

IT314 Lab_6

Use Case, Sequence Diagram Analysis Domain Models, Activity Diagram

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23rd September, 2024

Use Case Textual Description:

Use Case: Process Sale

Actors and Stakeholders: Cashier, Customer and Store Owner

Preconditions:

The cashier is logged into the POS system.

The POS system is connected to the backend catalog and inventory systems.

Trigger: The customer brings items to the cashier to purchase.

Main Success Scenario:

1. The cashier starts a new sale transaction.
2. The cashier scans each item's barcode.
3. The POS system retrieves the item's name and price from the backend catalog system.
4. The POS system deducts the item's stock from the inventory system.
5. The cashier enters any applicable discount codes or gift coupons.
6. The POS system calculates the total price.
7. The customer chooses a payment method (cash, credit card, or check).
8. The customer completes the payment.
9. The POS system verifies the payment.
10. The POS system prints the receipt.

Alternate Flows:

- If an invalid discount or coupon is applied, the system displays an error message, and the cashier retries.

- If the payment method is declined, the customer chooses another payment method.

Postconditions:

- The sale transaction is completed and recorded.
- The inventory is updated with the new stock amount.
- A receipt is printed for the customer.

Use Case: Handle Return:

Actors and Stakeholders: Cashier, Customer and Store Owner

Preconditions:

- The cashier is logged into the POS system.
- The customer has proof of purchase (e.g., receipt).

Trigger: The customer requests to return an item.

Main Success Scenario:

1. The cashier starts a return transaction.
2. The cashier scans the barcode of the returned item.
3. The POS system retrieves the item's details and original sale record.
4. The cashier confirms the item's condition and eligibility for return.
5. The POS system calculates the refund amount based on the original sale.
6. The customer chooses the refund method (cash, credit, or store credit).
7. The cashier processes the refund.
8. The POS system adjusts the inventory to reflect the returned item.



Alternate Flow:

- If the item is ineligible for return (e.g., beyond the return period), the system notifies the cashier, and the return is denied.
- If the refund method is not available (e.g., card refund for a cash sale), the cashier offers store credit as an alternative.

Postconditions:

- The return transaction is completed and recorded.
- The inventory is updated to include the returned item.
- The customer receives a refund or store credit.

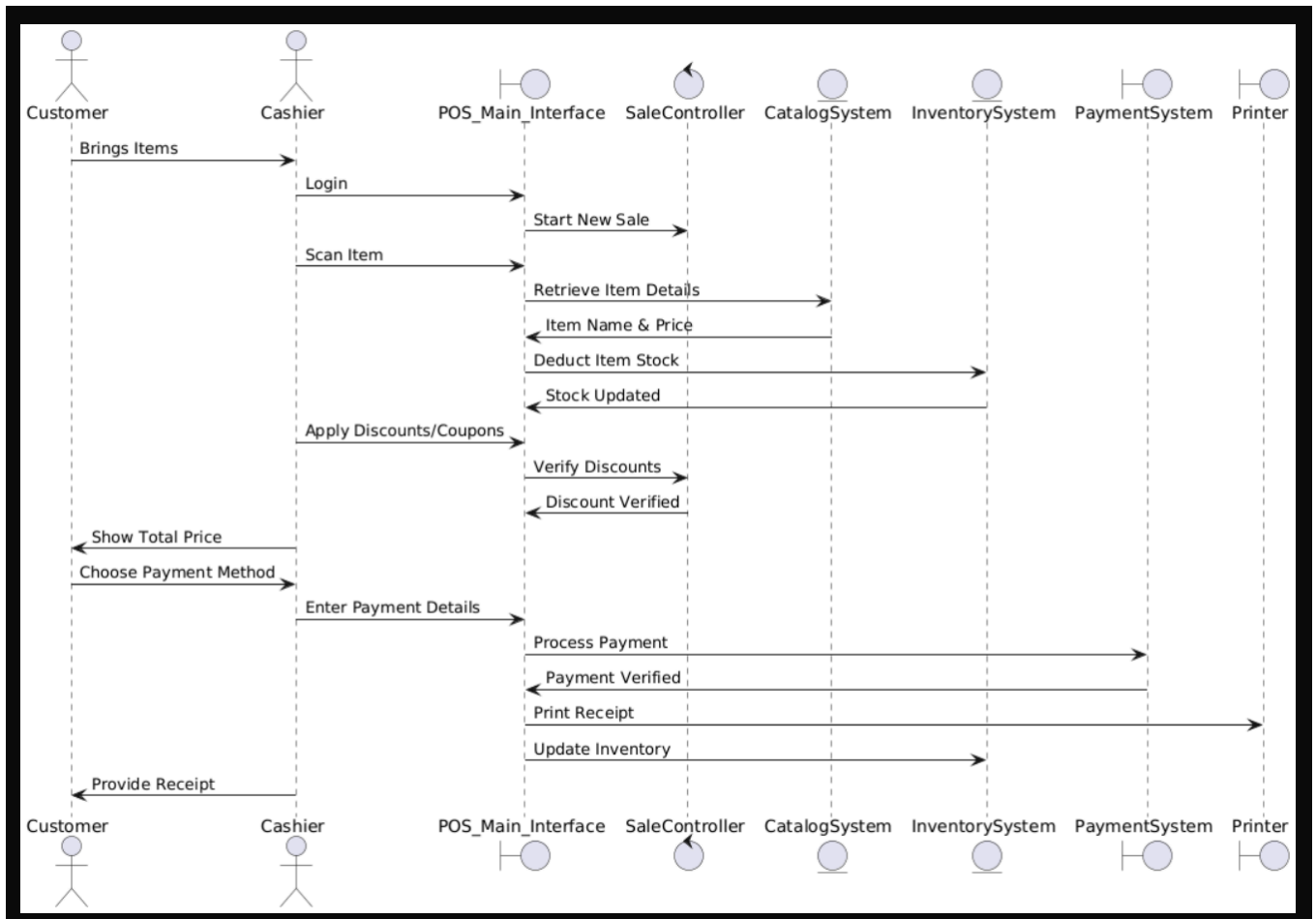
Entity Objects: Sales, Cashier, Catalog System, Inventory System, Discount/Coupon, Receipt.

Boundary Objects: POS Main Interface, Login Interface, Barcode Scanner, Card Reader, Inventory Management Interface, Cashier Management Interface, Refund Processing Interface, Promotion Management Interface, Printer, Cash/Check Drawer.

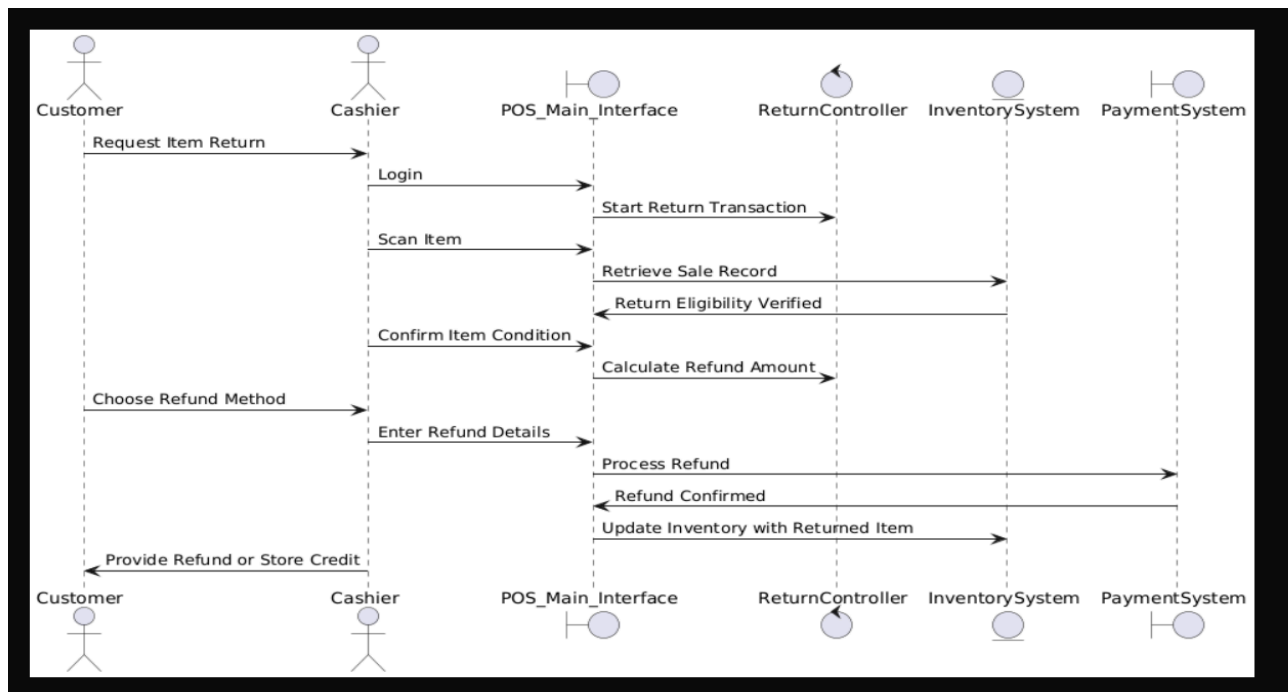
Control Objects: SaleController, ReturnController, InventoryController, DiscountController, PromotionController, RefundController, CatalogController, CashierController, SecurityController.

Sequence Diagram:

Use Case: Process Sale

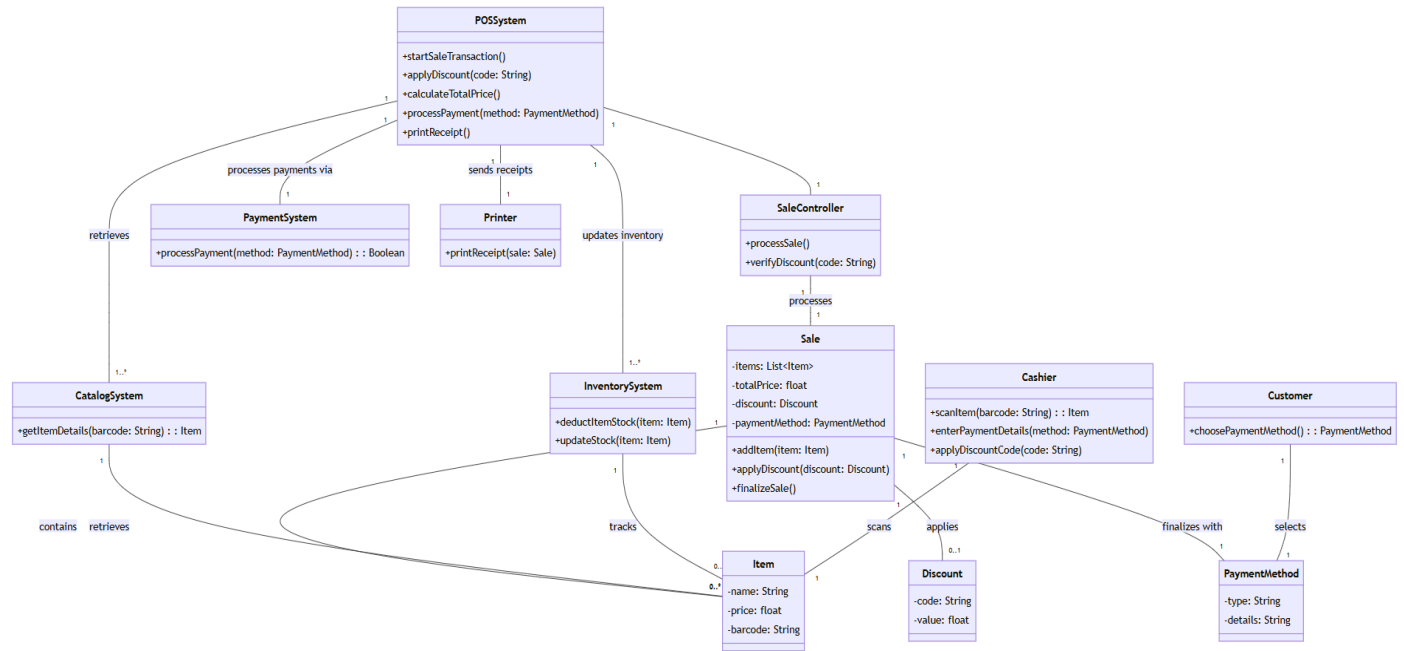


Use Case: Handle Return

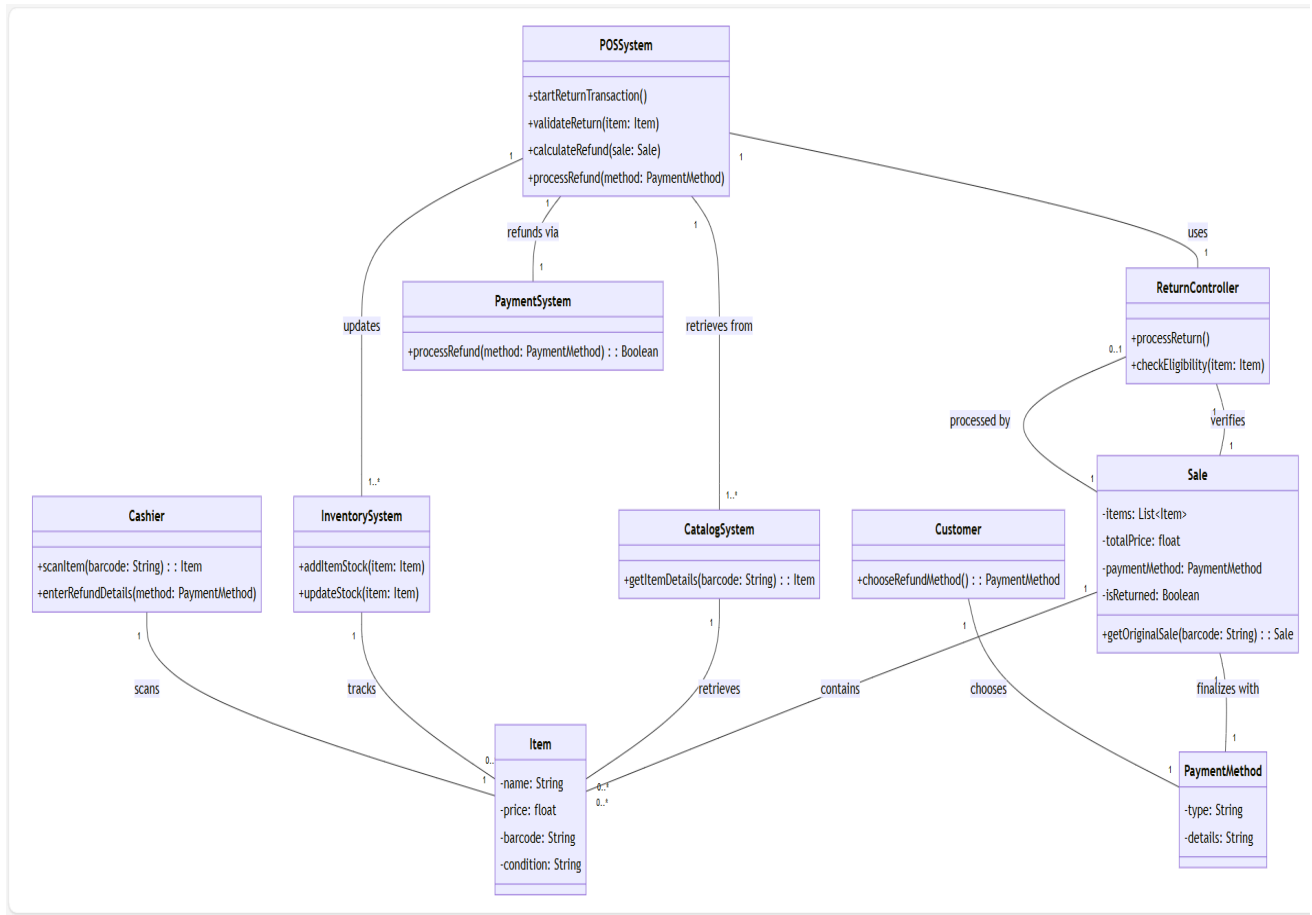


Activity Domain Models:

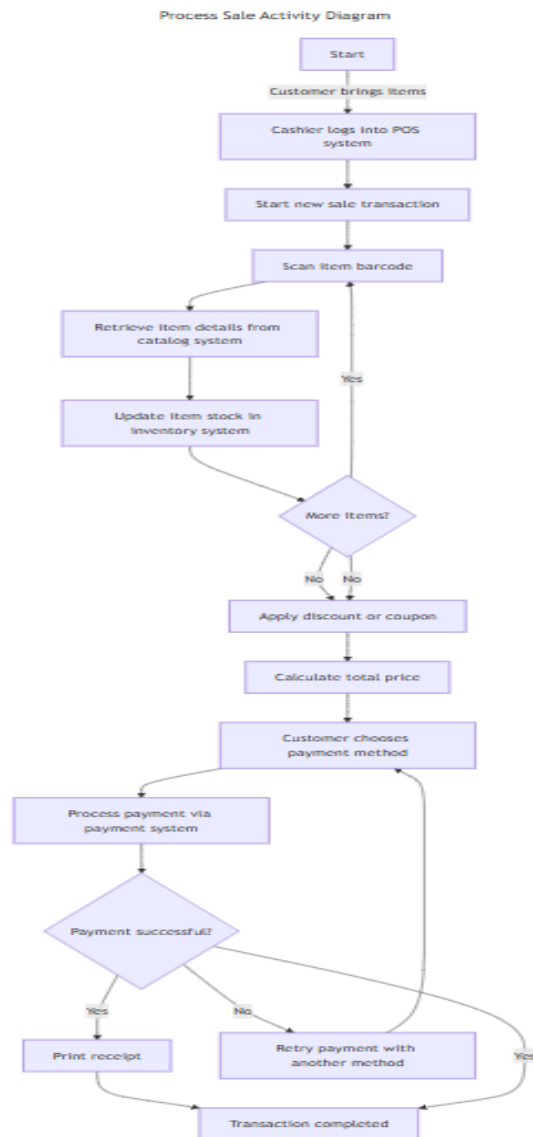
Use Case: Process Sale



Use Case: Handle Return:



Activity Diagram: Process Sale



Handle Return

