



LAB 6

Name-Rabadiya Utsav

ID-202201081

Q.1

Use Case: Execute Purchase Transaction

Actor:

- Sales Associate

Preconditions:

- The associate is logged into the point-of-sale (POS) system.
- The customer has items prepared for checkout.

Primary Flow:

1. Sales associate starts a new purchase transaction.
2. For each product: a. The associate scans the item's barcode. b. The system fetches product details (e.g., name, price) from the product database. c. The system adjusts the available inventory. d. The system includes the item in the current purchase.
3. The system computes the total cost.
4. If the customer has a discount voucher: a. The associate applies the voucher. b. The system recalculates the updated total.
5. The associate selects the desired payment method (cash, credit, or check).
6. The customer submits the payment.
7. The associate processes the payment transaction.
8. The system verifies the payment.
9. The system completes the transaction.
10. The system generates and prints the receipt.

Postconditions:

- The sale is logged in the system.
- The inventory is updated to reflect the purchase.
- The payment is successfully processed.
- A receipt is printed for the customer.

Alternate Flows:

- If the payment fails, the system redirects the process to step 5.
- If the barcode scanning fails, the associate can manually input the item code.

Use Case: Process Item Return

Actor:

- Sales Associate

Preconditions:

- The associate is logged into the POS system.
- The customer wants to return purchased items.

Primary Flow:

1. Sales associate begins a new return transaction.
2. The customer provides the receipt (if available).
3. For each product being returned: a. The associate scans the barcode of the item. b. The system retrieves product information (e.g., name, price) from the product database. c. The system checks the item's eligibility for return. d. The system adds the item to the return transaction.
4. The system calculates the total refund.
5. The associate confirms the return reason with the customer.
6. The system updates the inventory to reflect the return.
7. The associate initiates the refund using the original payment method.
8. The system finalizes the return process.
9. The system prints the return receipt.

Postconditions:

- The return is logged in the system.
- The inventory is updated accordingly.
- The refund is processed.
- A return receipt is generated for the customer.

Alternate Flows:

- If the item is not eligible for return, the associate informs the customer and removes it from the transaction.
- If no receipt is provided, further verification might be necessary.

Q.2

Entity/Boundary/Control Objects**Entity Objects:**

- **PurchaseTransaction**
- **Product**
- **Inventory**
- **Payment**
- **DiscountVoucher**
- **SalesAssociate**
- **Receipt**
- **ReturnTransaction**

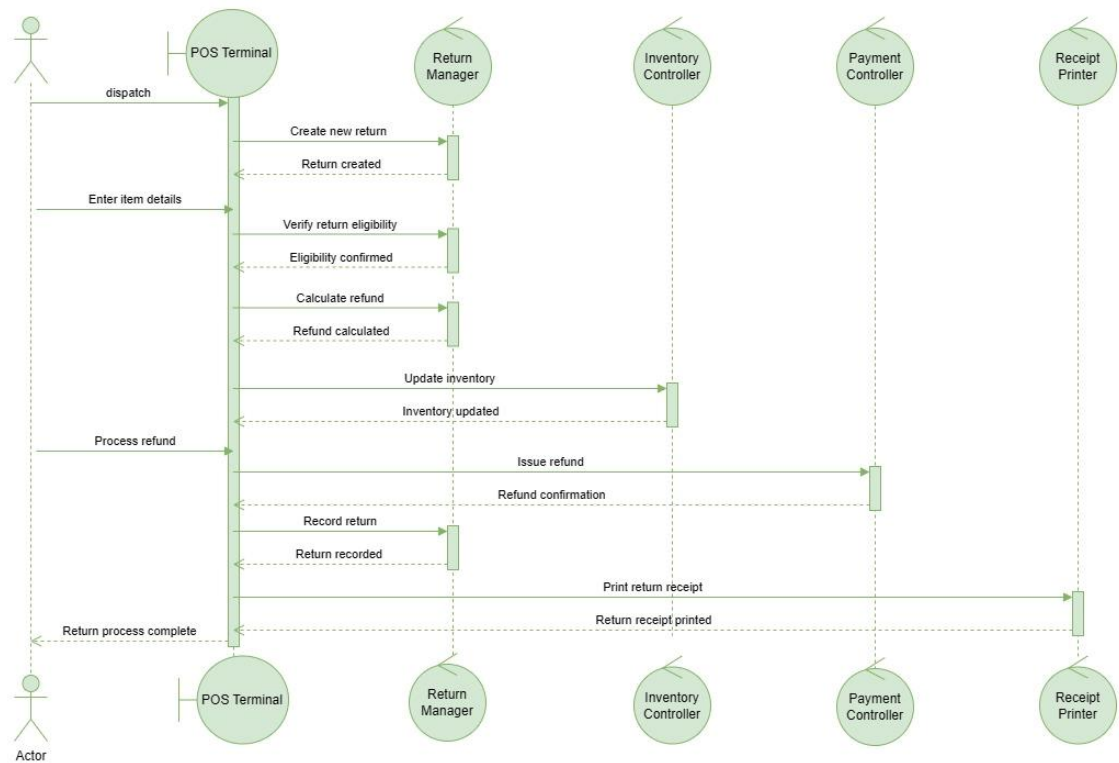
Boundary Objects:

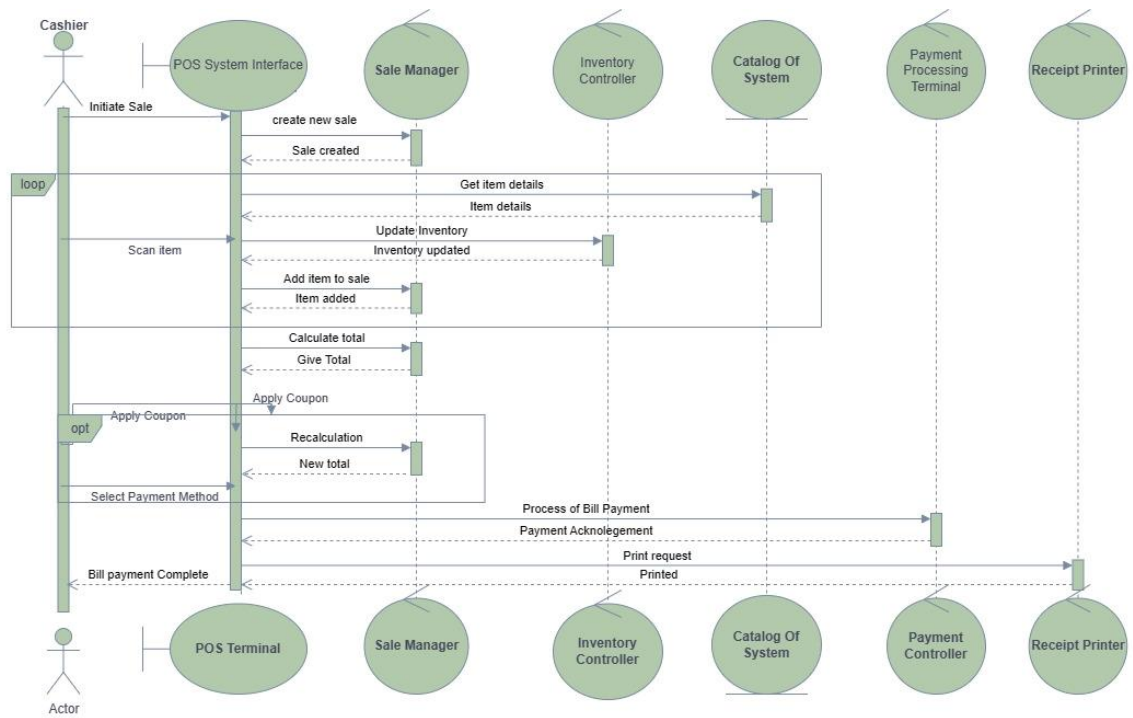
- POS System Interface
- Barcode Scanner
- Payment Processing Terminal
- Receipt Printer

Control Objects:

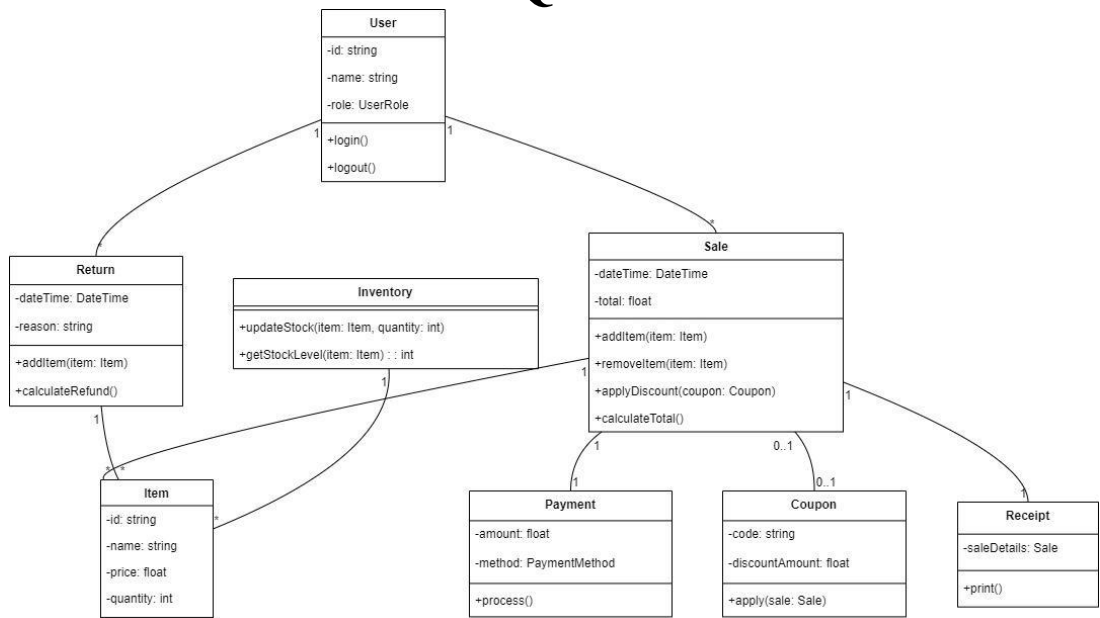
- Transaction Manager
- Inventory Controller
- Payment Validator
- ProductCatalogController
- User Authentication Manager
- ReturnHandler

Q.3





Q.4



Q.5

