

## Message Sequence Description

### Message Sequence Description for Manual Inspection:

1. Mail trucks bring returned items to warehouse
  - 1.1. Returned items are provided to employee interaction for manual inspection
2. Inspection results are sent to refurbish product section
  - 2.1. If pass, returned items are allowed to enter refurbish section

#### Alternate Sequence:

1. Mail trucks bring returned items to warehouse
  - 1.1. Returned items are provided to employee interaction for manual inspection
2. Inspection results are sent
  - 2.1. If fail, items are returned to mail truck and returned back to customers

### Message Sequence Description for Refurbish Products

1. Send return request to Amazon Financial System
  - 1.1. Send item amount to external output (e-transfer) to customer
  - 1.2. External Output will send notification back once done

### Message Sequence Description for New Merchandise and Update Inventory

1. Supplier truck send new merchandise to warehouse
  - 1.1. Forwarding Robot receives and scans the barcode through barcode scanner
  - 1.2. Barcode scanner sends the barcode number to inventory management system
  - 1.3. Inventory Management System receives barcode information and updates main storage map
2. Updated storage map is sent back to forwarding robot

### Message Sequence for Deposit New Merchandise:

1. Forwarding Robot finds the location of new merchandise from main storage plan
  - 1.1. Robot is instructed to navigate to the location and deposit item
2. Once items are stored Inventory Management System is notified

### Message Sequence Description for Order Notification:

1. Amazon Ordering System sends order notification to inventory management system
2. Inventory management system request order information from Amazon ordering system
3. Ordering information is sent to inventory management system
  - 3.1. Inventory management system inputs the order to item finder to search the product location in inventory
  - 3.2. Order information and product location is added to shipping list
  - 3.3. Product is removed from inventory

**Message Sequence Description for Retrieve & Pack:**

1. Shipping list sends information to shipping robot
  - 1.1. Shipping robot retrieves ordered product from inventory
  - 1.2. Analyze the overall size to ordered items and send it box selector
2. Box selector returns the suitable box
3. Items are packed by shipping robot and order information is sent to label printer
  - 3.1. Label printer prints label on package
  - 3.2. Label printer sends back notification Shipping Robot
4. Shipping Robot takes item to mail truck loading dock

**Message Sequence Description for Customer Invoice:**

1. Shipping notification is received by inventory management system from shipping robot
  - 1.1. Inventory Management System sends invoice request to Amazon Financial System
2. Amazon Financial System requests order information
  - 2.1. Order invoice is sent to customer