NIE Institute of Technology, Mysuru

Department of Information Science and Engineering

Inventory Tracker

Project by: Rohan S B [4NN18IS040]

Abhishek K [4NN18IS002]

Yadunandan Bhat [4NN18IS057]

Internal Guides: Mr. Sudeep J

Mrs. Shruthi B S

Contents

Introduction

- Inventory Management refers to the process of supervising and controlling the stock items of a company.
- Inventory management is important because it ensures businesses know what they’ve got in stock, where it is and how much of it they have.
- Inventory management is a difficult business process to do by hand. It takes time, and if you make a mistake while recording, it could negatively impact the business.
- That's why we need Inventory Tracking software, to make inventoring efficient.

Project Uniqueness

+ Easy to use command line interface, so no prior technological experience needed.
+ Our project is open source, so anybody can download it and use it or even contribute to its development
+ No maintenance required (Overhead of maintaining all the data in physical files can be eliminated).
+ Program takes less space on the harddisk.

Techniques Used:

+ We have used **Document Processing** and **Indexing** in this project.
+ **Document Processing** is used to collect and manipulate the raw product data into specific order. We use variable length record structure.
+ **Primary Indexing** is also used here to search the product faster.
+ The product ID is used for indexing.

System Requirements

+The minimum requirements are:

+Core i3 2nd Gen Processor

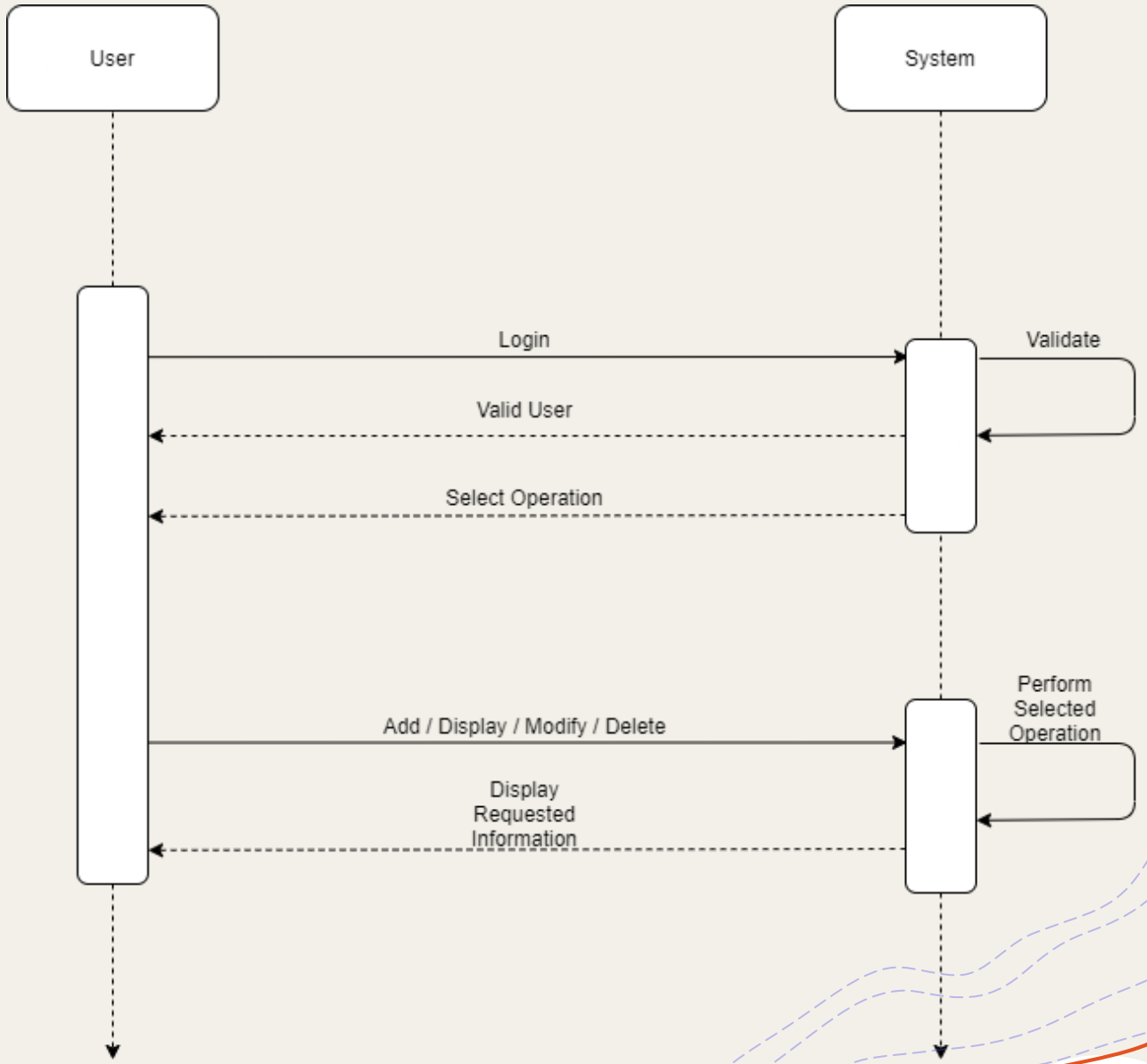
+4GB RAM

+Around 100MB harddisk space

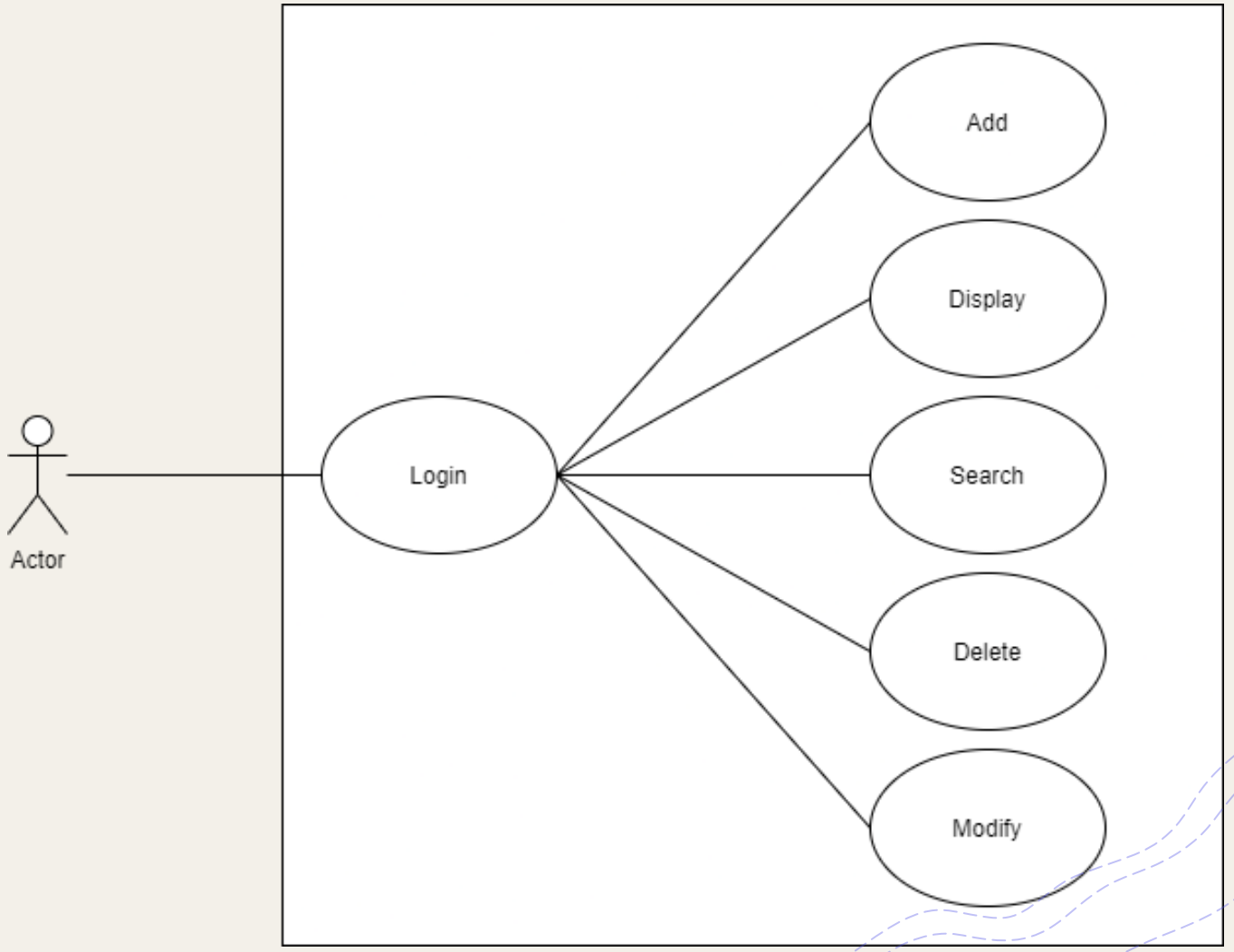
+C++ Compiler (preferably g++)

+Visual Studio Code

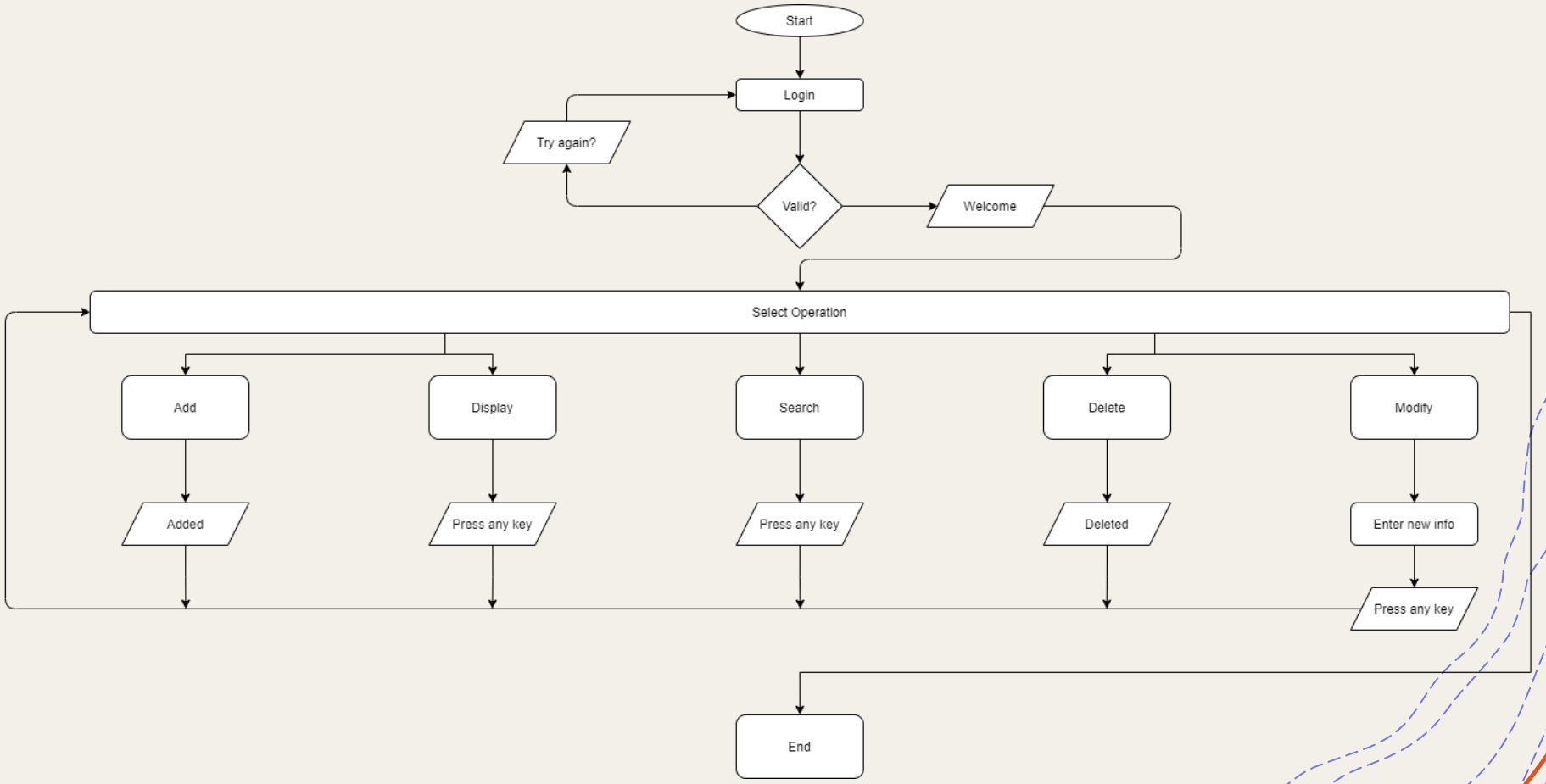
Sequence Diagram



Use Case Diagram



Activity Diagram



Output

```
Enter your password: adfaf

Try again! You have 2 tries left!
Enter your password: afssf

Try again! You have 1 tries left!
Enter your password: asdadssads

You have entered wrong password multiple times. The program will now be terminating.
C:\Users\Yadunandan Bhat\Documents\6th\Lab\FS\Project>main.exe
Enter your password: admin123
```

```
================================================================================

        +--------------------------+
        |   Available Operations   |
        +--------------------------+
        | 1. Add a product         |
        | 2. Search for a product  |
        | 3. Delete a product      |
        | 4. Display all products  |
        | 5. Modify a product info |
        | 0. Exit                  |
        +--------------------------+

        Enter your choice: 1

================================================================================

        Enter the no. of products: 1
        Enter the details below!

================================================================================

        Product ID      : 976

        Name            : Maggi

        Cost            : 10

        Stock           : 58

        Type            : Food

================================================================================

        +--------------------------+
        |   Available Operations   |
        +--------------------------+
        | 1. Add a product         |
        | 2. Search for a product  |
        | 3. Delete a product      |
        | 4. Display all products  |
        | 5. Modify a product info |
        | 0. Exit                  |
        +--------------------------+

        Enter your choice: 2

================================================================================

        Enter the pid of the product whose info is to be displayed: 976

================================================================================

        +-----------------------------+
        |       Product Details       |
        +-----------------------------+
        | Product ID:              976|
        | Name:                  Maggi|
        | Cost:                    10|
        | Stock:                   58|
        | Type:                 Food|
        +-----------------------------+

================================================================================

        +--------------------------+
        |   Available Operations   |
        +--------------------------+
        | 1. Add a product         |
        | 2. Search for a product  |
        | 3. Delete a product      |
        | 4. Display all products  |
        | 5. Modify a product info |
        | 0. Exit                  |
        +--------------------------+

        Enter your choice: 3

================================================================================

        Enter the pid of the product to be deleted: 976

================================================================================

    +-------------------------------------------------------------------------+
    |                                Deleted!                                 |
    +-------------------------------------------------------------------------+

================================================================================
```

```
+--------------------------+
|   Available Operations   |
+--------------------------+
| 1. Add a product         |
| 2. Search for a product  |
| 3. Delete a product      |
| 4. Display all products  |
| 5. Modify a product info |
| 0. Exit                  |
+--------------------------+

Enter your choice: 4

+-------------------------------------------------------------------------------------+
|                                Inventory Details!                                   |
+-------------------------------------------------------------------------------------+
+-------+-------+----------------+-------+-------+----------------+
| Index |  PID  |      Name      |  Cost | Stock |      Type      |
+-------+-------+----------------+-------+-------+----------------+
| 0     | 201   | Atta           | 100   | 78    | Flour          |
| 1     | 457   | Brush          | 25    | 50    | Cleaning       |
| 2     | 080   | Mats           | 87    | 24    | Housing        |
| 3     | 014   | Kettle         | 299   | 50    | Accessory      |
| 4     | 873   | Charger        | 133   | 12    | Things         |
|       |       |                |       |       |                |
+-------+-------+----------------+-------+-------+----------------+

=====================================================================================

+--------------------------+
|   Available Operations   |
+--------------------------+
| 1. Add a product         |
| 2. Search for a product  |
| 3. Delete a product      |
| 4. Display all products  |
| 5. Modify a product info |
| 0. Exit                  |
+--------------------------+

Enter your choice: 5

=====================================================================================

Enter the pid of the product to be modified: 873

=====================================================================================

The old values of the record with pid 873 are:

PID    = 873

Name   = Charger

Cost   = 133

Stock  = 12

Type   = Things

=====================================================================================

Enter the new values (The PID can't be changed)

Name   = Charger

Cost   = 186

Stock  = 20

Type   = Things

=====================================================================================

+--------------------------+
|   Available Operations   |
+--------------------------+
| 1. Add a product         |
| 2. Search for a product  |
| 3. Delete a product      |
| 4. Display all products  |
| 5. Modify a product info |
| 0. Exit                  |
+--------------------------+

Enter your choice: 4

+-------------------------------------------------------------------------------------+
|                                Inventory Details!                                   |
+-------------------------------------------------------------------------------------+
+-------+-------+----------------+-------+-------+----------------+
| Index |  PID  |      Name      |  Cost | Stock |      Type      |
+-------+-------+----------------+-------+-------+----------------+
| 0     | 201   | Atta           | 100   | 78    | Flour          |
| 1     | 457   | Brush          | 25    | 50    | Cleaning       |
| 2     | 080   | Mats           | 87    | 24    | Housing        |
| 3     | 014   | Kettle         | 299   | 50    | Accessory      |
| 4     | 873   | Charger        | 186   | 20    | Things         |
|       |       |                |       |       |                |
+-------+-------+----------------+-------+-------+----------------+

=====================================================================================

+--------------------------+
|   Available Operations   |
+--------------------------+
| 1. Add a product         |
| 2. Search for a product  |
| 3. Delete a product      |
| 4. Display all products  |
| 5. Modify a product info |
| 0. Exit                  |
+--------------------------+

Enter your choice: 0

C:\Users\Yadunandan Bhat\Documents\6th\Lab\FS\Project>
```

Future Enhancements

+We could make a desktop app for this.

+We can also make a website for this and host it on a server for commercial use.

+We can also add billing system.

+We can add inventory report generation.

+We can add a feature that lets us export the data to an Excel spreadsheet.

Conclusion

- Overall, this is just a basic implementation of an inventory tracking program in C++ using basic file structures.
- This is helpful in maintaining the inventory in a simpler way.
- The code used in the program is robust and understandable which helps the user to execute and retrieve the required records with ease.

Bibliography

+ Impact of Inventory Management on Firm's Efficiency (This study investigated the effect of various inventory management factors on firm's efficiency).
+ A Study on Relationship between Inventory Management and Company Performance (This study textile store as an example for the case study)

Thank you!

Our GitHub repo link is https://github.com/yadunandanbhat/InventoryTracker