**Requirements Document:**

1. **Add a new Product**: The system receives a request to add a new Product by providing the Product name, price, and starting quantity. The system creates a new product with the information provided and generates a unique product ID.
2. **Modify a Product:** The system receives a request to modify and existing product with a supplied product ID and new product information. The system changes the product data to the supplied information.
3. **Remove a Product:** The system receives a request to remove a product from the system by product ID. After validating the ID, the system removes the Product.
4. **Add a new Manufacturer:** The system receives a request to add a new Manufacturer by providing the Manufacturer name, address, phone number. The system generates a unique Manufacturer ID and creates a new Manufacturer with the provided Information.
5. **Modify a Manufacturer:** The system receives a request to modify a Manufacturer using the Manufacturer ID and the new information for the Manufacturer. The system replaces the Manufacturer Data with the provided Information.
6. **Remove a Manufacturer:** The system receives a request to remove a Manufacturer from the system by their given Manufacturer ID. After validating the ID, the system removes the Manufacturer.
7. **Register a new Client:** The system receives a request to register a new Client by providing the client name, address, phone number, and starting balance. The system generates a unique Client ID and creates a new Client with the information provided.
8. **Modify a Client:** (The system receives a request to modify a Client by providing the Client ID and new Information. The system validates the ID, and replaces the Client data with the provided Information.
9. **Remove a Client:** The system receives a request to remove a client from the system by a provided Client ID. The system will validate the ID and then remove the Client from the system. (I realize that the system will likely check remaining balance.Something to think about when we create the Use Cases.)
10. **Create an Invoice** (For a Client): The system receives a request for a new instance of Invoice with a provided Client ID. After validating the ID, the system generates a unique Invoice ID and creates an unshipped Invoice with the information provided.
11. **Delete an Invoice:** (The system receives a request to delete an unshipped Invoice by it’s Invoice ID. After validating the ID, the system deletes the Invoice.
12. **Add a Product to an Invoice:** The system receives a request for a product to be added to an Invoice by providing an Invoice ID, a Product ID and a quantity of the product to be added. The system validates the ID’s and then adds the product to the Invoice in the requested quantity.
13. **Modify a Product quantity in an Invoice**: The system receives a request to modify the quantity of a product on an invoice by providing an Invoice ID, Product ID, and the new quantity. The system validates the ID’s and then modifies the quantity of the product to the provided quantity.
14. **Remove a Product from an Invoice:** The system receives a request for a product to be removed from an invoice by providing the Invoice ID and the Product ID. The system validates the ID’s and removes the product from the Invoice.
15. **Print an Invoice:** The system receives a request to print an Invoice by providing an Invoice ID. After validating the ID, the system prints the Invoice.
16. **Submit an Invoice** (For Shipping. This will automatically send products not in stock to the waiting queue)
17. **Fill an Invoice**
18. **Receive a Shipment** (From a Manufacturer. This will automatically detect if there are requests for the individual products in the waiting queue and put them in the Ready To Ship Queue if there is sufficient product quantity)
19. **Link a Manufacturer to a Product**
20. **Un-Link a Manufacturer from a Product**
21. **View the Waiting Queue**
22. **View The Ready To Ship Queue** (List of Requests that are ready to be shipped because of received product shipments.)
23. **Create an Order** (From a Manufacturer)
24. **Add a Product to an Order**
25. **Remove a Product from an Order**
26. **Modify a Product quantity in an Order**
27. **Send an Order** (To the Manufacturer)
28. **Receive a Payment**
29. **Make a Payment** (To a Manufacturer)
30. **Print Default Client List**
31. **Print a Manufacturer Owed List** (Print a list of Manufacturers that are not paid yet.)
32. **Print an Insufficient Quantity List** (For identifying product that needs to be ordered)