TEAM 10

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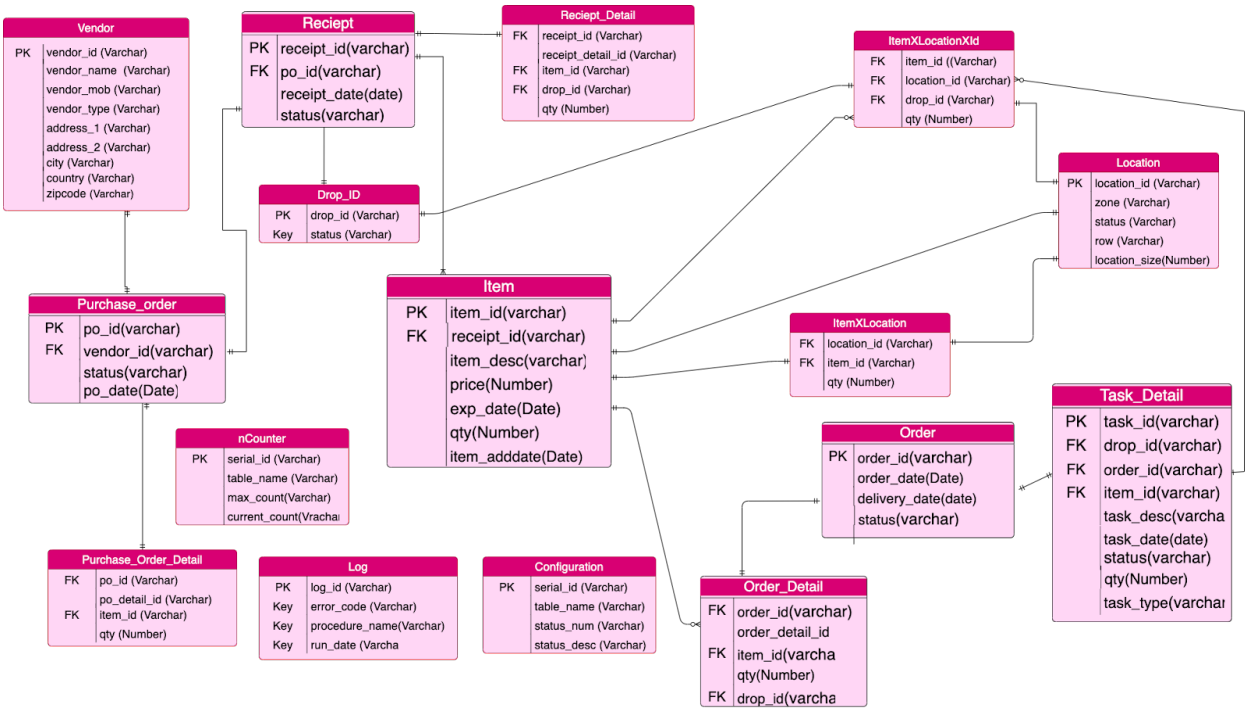
PROJECT TOPIC: Warehouse Management System

Revised ERD



Business rules

1. In our warehouse management system, the vendors will be predefined.
2. A PO will be generated, and while it is being generated, the quantity and vendor validation will be checked.
   - The quantity should be greater than zero
   - vendor id (PO) should equal the vendor id (Vendor)
   - Item_id (item) should equal item_id(PO)

3. When a PO is created, a receipt is created at the same time.
4. A single PO will correspond to a single receipt, and vice versa
5. If the same item is ordered again, we will update the item table and keep a log/record of total items in the receipt
6. The put away process should begin as soon as we receive the item, and the item will be stored in available locations.
7. The same item can be stored in different locations depending on the availability of the location for a certain quantity.
8. Locations will be predefined sequentially.
9. The intersection table (ItemXLoc) will be updated with the new Item id and Loc id combination.
10. Orders will be received from the front end, and order data will be stored in the orders table.
11. Order can have multiple items.
12. Validations for quantity, order date, and item will be checked while receiving orders.
13. Once the order is generated, the system will generate a task for that specific order.
14. Following the creation of the task, the order id(Order) = order id(Task details) task status and order status should be updated accordingly.
15. We will assign tasks statuses, which will be mapped using the configurations table.
16. The itemXlocXid table will be used to complete the task.
17. When picking/packing is completed, the task status changes and the quantity from the Item table decreases; the task is completed only when the item is dropped at the drop location, and the Order status is updated.

Views to be documented

1.**Seasonal Items** - As market trends change, such as seasonal changes and festive changes, seasonal items are added to the mix. Keep track of the most frequently purchased things throughout these periods.

2. **Best-selling item per vendor**- Keep note of the top five selling things that we've received from each vendor.

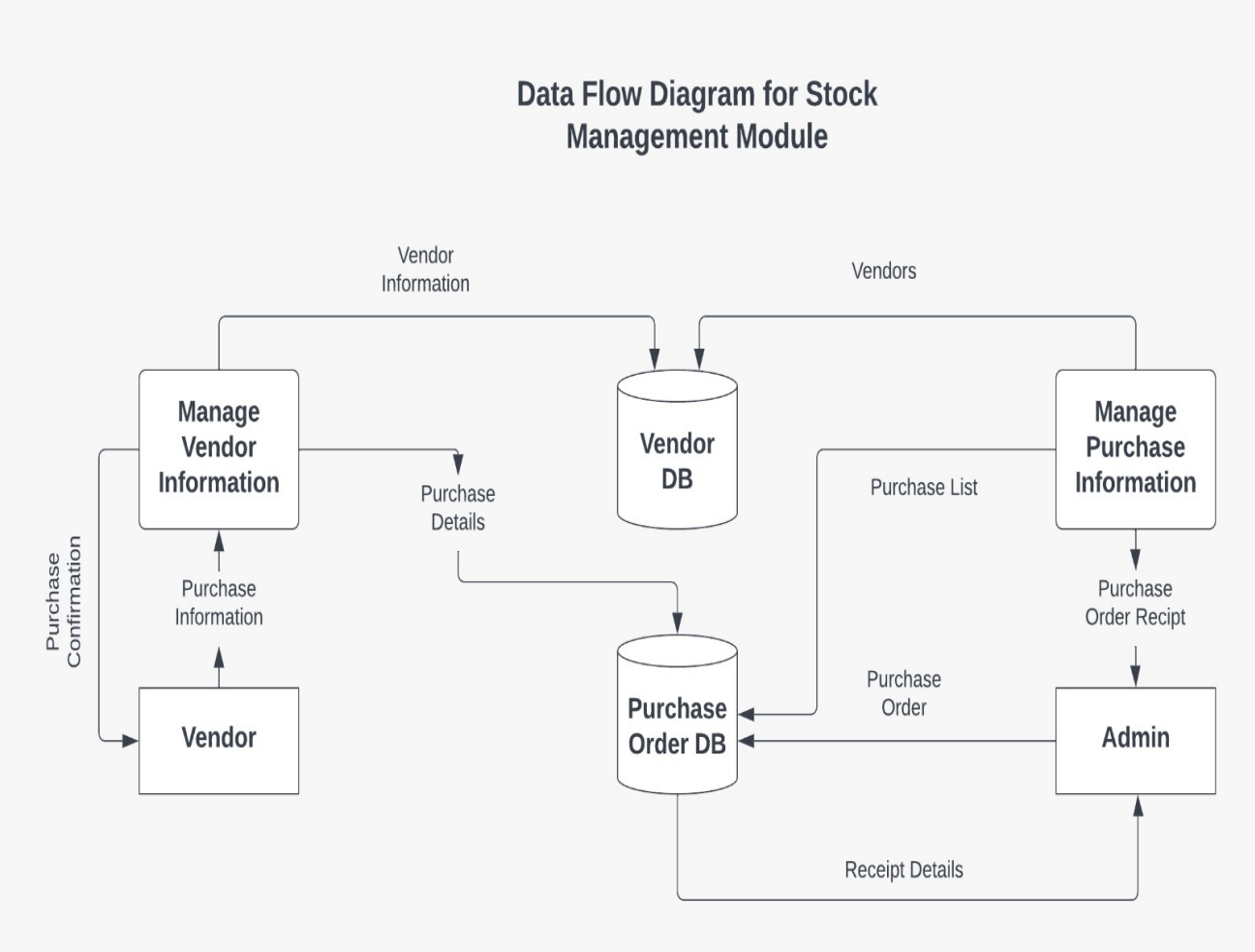
3. **Cycle Count** - Shows the total percentage of inbound and outbound inventory items that are transacted in a day.

4. **Warehouse Space Utilization** - Display the percentage of warehouse space occupied by a specific item.

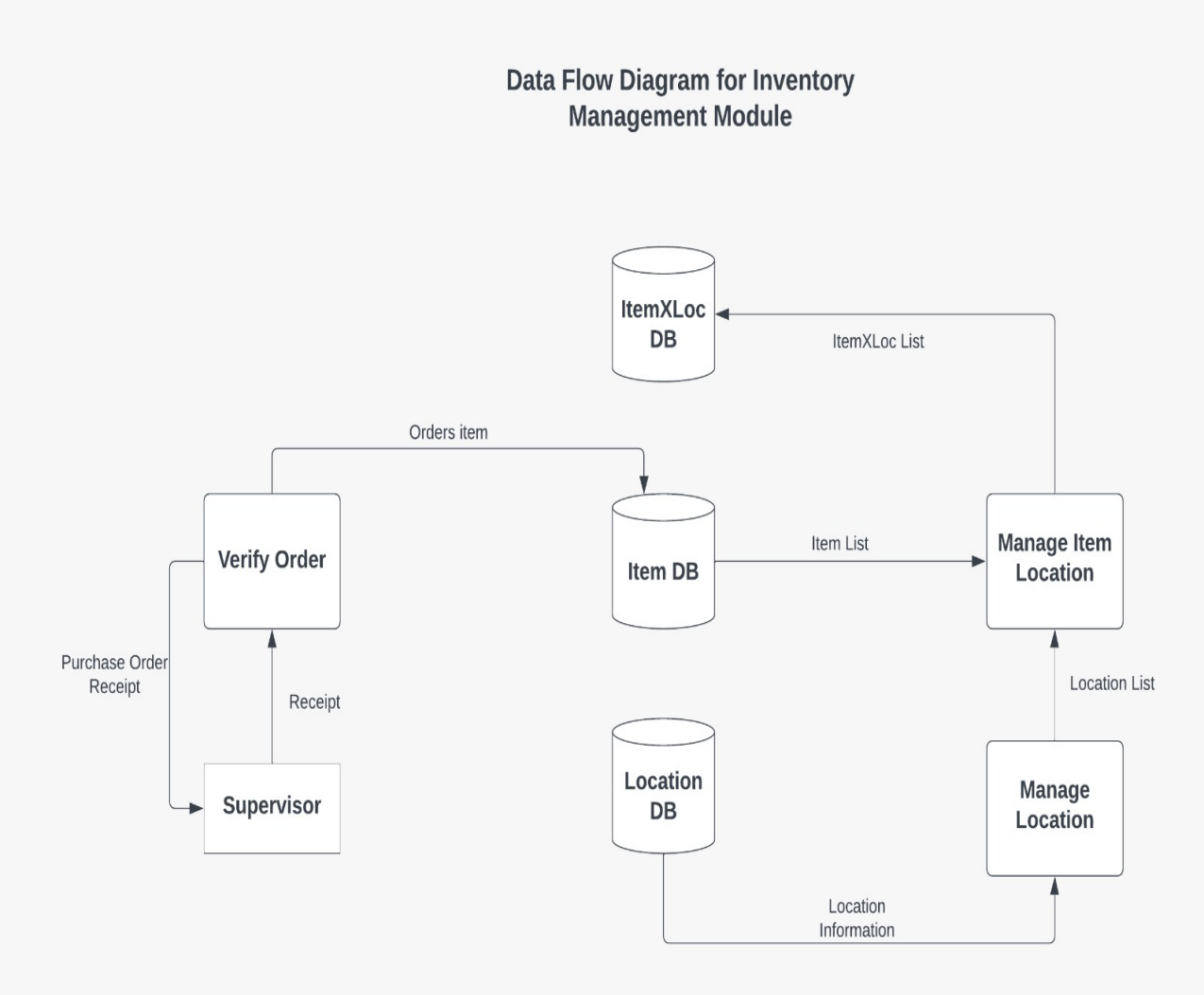
5. **Expired goods returned** - Display the reports for returning items that have passed their expiration date to the respective vendor with a price reduction.

Data Flow Diagrams

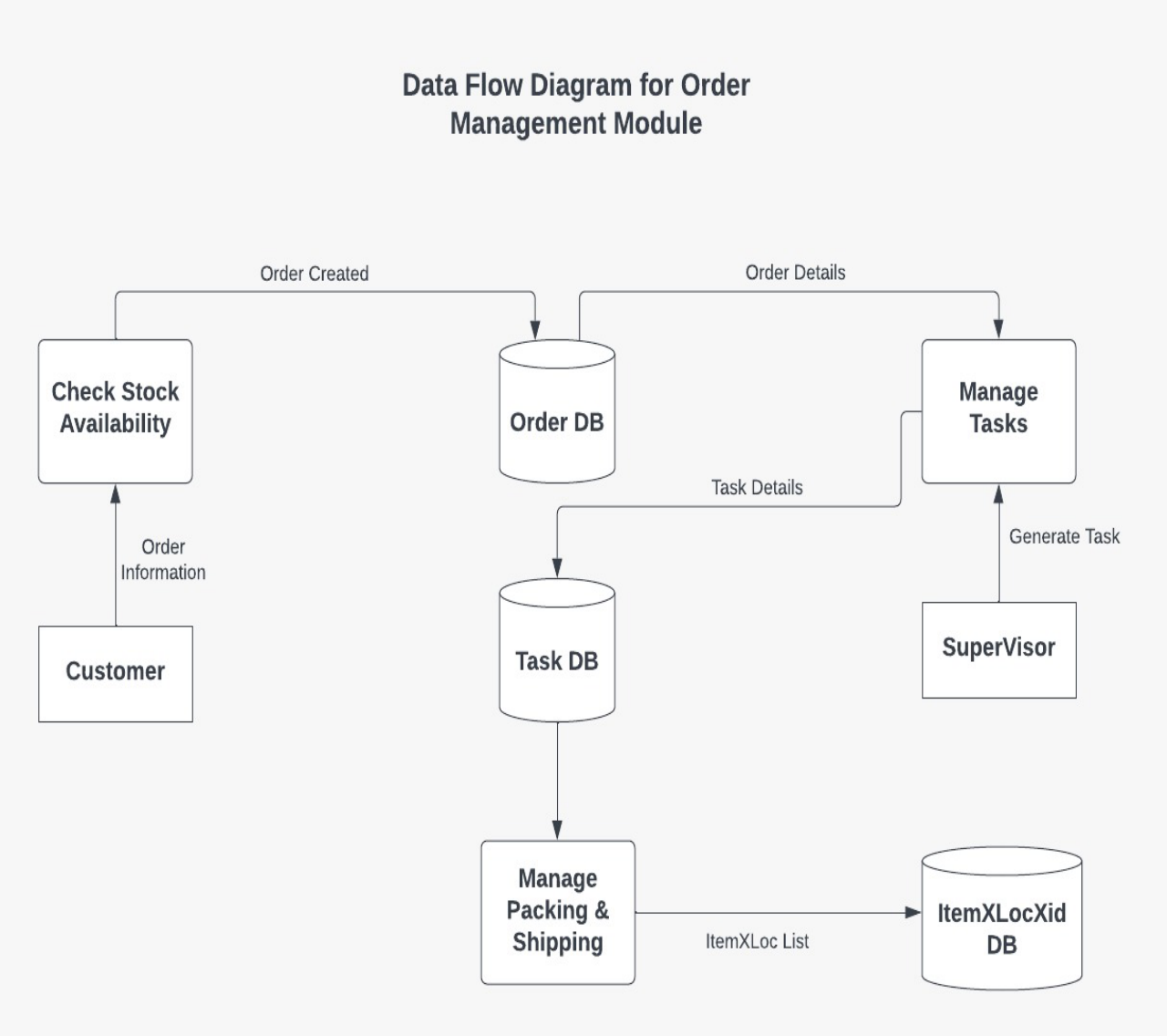
- Stock Management



- Inventory Management and Tracking

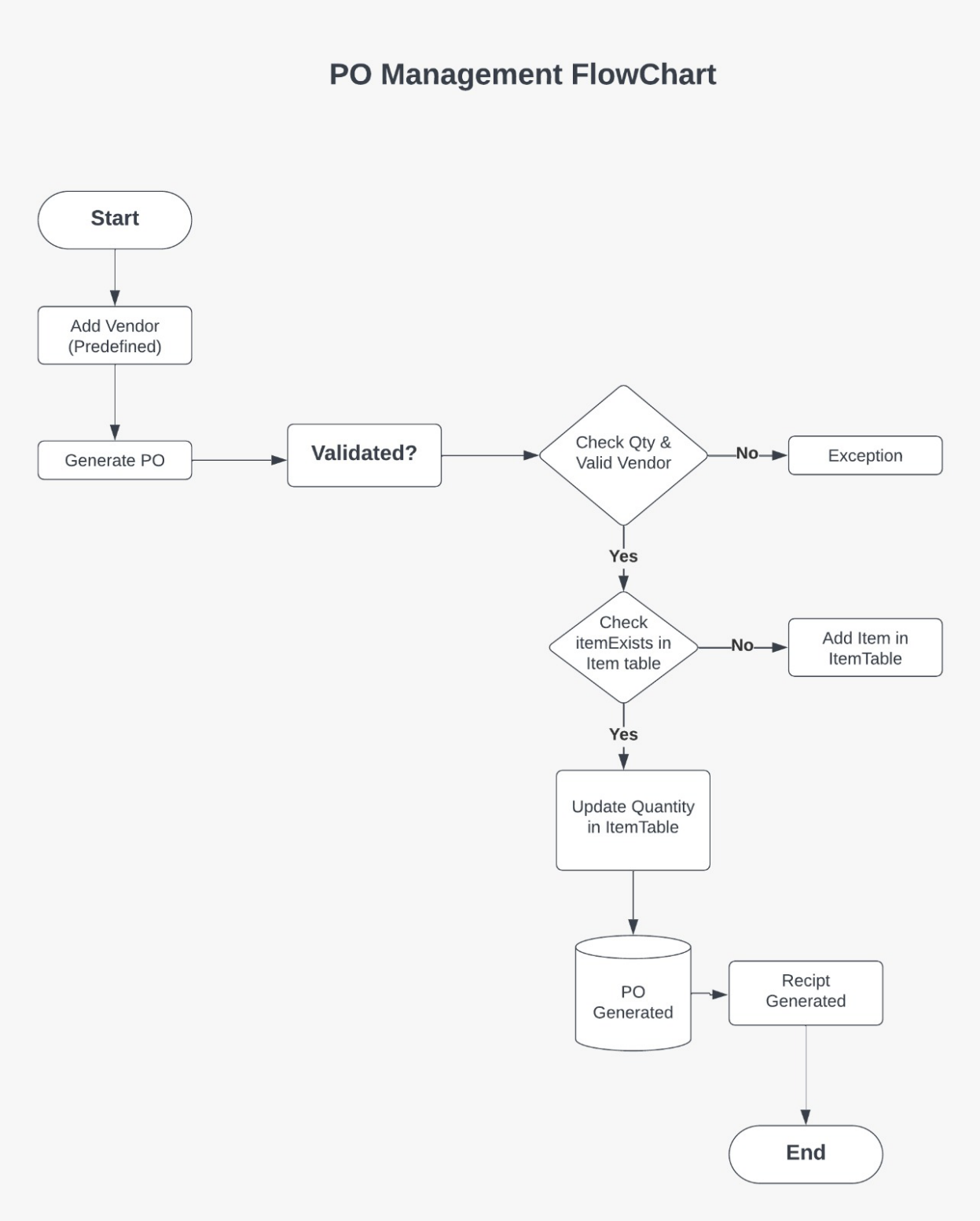


- Order Management



Flowcharts

- Purchase Order flowchart



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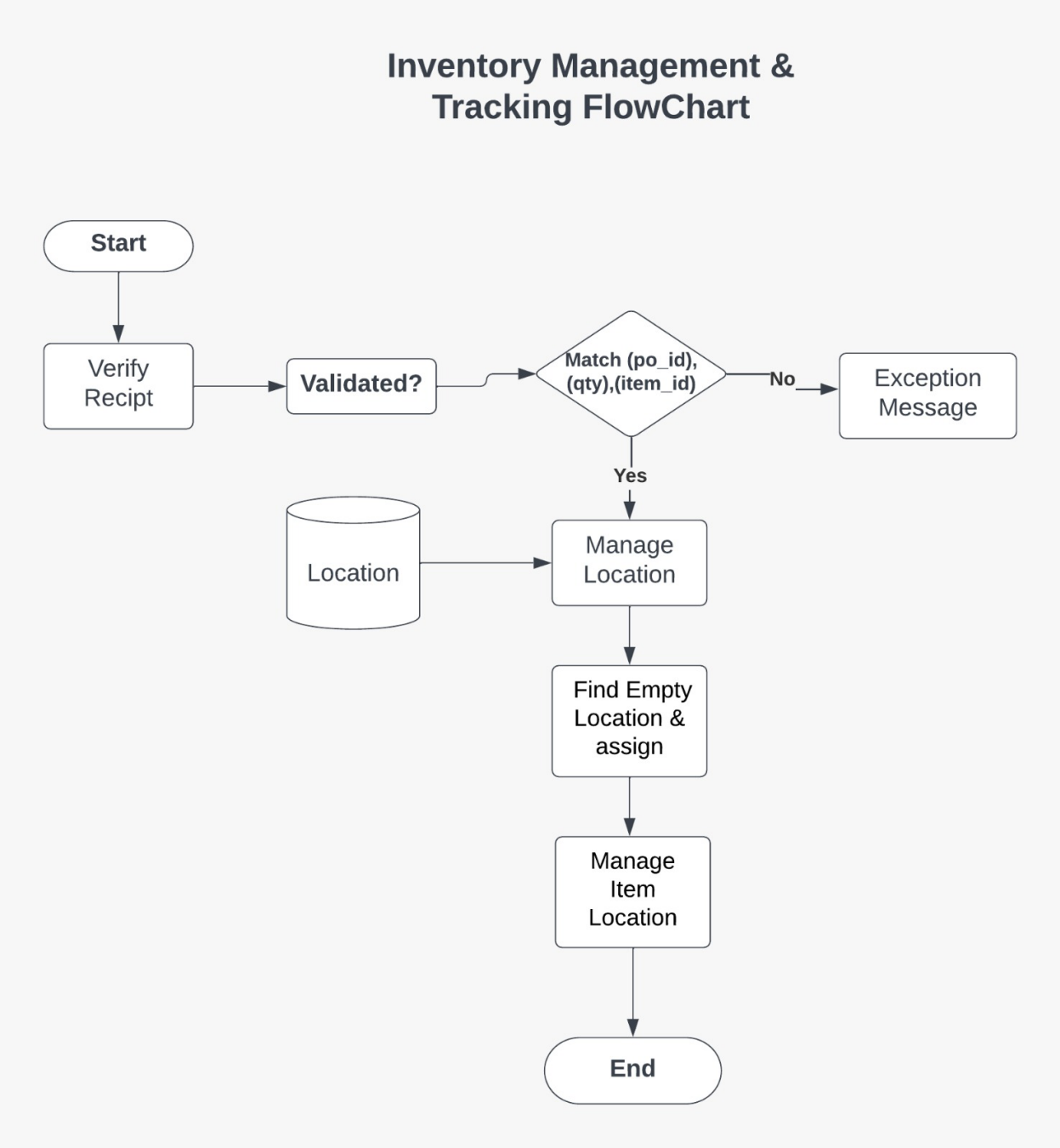
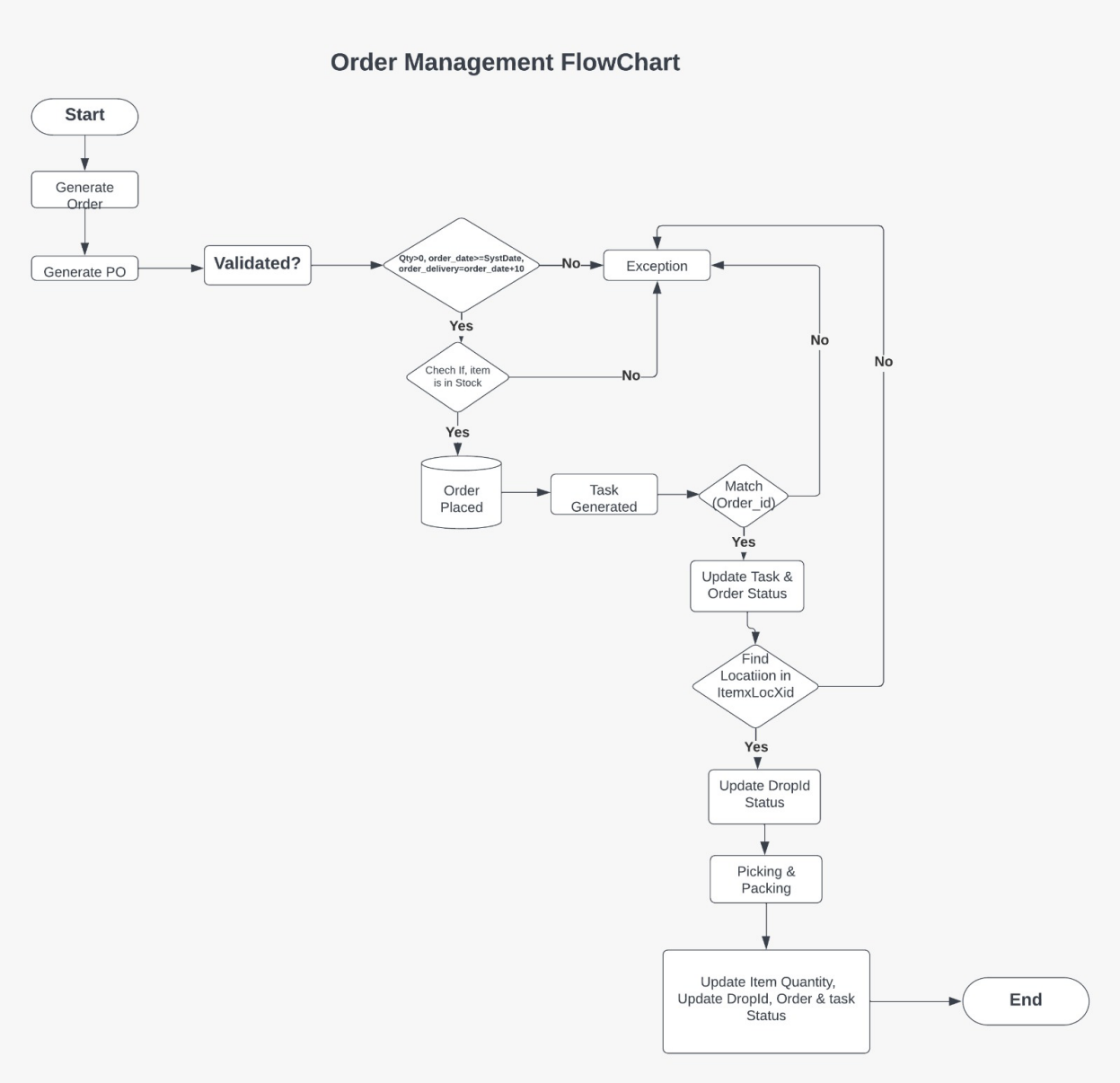


- Order Management



Define Security (User level access and permissions)

Admin:

ADMIN is the root user of the Database.
ADMIN has full access to modify the Database.
ADMIN can CREATE, VIEW, UPDATE and DELETE the tables.

	Create	View	Update	Delete
Purchase_order	✅	✅	✅	✅
Purchase_order_detail	✅	✅	✅	✅
Vendor	✅	✅	✅	✅
Reciept	✅	✅	✅	✅
Reciept_detail	✅	✅	✅	✅
Item	✅	✅	✅	✅
Location	✅	✅	✅	✅
Drop_Id	✅	✅	✅	✅
Order	✅	✅	✅	✅
Order_detail	✅	✅	✅	✅
ItemXLocXID	✅	✅	✅	✅
ItemXLoc	✅	✅	✅	✅
Configuration	✅	✅	✅	✅
Log	✅	✅	✅	✅
Task_detail	✅	✅	✅	✅
Ncounter	✅	✅	✅	✅

Supervisor

	Create	View	Update	Delete
Purchase_order		✅		
Purchase_order_detail		✅		
Vendor		✅		
Reciept	✅	✅	✅	
Reciept_detail	✅	✅	✅	
Item		✅	✅	
Location		✅	✅	
Drop_Id	✅	✅	✅	✅
Order		✅		
Order_detail		✅		
ItemXLocXID	✅	✅	✅	✅
ItemXLoc	✅	✅	✅	✅
Configuration		✅		
Log		✅		
Task_detail	✅	✅	✅	✅
Ncounter		✅		