**PROJECT OUTLINES**

**PROJECT TITLE:**

Arrow Inventory Management Systems

**PROJECT DESCRIPTION:**

The original idea of ​​combining all the requirements led us here, we believe that an inventory management system not only combines all the requirements in a single project but also is something useful that can be implemented in a company.

The main idea of ​​the project arises from questioning how to make the relationship between the server and the client something useful (Socket / Network). And then the idea arises that a client will usually want a server not only provides information but also wants to be delivered in the most complete and organized way possible.

Keeping this in mind, we thought that a client could require information about some type of product and that these products should come from an inventory item’s file. What allowed us to arrive at the idea of ​​having a GUI on the client's side, which after entering id will give price if the user wants to know price only and if the user clicks to load the data every item will be loaded in the list from server.

And from there we started to organize the project, starting from the most basic thing that is to read information from a file (File Handling), then we know that this information should be stored in an efficient, systematic, organized and still easy way to attach new elements where desired (Linked List - File Handling - Inventory Class).

Once the user enters the information(i.e. Product Id) about the product he/she wants to check the price for, the program will search(Binary Search) through the sorted linked list by usingss algorithms (Quick or Merge Sort) and return the information associated with the search, for example the price of the product, which will be displayed in the client's GUI.

There will also be buttons for adding, updating and deleting items in the inventory. The System will work like the user will select a inventory item in the list and the changes will be made to the selected inventory item. He can either restock the items or can make some changes to the quantity sold. There will different buttons for adding, deleting and updating the inventory. The changes will be made in the list on the client side and the changes will also will notified to the server.

Working:- The server application will always be running at the backend and the client application will request data from the server application giving commands to modify, add or delete data.

**USE CASE DIAGRAM**



**FEATURES**

* INTENDED USERS: The idea is that the program can be used by anyone who is managing the inventory department who wants information about the products listed in the file.
* DESCRIPTION(S): Users do not need more technical knowledge, they should only know that the purpose of the program is to look for information related to the listed products.
* PARAMETERS/DATA AND ITS PURPOSE: The main parameter will be SEARCH(item\_id), this operation searches the collection of items for the product whose ID has been given.
* DEPENDENCIES: For dependencies, the file must be sorted. The information must be stored in the database before file handling.
* ALGORITHM TO BE USED: Sorting Algorithm (Merge Sort or quick sort), Search Algorithm (Binary Search or Binary Tree), Enlisted Algorithm (Linked List).