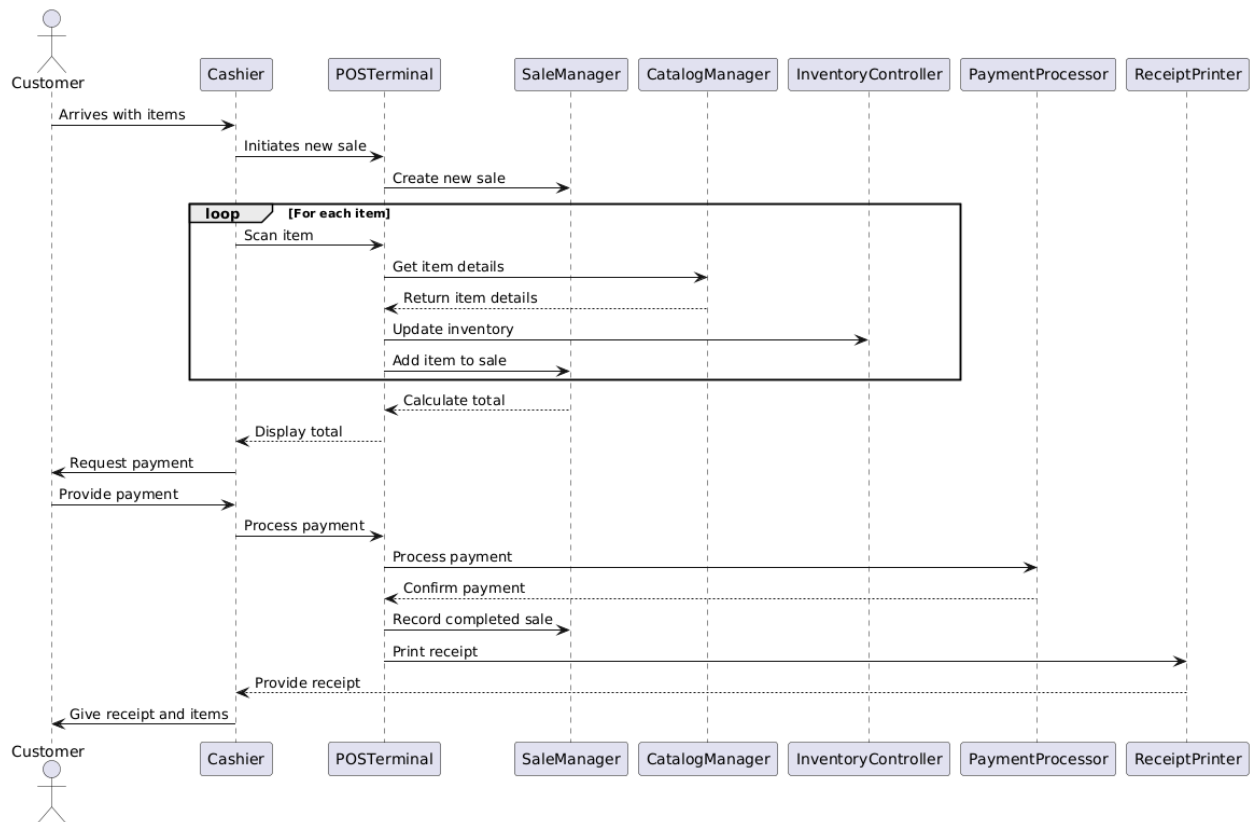
1. Barcode Scanner
2. POS Terminal Interface
3. Receipt Printer
4. Payment Terminal

Control Objects

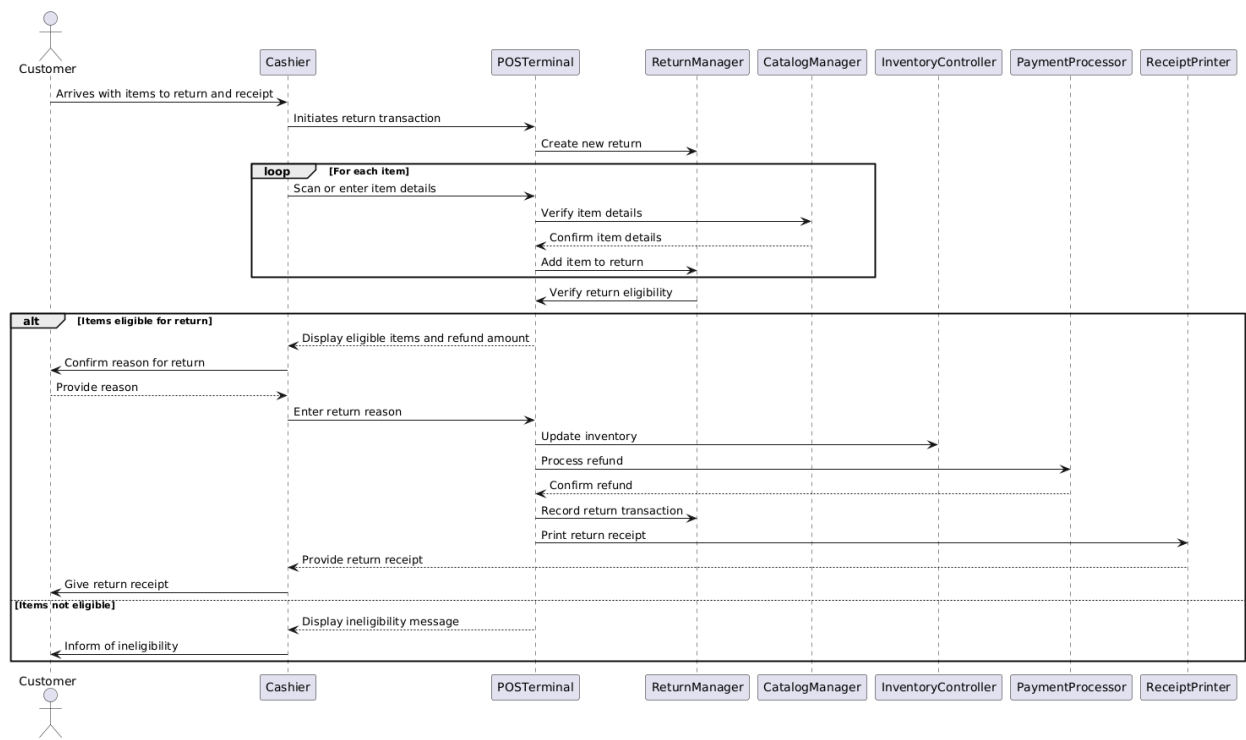
1. Sale Manager
2. Inventory Controller
3. Payment Processor
4. Catalog Manager
5. Return Manager

Sequence Diagram:

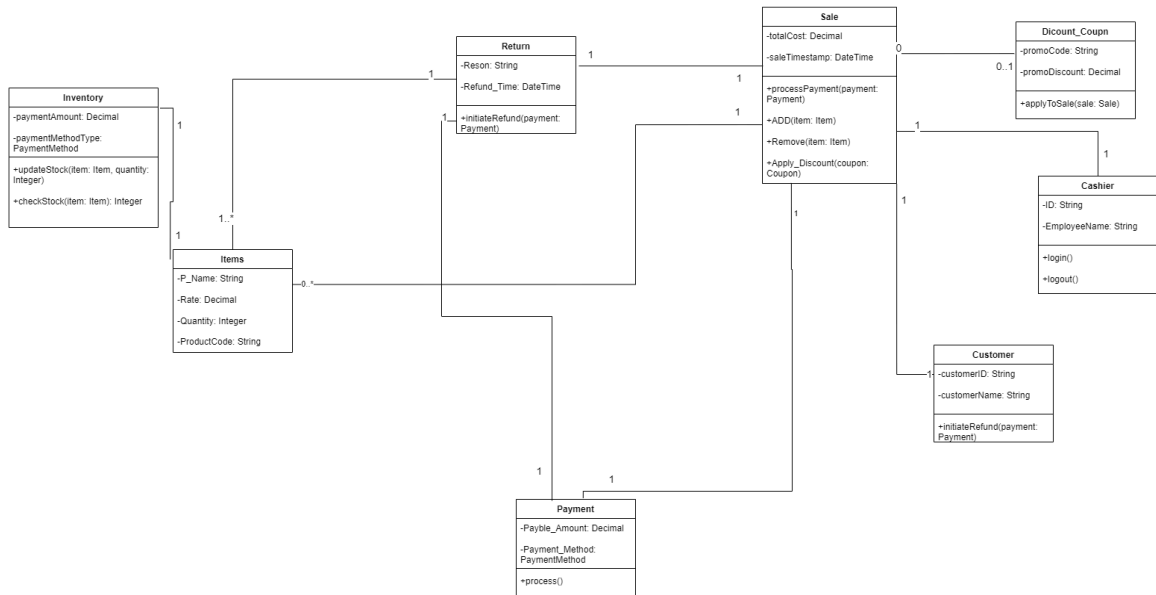
For Process Of Sales



Handle Return:

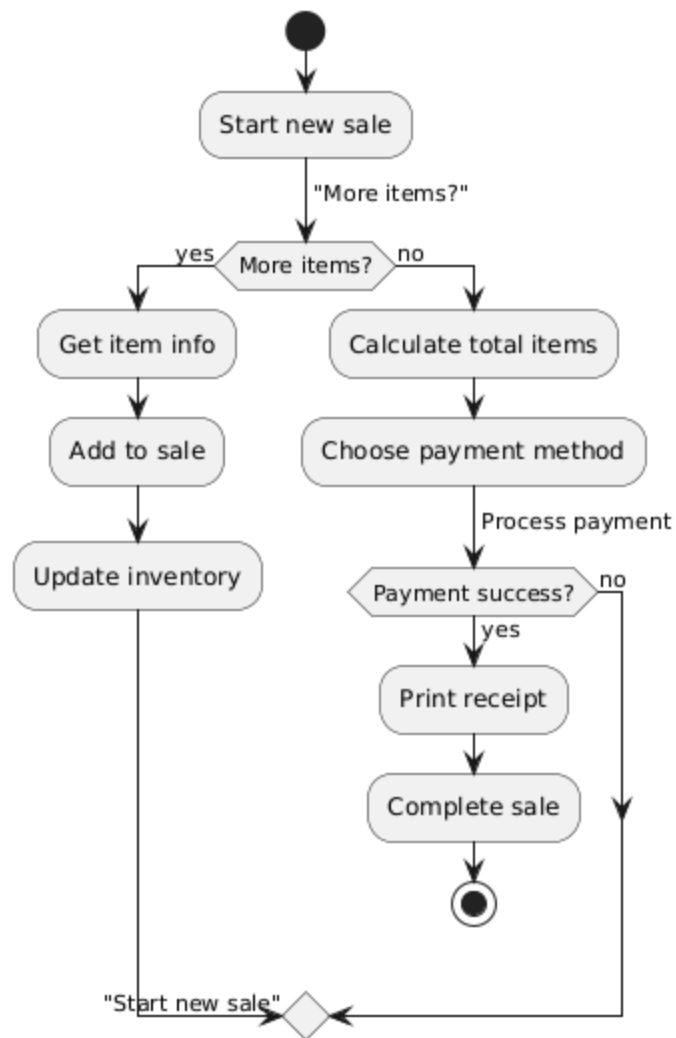


Develop Analysis Domain Models



Develop activity diagram:

Process Sales



Handle Returns

