

# LAB 6: REPORT

## 1. Use Case Textual Description

### Process Sale:

**Primary Actor:** Cashier

**Preconditions:** The cashier is logged into the POS system.

#### Main Flow:

- The cashier starts a new sale transaction.
- The cashier scans the barcode of each item.
- The POS system retrieves the item details (name, price) from the catalog system.
- The POS system interacts with the inventory system to update the stock.
- The cashier selects the payment method (cash, credit card, check, or gift coupon).
- The POS system processes the payment.
- The POS system prints the receipt.

**Postconditions:** The sale is recorded, and the inventory is updated.

### Handle Return:

**Primary Actor:** Cashier

**Preconditions:** The cashier is logged into the POS system, and the customer has a valid receipt.

#### Main Flow:

- The cashier starts a return transaction.
- The cashier scans the barcode of the item to be returned.
- The POS system verifies the return eligibility.
- The cashier processes the refund or exchange.
- The POS system updates the inventory.
- The POS system prints a return receipt.

**Postconditions:** The return is recorded, and the inventory is updated.

## 2. Entity/Boundary Control Objects

### Entities:

- Item
- Sale
- Receipt
- InventoryRecord
- PaymentMethod (with subclasses CashPayment, CreditCardPayment, CheckPayment, GiftCoupon)

### Boundary Objects:

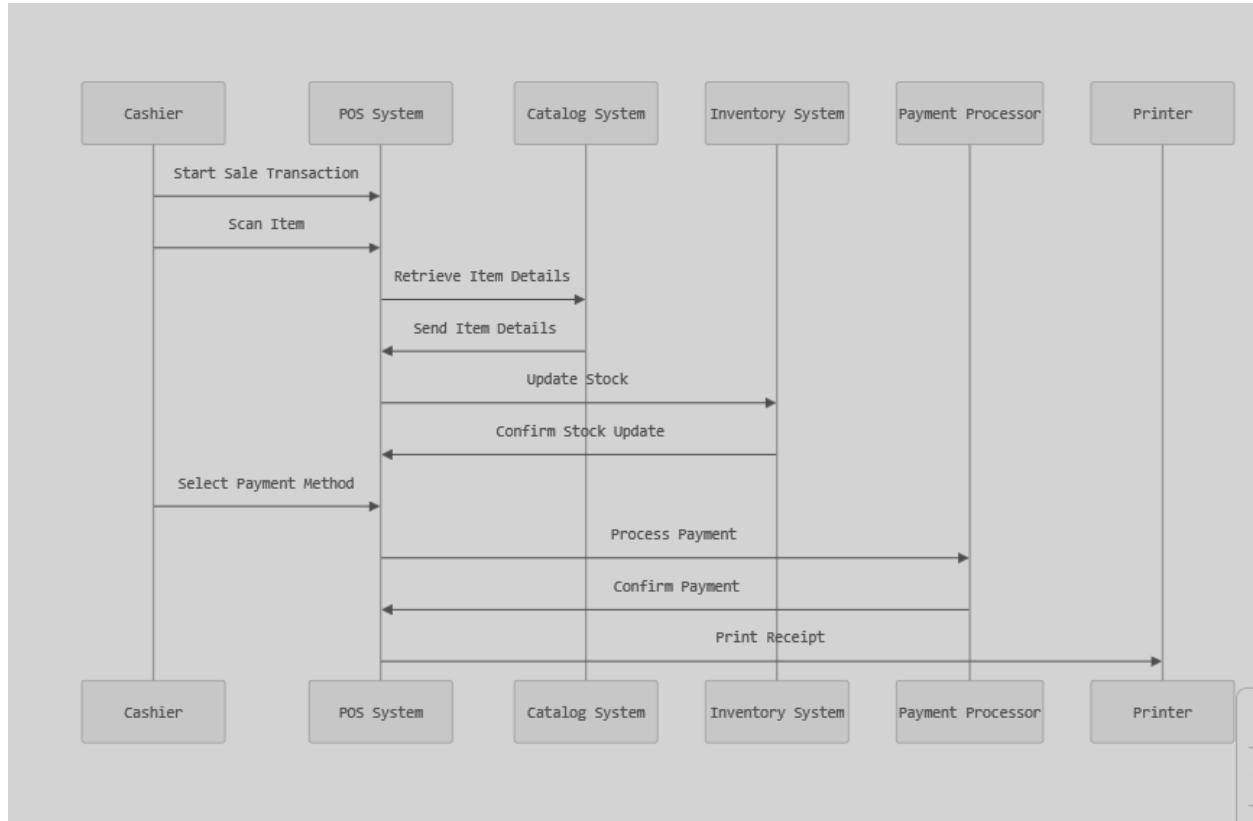
- POS System Interface, Barcode Scanner

### Control Objects:

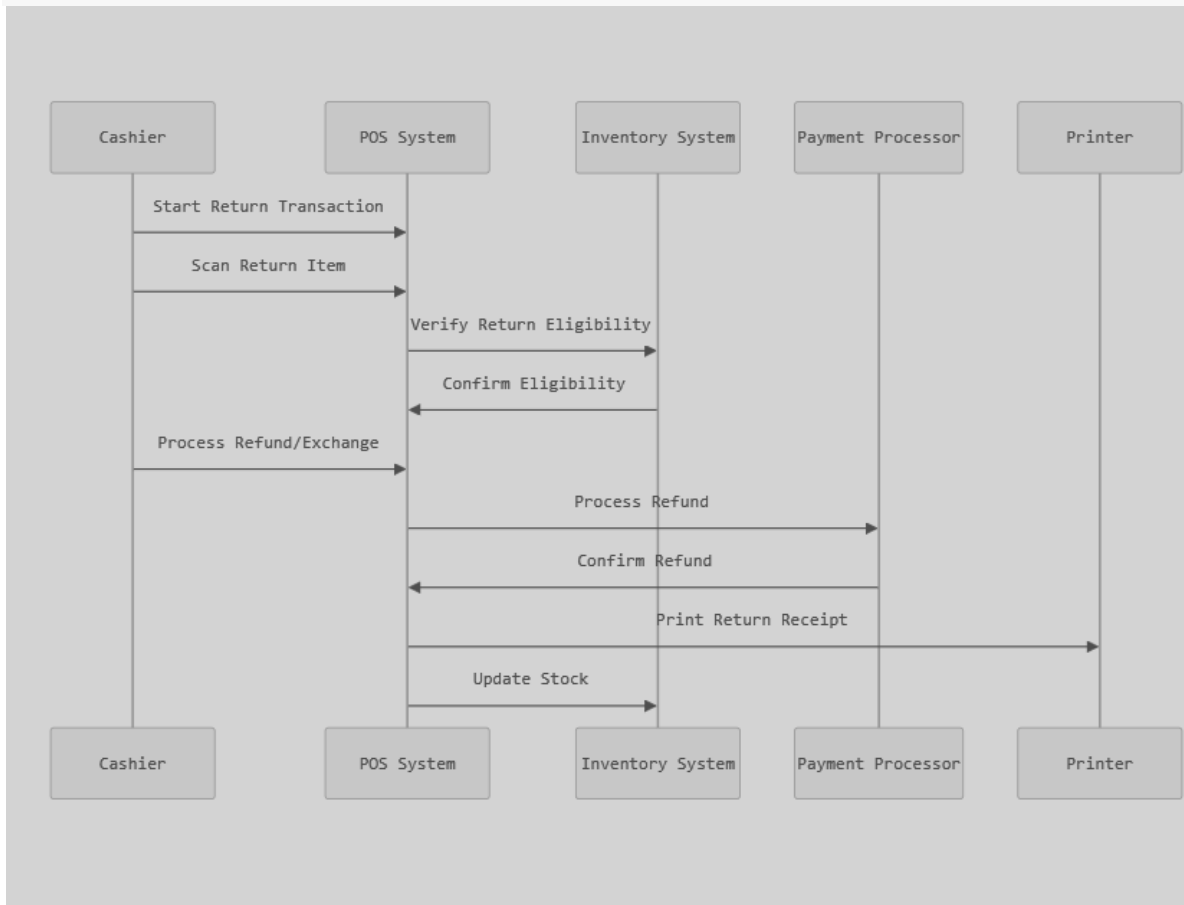
- Cashier

## 3. Sequence Diagrams

### Process Sale Sequence Diagram



## Handle Returns Sequence Diagram



## 4. Analysis Domain Models

The analysis domain model would include classes such as:

**Item:** Attributes like itemID, name, price, quantity.

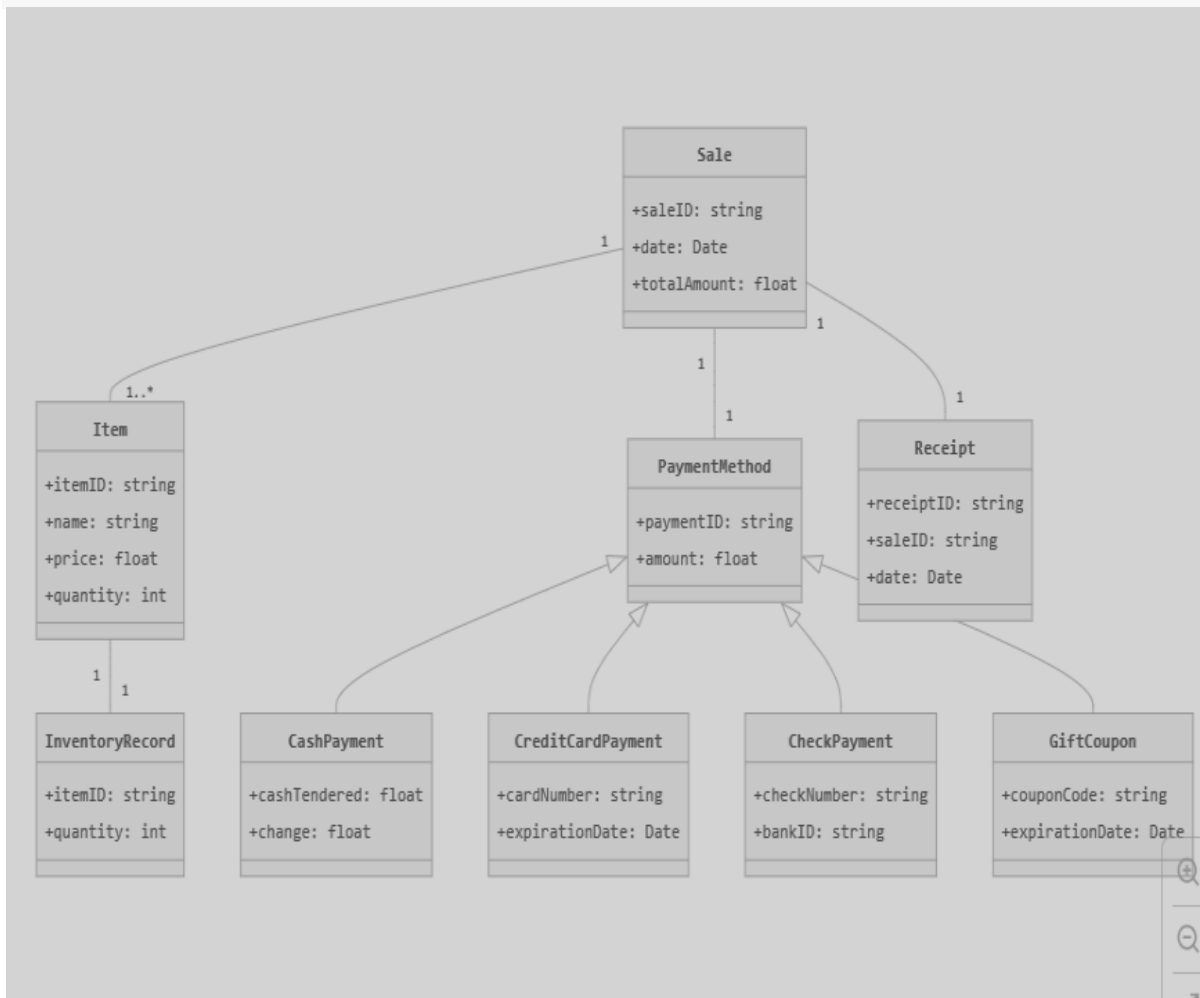
**Sale:** Attributes like saleID, date, totalAmount.

**PaymentMethod:** Subclasses for CashPayment, CreditCardPayment, CheckPayment, GiftCoupon.

**Receipt:** Attributes like receiptID, saleID, date.

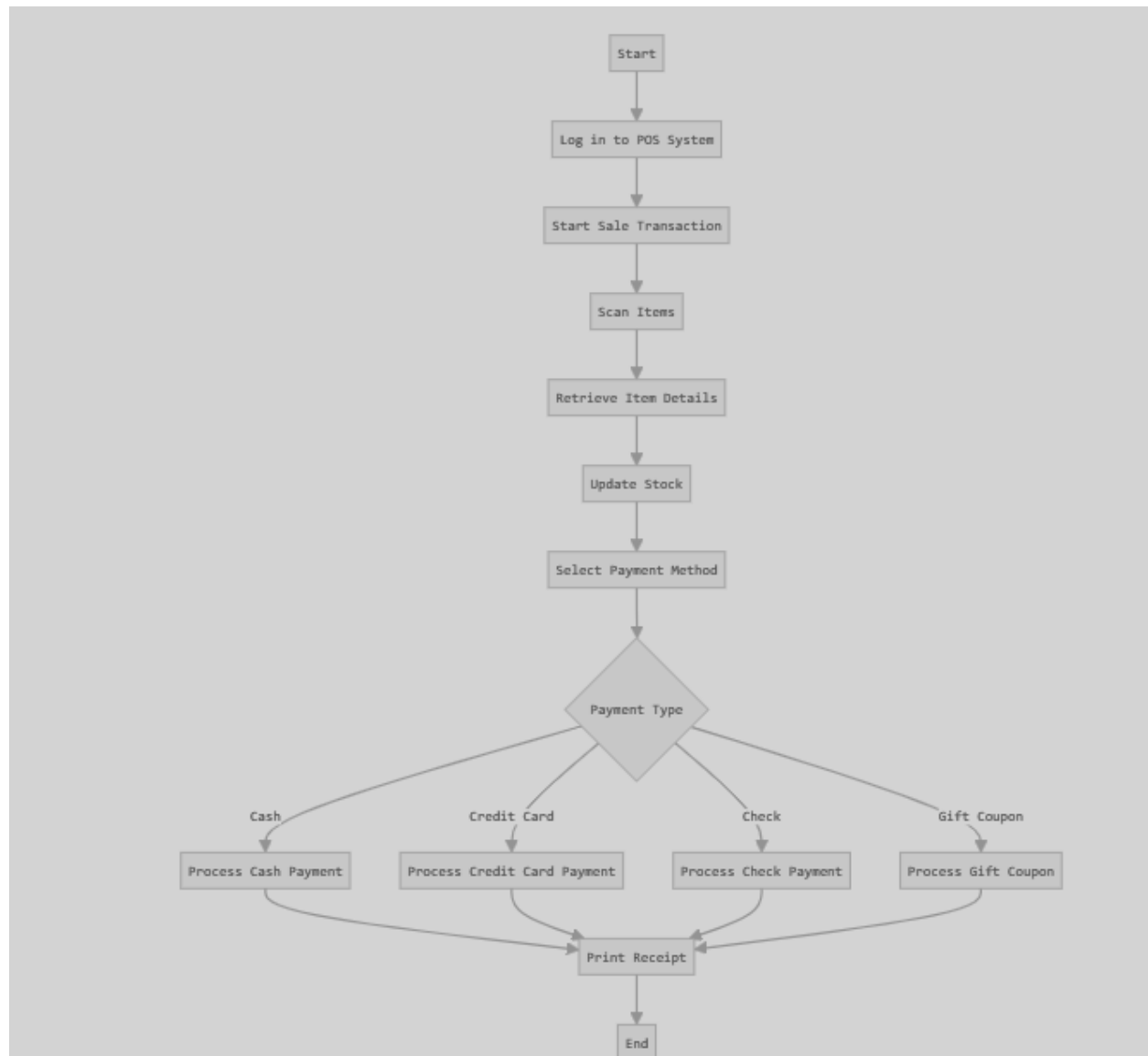
**InventoryRecord:** Attributes like itemID, quantity.

### Class Diagram

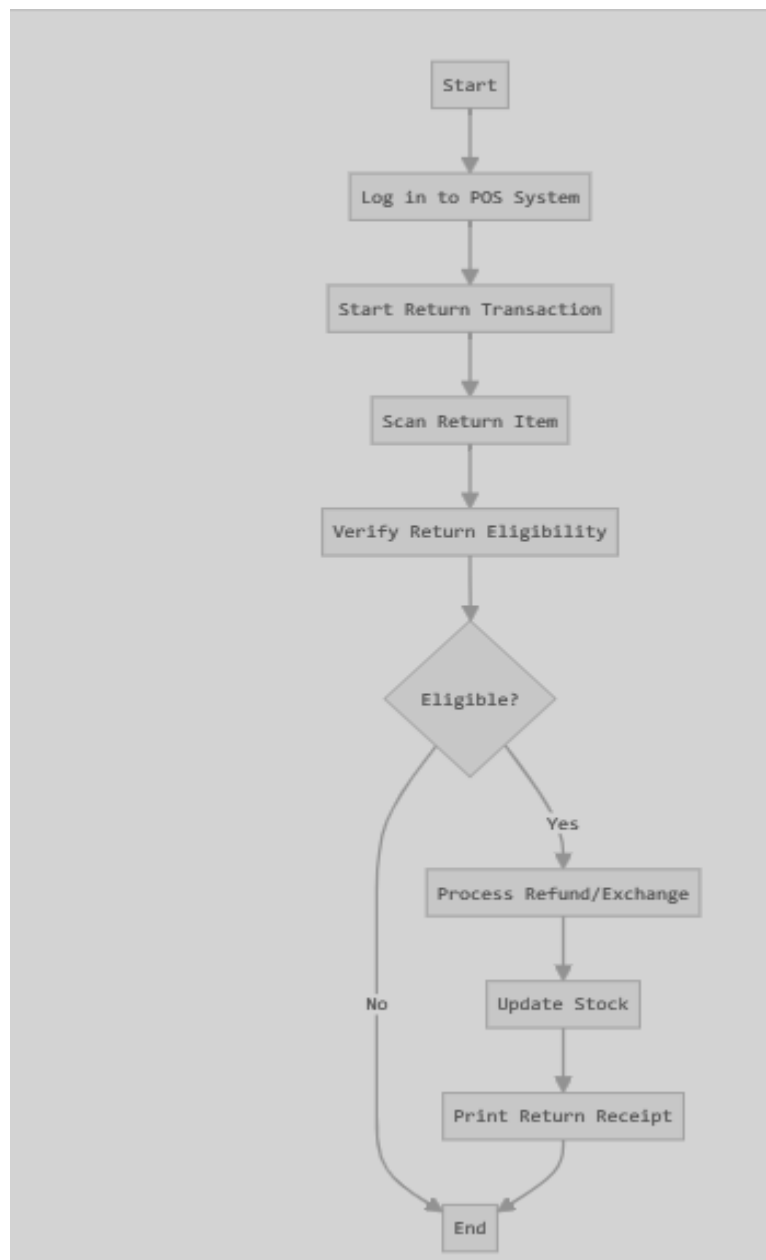


## 5. Activity Diagrams

### Process Sale Activity Diagram:



## Handle returns Activity Diagram



**MAAHI SHAH**  
**202201419**