IT314 Software Engineering

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Lab 06

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Use Case: Process Sale

Actors: Cashier, Customer

Preconditions:

- The cashier is logged into the POS system.
- The inventory system is accessible.

Main Flow:

1. The cashier starts a new sale transaction by selecting the "New Sale" option in the POS system.
2. The cashier scans the barcode of each item presented by the customer.
3. For each scanned item, the system retrieves the item's name and price from the backend catalog.
4. The system checks the inventory for the scanned item.
5. If the item is in stock, the system deducts the quantity from the inventory.
6. The system displays the current total price of the items.
7. The cashier informs the customer of the total amount due.
8. The customer chooses a payment method (cash, credit card, or check).
9. The system processes the payment.
    - If payment is successful, proceed to step 10.
    - If payment fails, display an error message and allow the customer to retry.
10. The system generates a receipt and prints it for the customer.
11. The sale transaction is recorded in the system for future reference.

Alternative Flow:

5.1 If an item is not available in inventory, the system alerts the cashier and prompts to either remove the item from the transaction or suggest a similar item.

Postconditions:

- The sale transaction is recorded in the system.
- Inventory is updated.
- A receipt is printed for the customer.

Use Case: Handle Return

Actors: Cashier, Customer

Preconditions:

- The cashier is logged into the POS system.
- The item to be returned is identifiable (receipt, barcode, etc.).

Main Flow:

1. The cashier selects the "Process Return" option in the POS system.
2. The cashier asks the customer for the receipt or the item to be returned.
3. The cashier scans the barcode of the item or enters the receipt number into the system.
4. The system retrieves the original sale details, including item price and transaction date.
5. The system verifies that the return is valid (e.g., within the return period).
6. If valid, the system updates the inventory to reflect the returned item.
7. The system processes the refund based on the original payment method (cash, credit card, etc.).
8. The system generates a return receipt and prints it for the customer.
9. The return transaction is recorded in the system.

Alternative Flow:

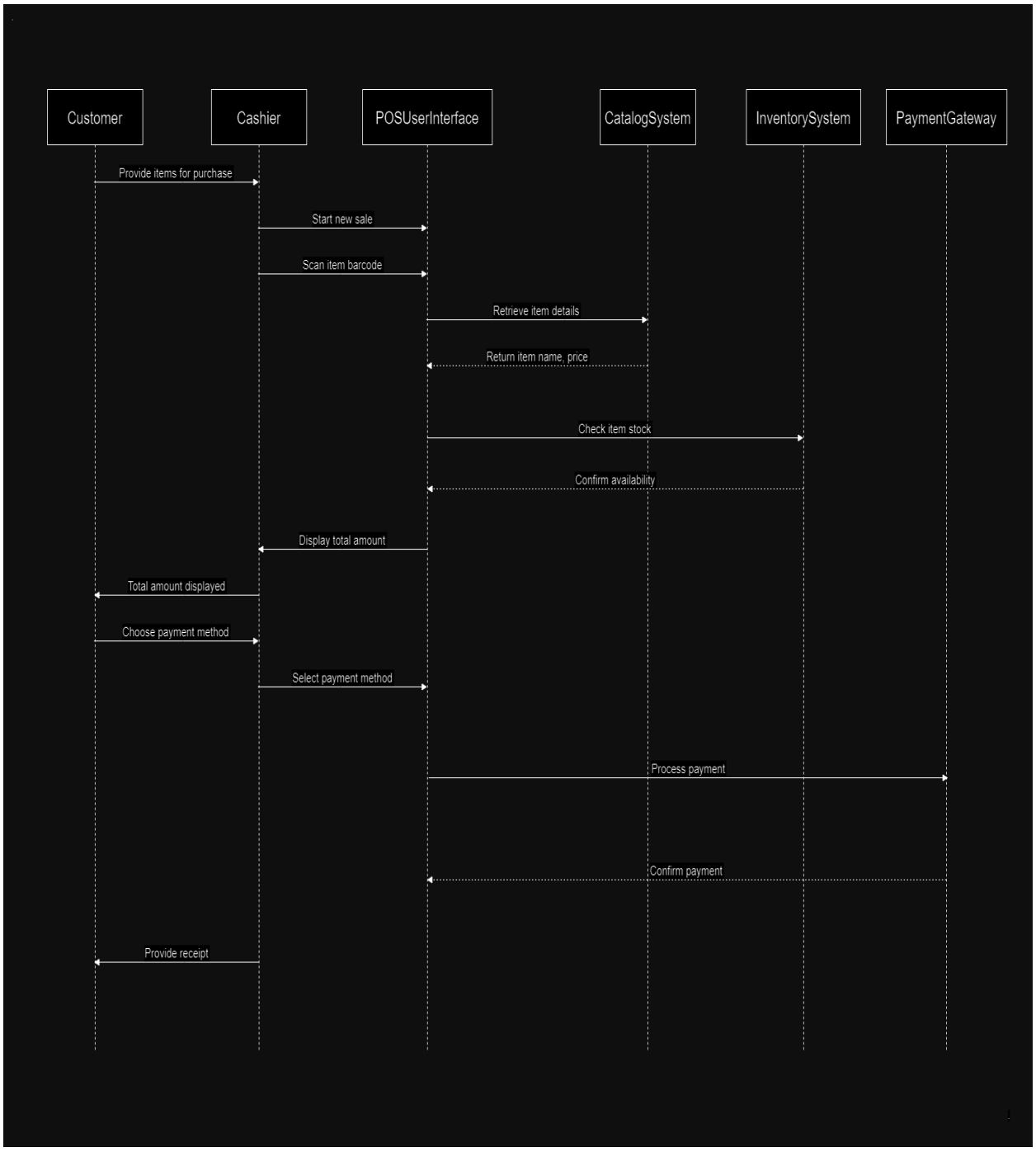
5.1 If the return is invalid (e.g., beyond the return period), the system displays an error message and informs the customer.

Postconditions:

- The return transaction is recorded in the system.
- Inventory is updated to reflect the return.

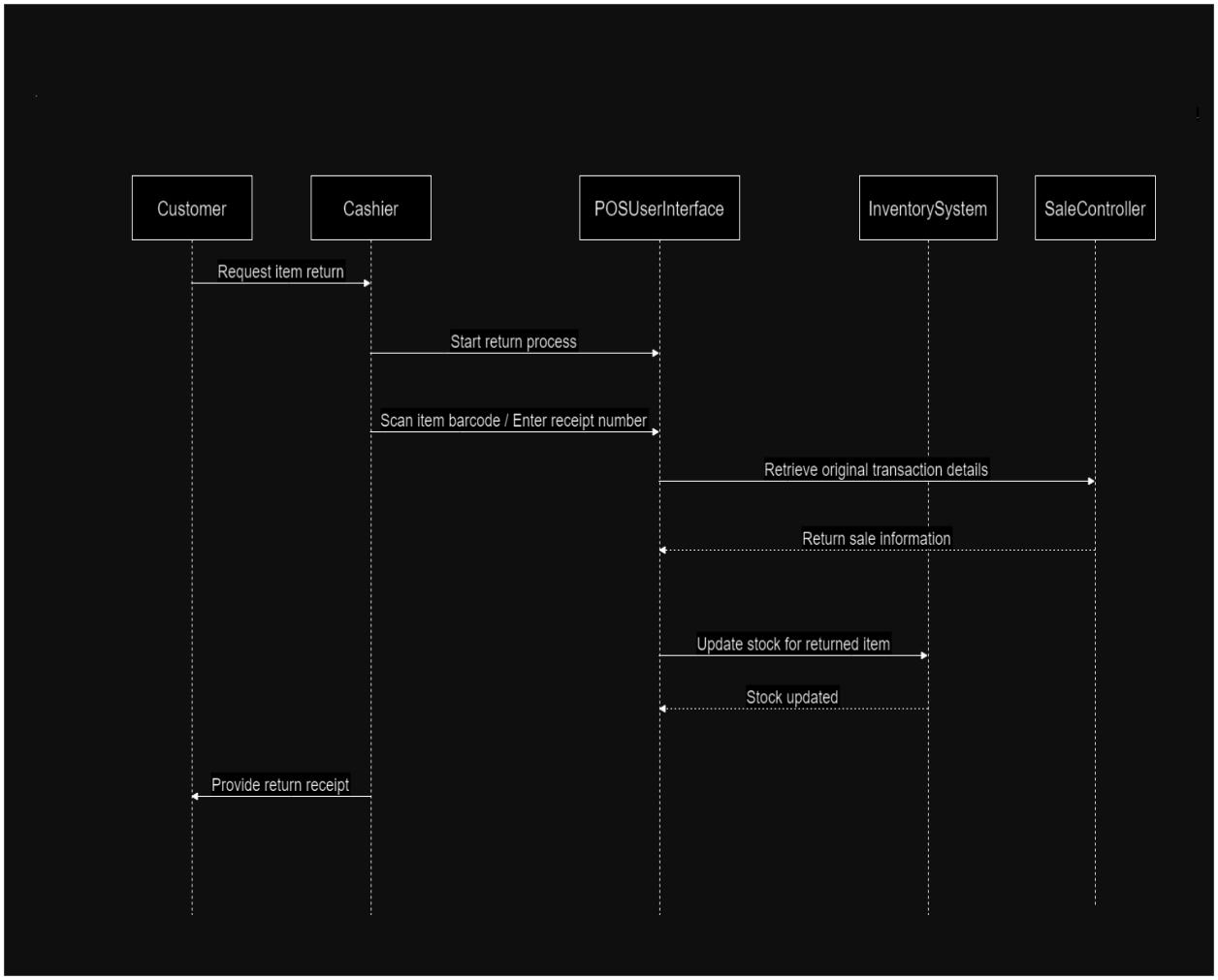
Sequence Diagrams:

1. Process sales



https://github.com/Yash-Tarpara/IT-314_SE_Labs/blob/main/Lab6/Process_Sales_Seq_Dia.png

2. Handle Return



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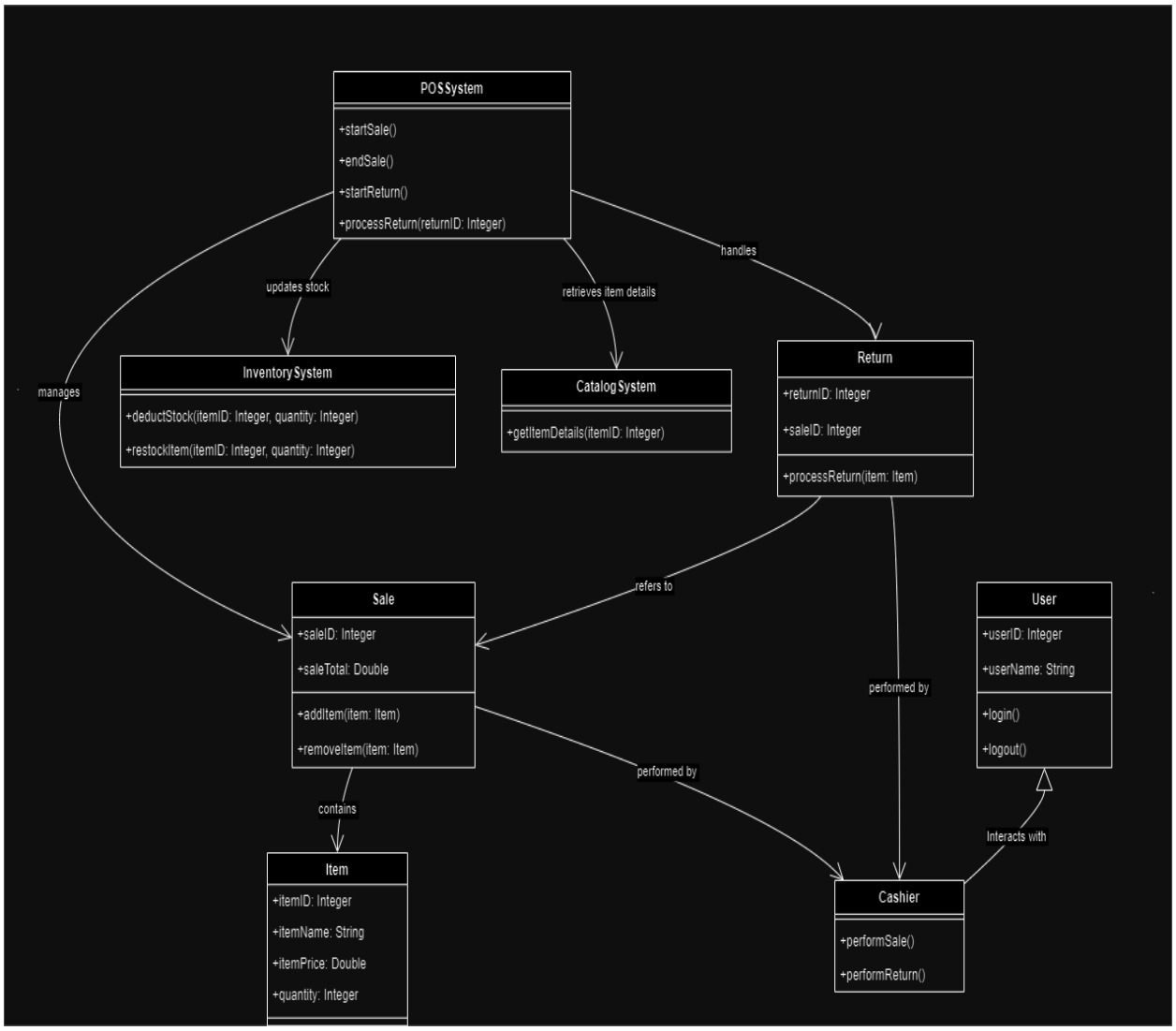
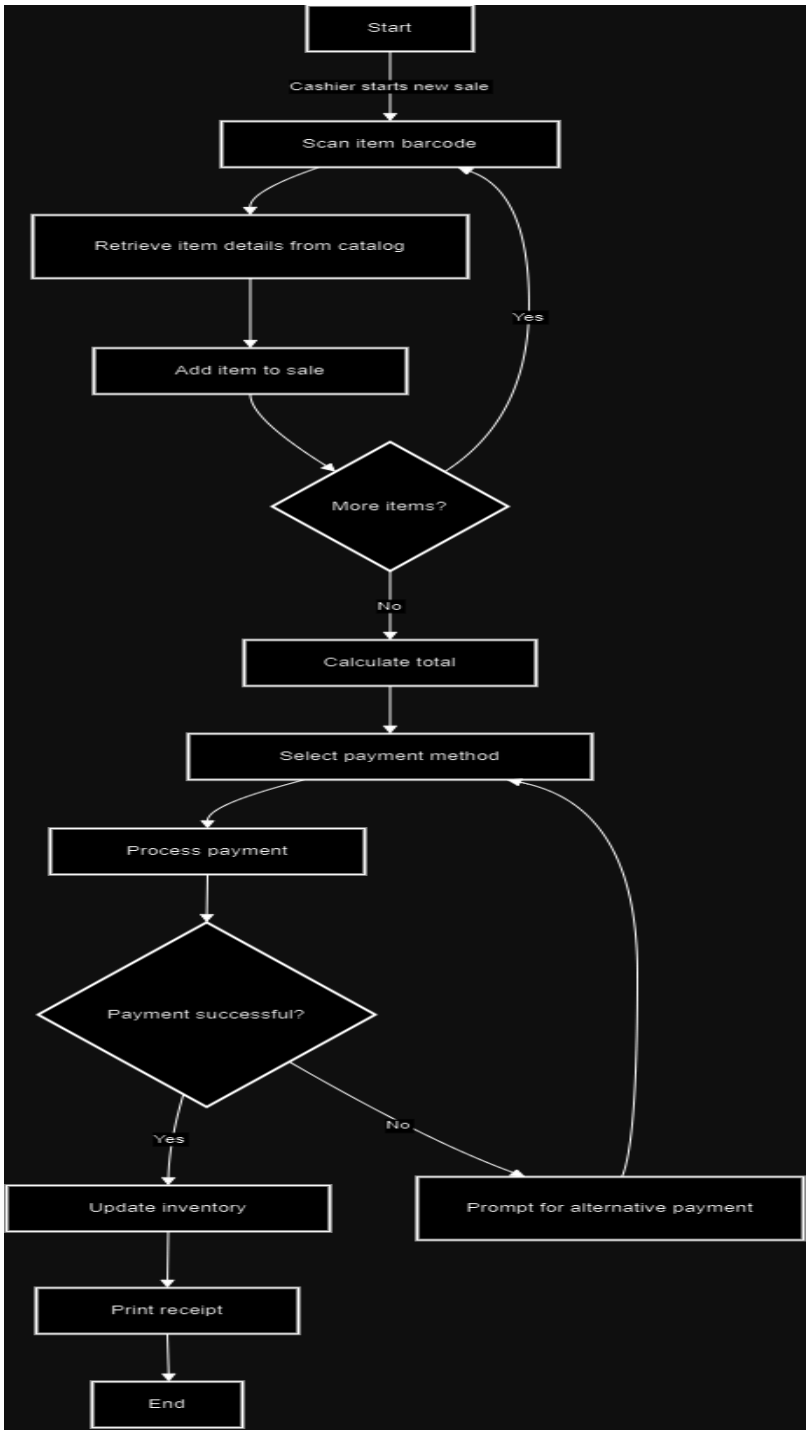
Class Diagram:



https://github.com/Yash-Tarpara/IT-314_SE_Labs/blob/main/Lab6/Class_Diagram.png

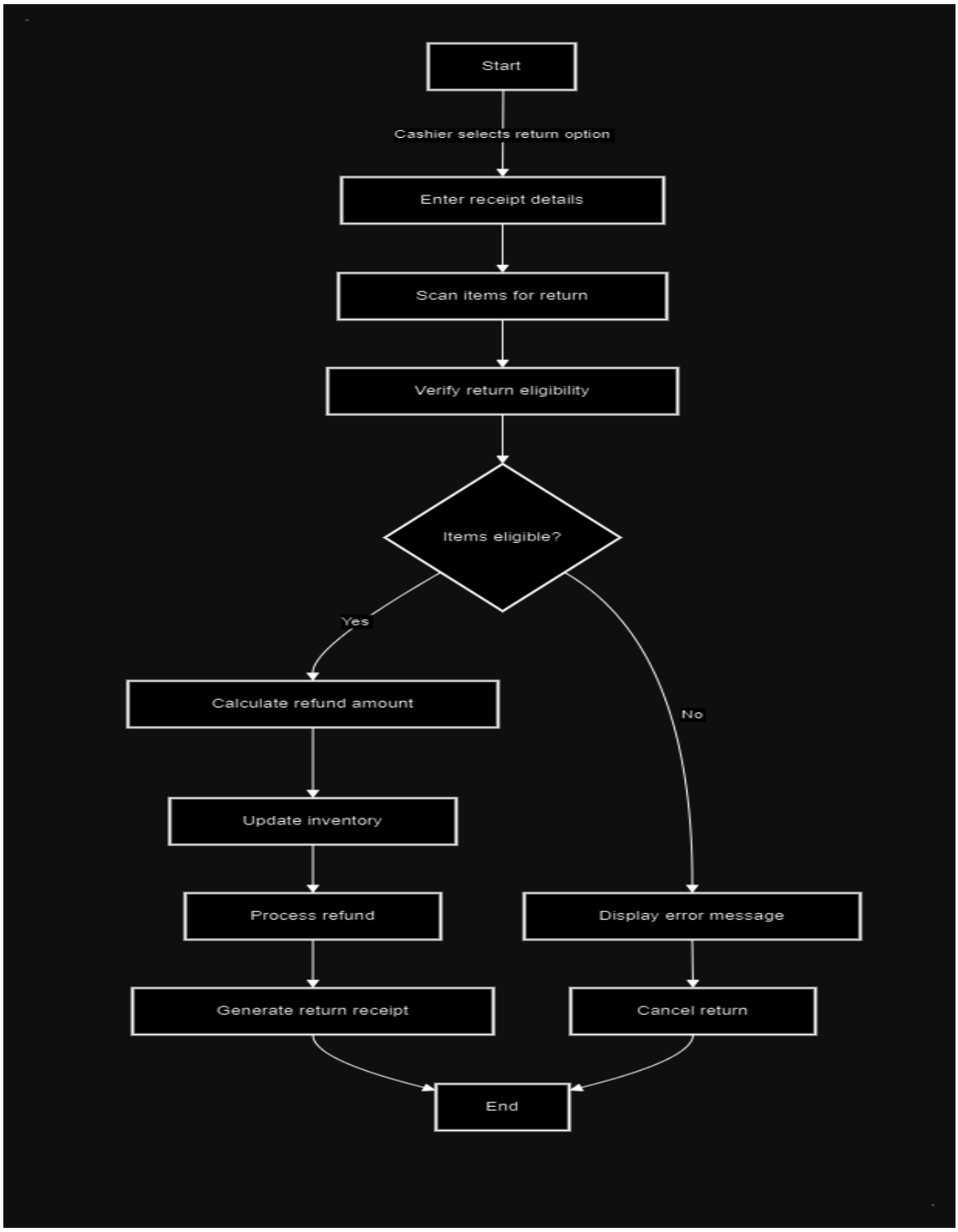
Activity Diagram:

1. Process Sales



https://github.com/Yash-Tarpara/IT-314_SE_Labs/blob/main/Lab6/Process_Sales_Activity_Dia.png

2. Handle Return



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