Functional Requirement Specification

Stakeholders (5 points)
Identify people who are interested in the project, such as users, managers, sponsors, etc.

- Our stakeholders are our managers, employees, our suppliers, buyers, and the shipping companies that handle our shipments

Actors and Goals (5 points)
Identify the roles of people or devices that will interact directly with the system and specify their types and goals.

- Primary Actors
  - Receiving team members: This actor can receive items and put them away into active inventory
  - Inventory team members: This actor will get periodic orders sent and can pick items, taking them from active inventory, this action will put the items they pick into inactive inventory
  - Packing team members: This actor will scan picked items into cartons. The background process will assign this carton number to the item
  - Warehouse Manager (Admin): This actor will be able to create new users and assign/change roles to existing team members

Use Cases (10 points)
- Warehouse Manager (total: 14)
  - Add inventory location (2): To create or update a storage location within the warehouse
  - Add inventory item (2): To add a new inventory item into the system when it is received
  - Generate Bidsale order (2): To create a Bidsale order when the inventory level reaches a specific threshold
  - Move inventory status (2): To change the status of inventory items (e.g., from "Available" to "Unavailable")
  - Update item details (2): To modify the information associated with inventory items, such as quantity or location
  - Login/Logout (2): To authenticate into or out of the system
  - View inventory reports (2): To review reports on inventory status, stock levels, and order fulfillment
- Warehouse Worker (total: 12)
  - Receive inventory (2): To enter or scan the inventory items when they are received and place them in their assigned storage locations
  - Pick inventory (2): To retrieve items from their storage locations to fulfill orders
  - Pack inventory (2): To pack items into cartons for shipment, associating items with their respective cartons

- ○ Scan inventory (2): To scan items for confirmation during picking or packing
- ○ Login/Logout (2): To access the system and record tasks under their employee ID
- ○ Move inventory to shipping (2): To transfer packed inventory to the "shipping" area for outbound orders
- ● System (total: 9)
  - ○ Guide picking process (2): To direct the warehouse worker to the correct inventory location and provide quantity information
  - ○ Confirm inventory changes (2): To validate inventory updates, such as adding, picking, or packing items
  - ○ Trigger Bidsale order (2): To automatically generate a Bidsale order when inventory reaches the defined threshold
  - ○ Archive shipped orders (3): To move completed orders to a historical data table for future reference

Use Case Diagram (10 points)
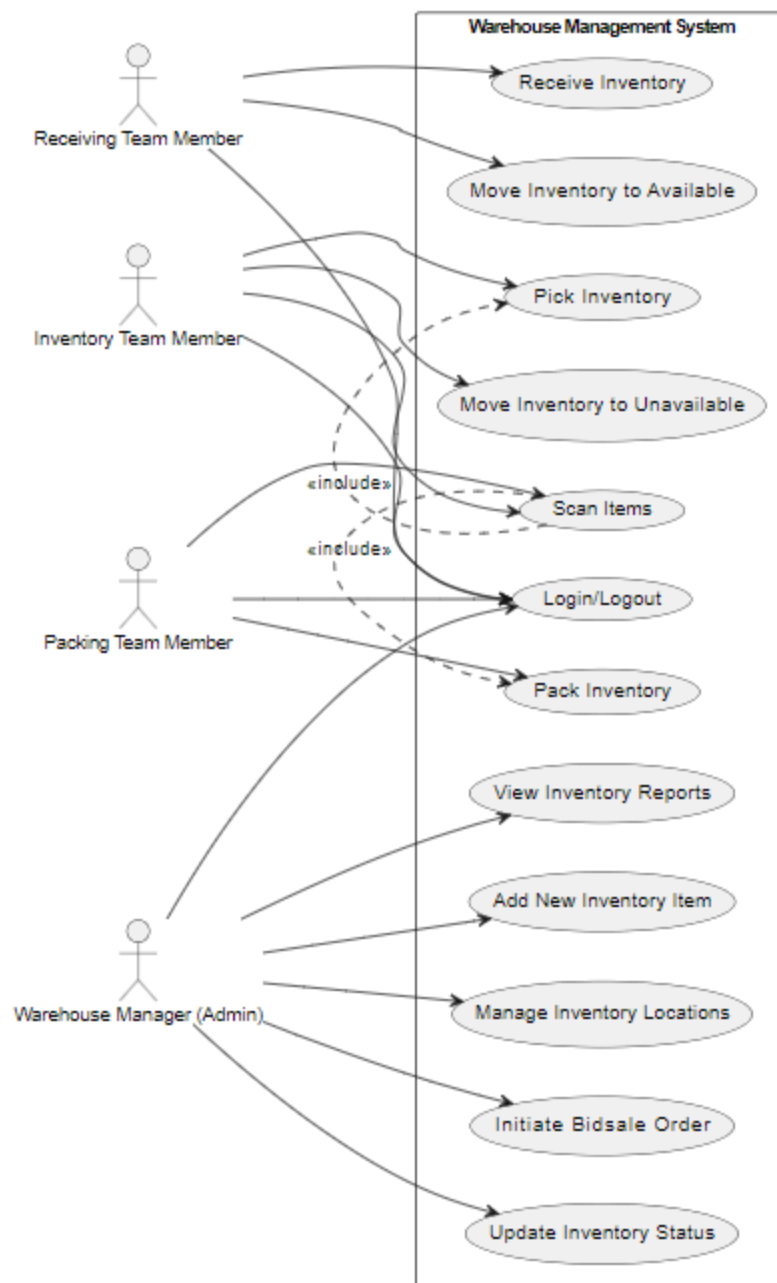
Class Diagram (20 points)

- Inventory: We have 2 types of inventory, available and unavailable. When an order is placed we will reserve the item from available so we have methods to do this. Unavailable inventory cannot be ordered, so our methods will only allow for viewing and editing
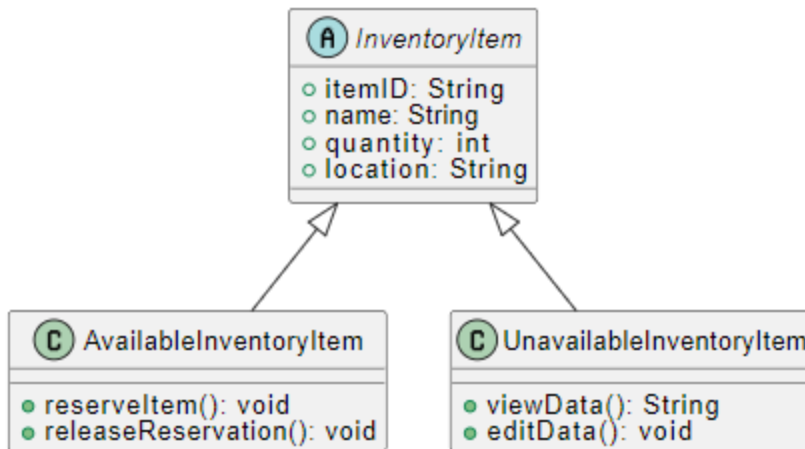
- User accounts will be an abstract where managers and workers inherit. Managers have the additional methods to edit inventory, create accounts, and remove accounts (when users are terminated). Workers will use picking, packing, and receiving functions
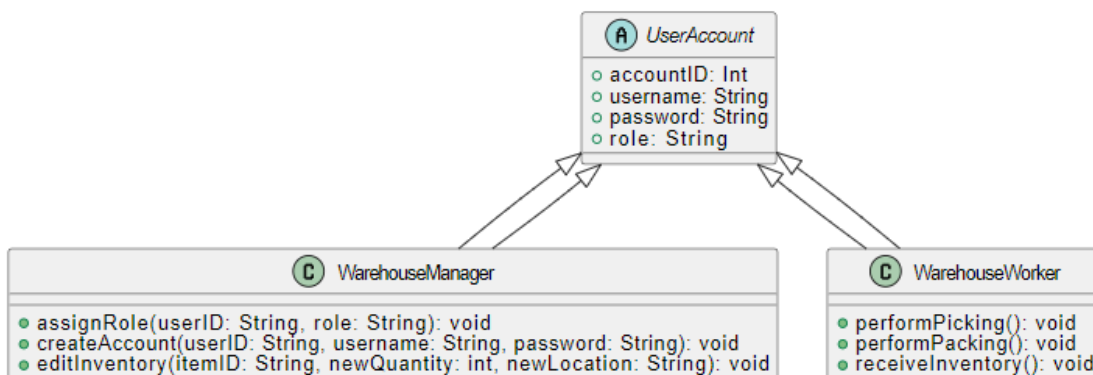
- As for an overview of how our system interacts, this diagram depicts how each part of the system is inherited and passes down attributes and methods. The WMS will have methods to list all items in inventory, list the user accounts, list our locations, and list orders. The remaining classes interact with the system but do not inherit the methods.
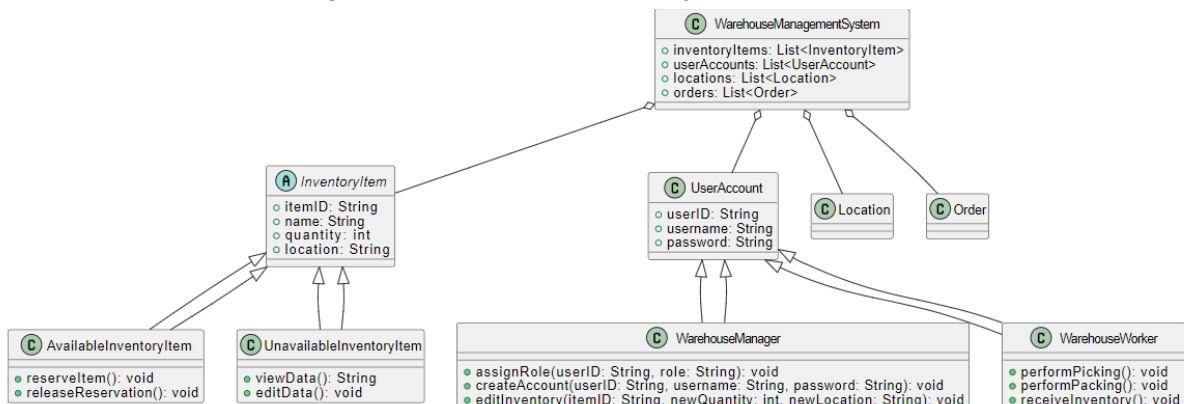
- As of this time, I do not plan to use any enumeration in my WMS. This may change as our requirements and priorities are shifted throughout development.