

LAB 6

IT 314

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1. Develop Use Case Textual Description for "Process Sale" and "Handle Return" use cases.

Process Sale:

- A. Use case name: Process Sale
- B. Actor: Cashier
- C. Description: This use case describes how a cashier processes a sale by scanning items, accepting payment, and printing a receipt for the customer.
- D. Precondition: Cashier is logged in to the system and system is connected to the catalog and inventory systems.
- E. Postcondition: The sale is completed, inventory is updated, payment is successful and a receipt is generated for the customer.
- F. Main flow:
 - a. The cashier starts a new sale transaction and starts scanning each product's barcode.
 - b. The system retrieves the item name and the price from the catalog, and updates the inventory as well.
 - c. This is carried out for all goods, after which the system calculates the total amount.
 - d. The cashier asks the customer for the payment method that is either cash or credit or debit card.
 - e. The system then processes the payment and approves it.
 - f. The system generates the receipt and the cashier hands out the receipt to the customer.
- G. Alternative Flow:
 - d1. If the customer has coupons:

The cashier checks its validation and the system applies a particular discount.
 - d2. If the payment method is credit or debit card:

The system connects to the payment processing gateway and after authorization payment is carried away.
- H. Exception Flow:
 - e1. If the payment declined:

The system notifies the cashier of this and the cashier asks the customer of an alternative payment method.

Handle Returns:

- A. Use case name: Handle returns
- B. Actor: Cashier
- C. Description: This use case describes how a cashier processes a return transaction when a customer brings back items for a refund or exchange.
- D. Precondition: the cashier is logged in to the system and the system is connected to the inventory and catalog system and the customer has the receipt for the product he or she wants to return.
- E. Postcondition: the inventory is updated, an amount is refunded to the customer and a refund receipt is generated.
- F. Main Flow:
 - a. The customer brings in a request to refund an item and the cashier checks the system for the same with the receipt.
 - b. The system displays the sale and the cashier selects the products for refund.
 - c. The system updates the inventory and calculates the refund amount.
 - d. The cashier asks for a refund method that is cash or store credits.
 - e. The system processes the return receipt and the cashier returns it to the customer.
- G. Alternative flow:
 - a1. If the customer doesn't have the receipt the cashier looks up for the transaction using customer details.
 - d1. If the customer chooses the store credits the system issues an amount of store credits to the customers account.
- H. Exception Flow:
 - b1. If the sale is not found the cashier informs the customer about the same and the refund is canceled.

2. Identify entity, boundary and control objects

Entity Objects:

- Customer
- Cashier
- Receipt
- Inventory

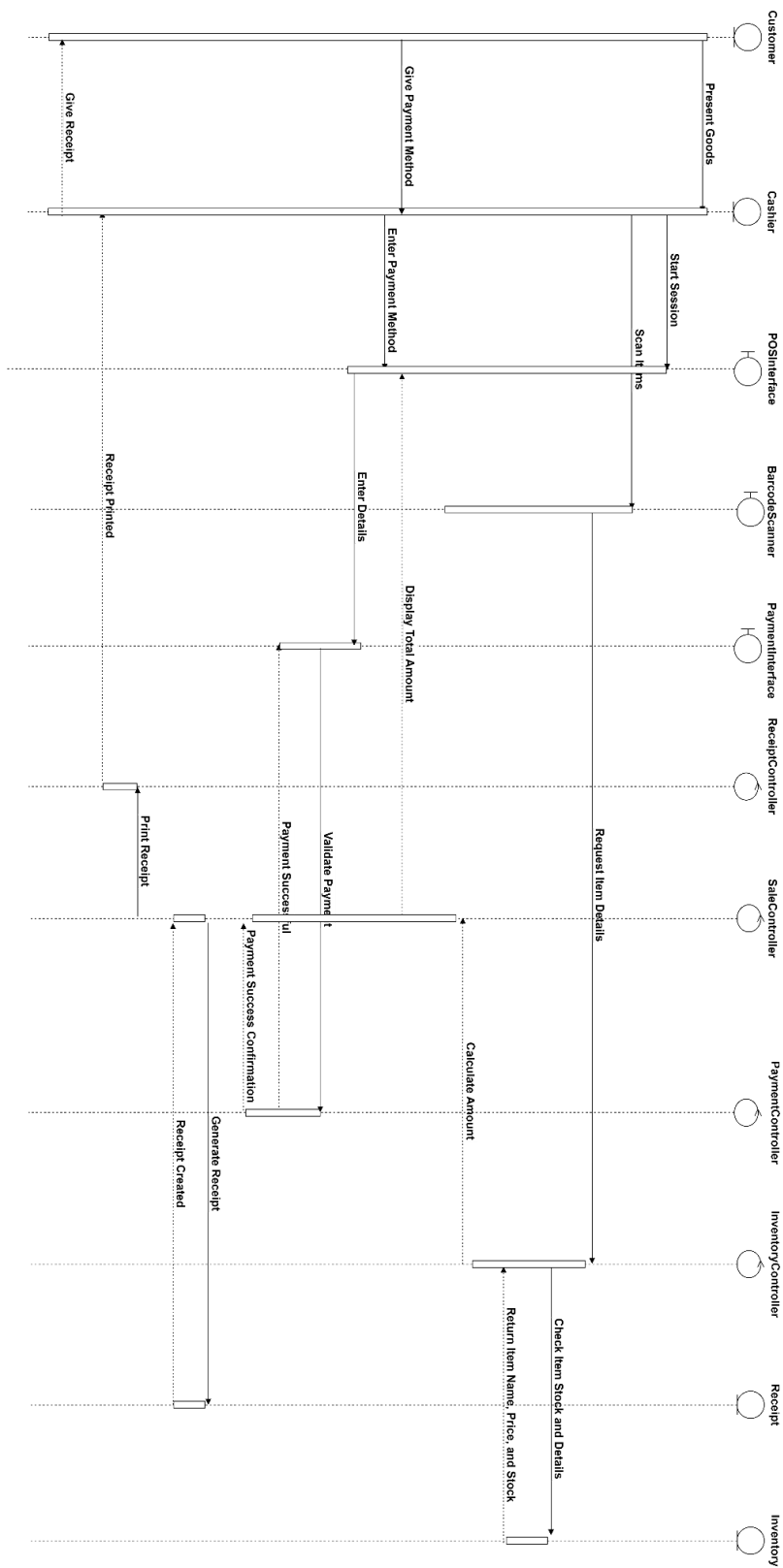
Boundary Objects:

- POSInterface
- BarcodeScanner
- PaymentInterface
- ReceiptPrinter

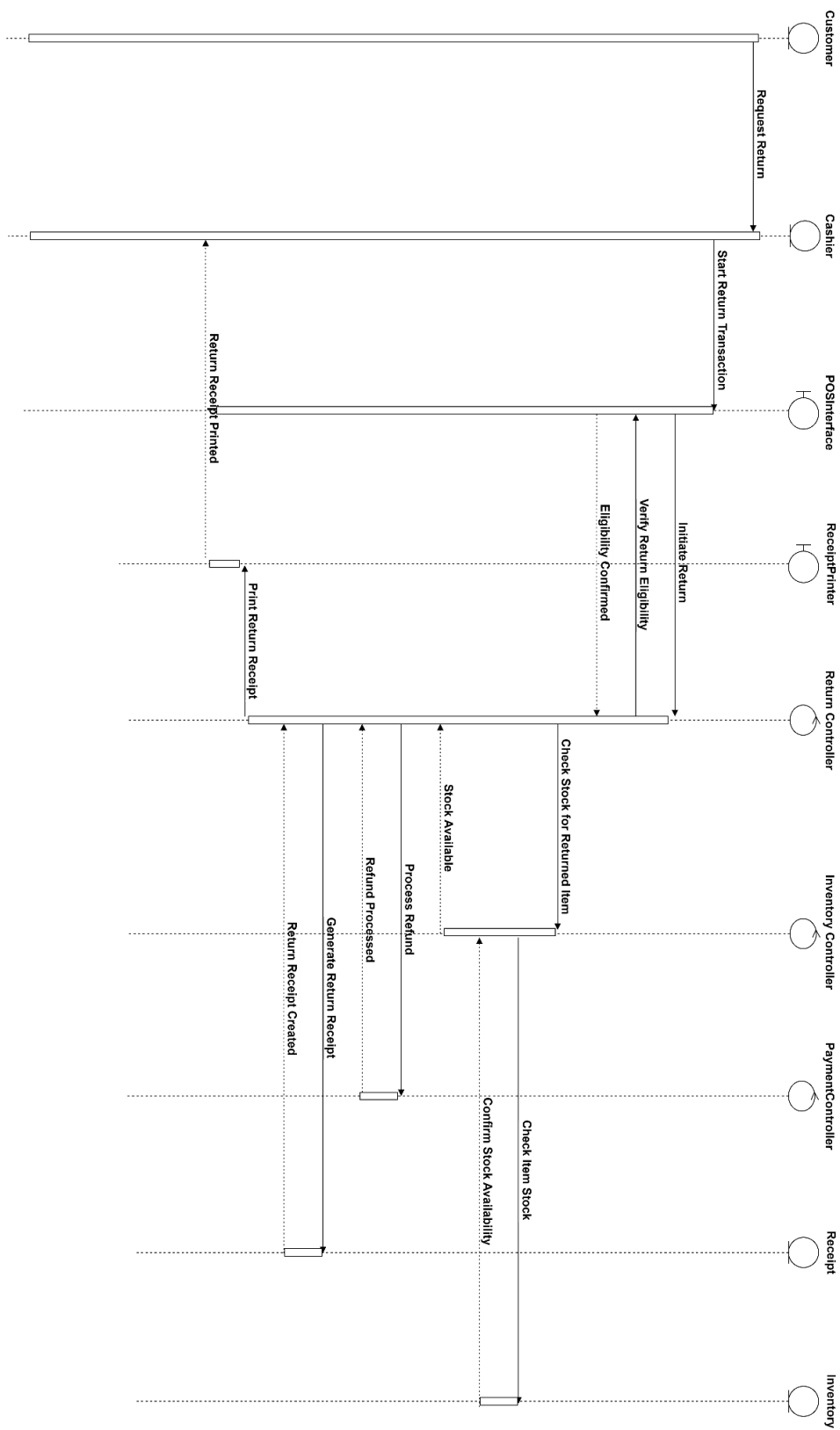
Controller Objects:

- SaleController
- PaymentController
- InventoryController
- ReturnController

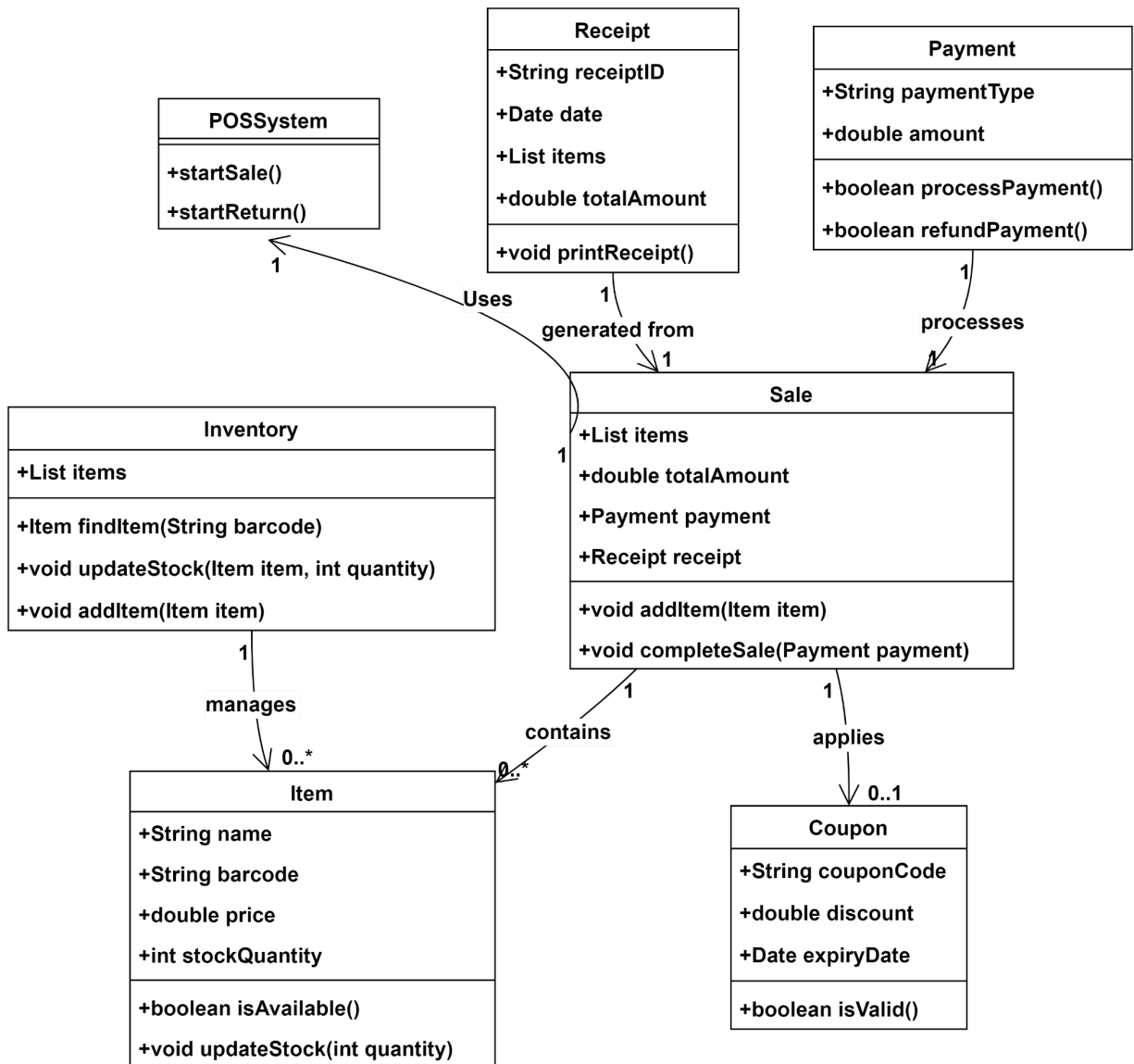
3.Sequence Diagram
Process Sales



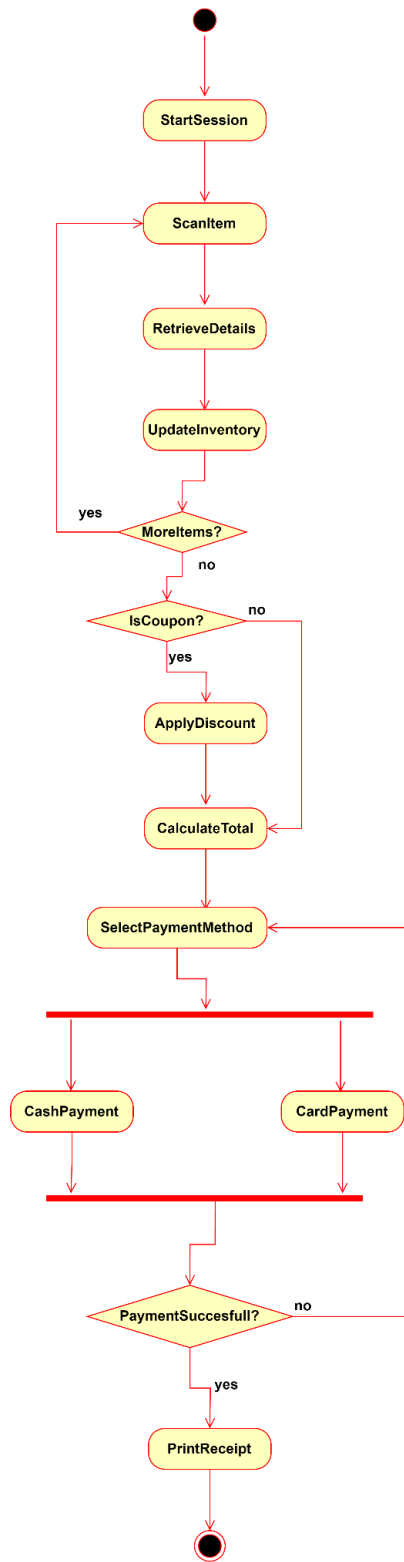
Handle Return



3. Class Diagram



4. Activity Diagram: Process Sales



Handle Return:

