CT70A3000 Software Maintenance

D1- Individual project - Inventory

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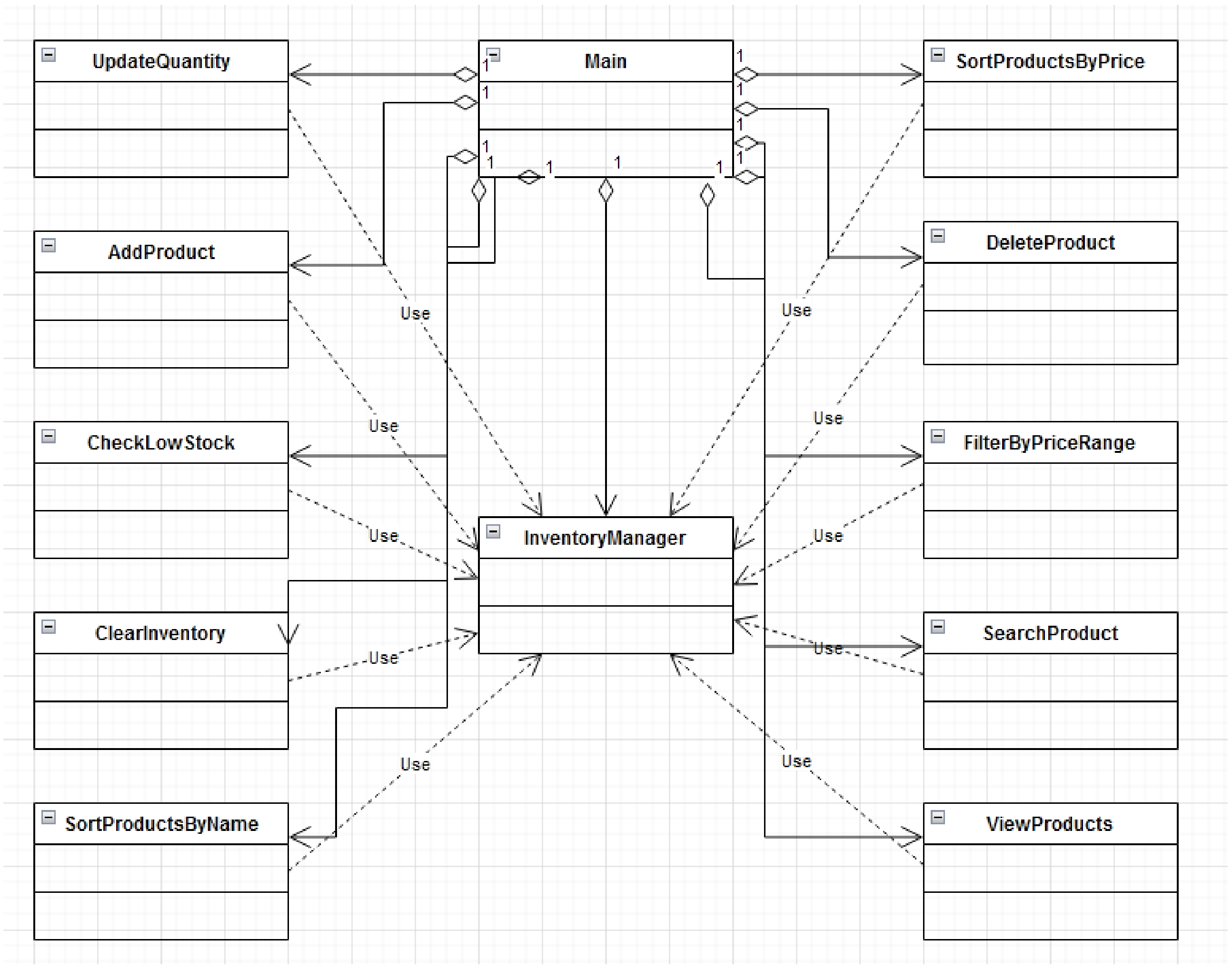
1. Description of the system architecture

   Main class has an instance of InventoryManager class. Main also has an infinite loop executing a menu which creates temporary objects of each menu option, each menu option has their own java file/class.

   These menu option classes require an instance of the InventoryManager object for example option 1: "*new AddProduct(inventoryManager).execute();*" .execute then runs a secondary menu, which calls the respective add method in inventory manager: "*inventoryManager.addProduct(new Product(id, name, quantity, price));*"

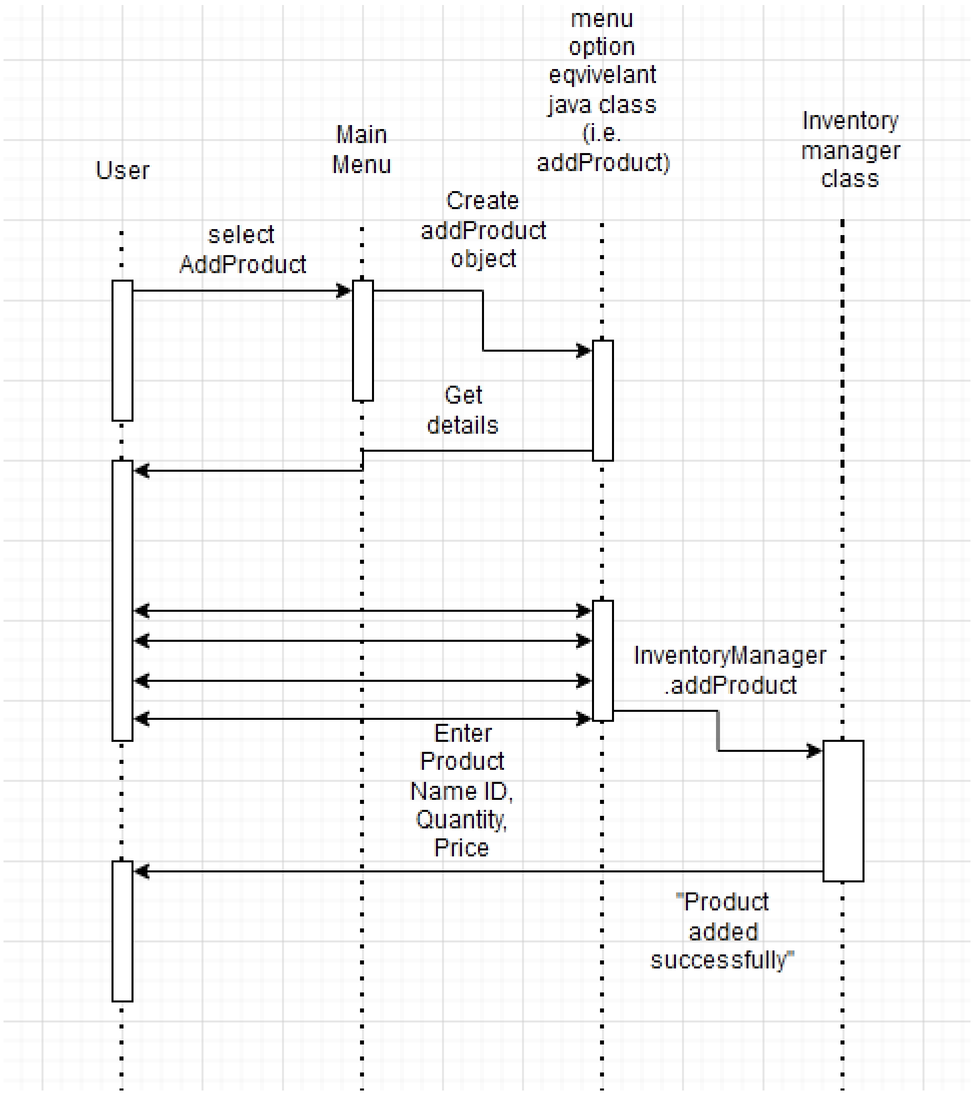
   This is how the program functions, it doesn't really seem to follow any specific best-practice architecture other than multi-tiered objects.

2. UML class diagram



Fields and methods left out for visual clarity

3. UML Sequence diagram (example of addProduct flow)



User
Main Menu
menu option eqvivelant java class (i.e. addProduct)
Inventory manager class
select AddProduct
Create addProduct object
Get details
InventoryManager .addProduct
Enter Product Name ID, Quantity, Price
"Product added successfully"

This project contains multiple other classes which do work similarly.

First user is prompted with options corresponding to actions and their respective classes, like addProduct in menu option 1. After this has been selected, a switch case creates a new temporary object from class addProduct with inventoryManager object being passed to it, and calls the .execute() method for this new object. Excute method prompts user for product object properties alternating between prompts and taking user input, Name, ID, Quantity, and Price are stored in corresponding variables for constructing the new product object for storage. After this, the object is created and stored with inventoryManager.addProduct, which adds it into inventoryManager objects arraylist containing current inventory. Then addProduct object prints out “product added successfully”. returning to the main menu.