LOVELY PROFESSIONAL UNIVERSITY

PYTHON PROJECT ON INVENTORY MANAGEMENT SYSTEM

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Contents

ABSTRACT

The purpose of Inventory Management System is to automate the existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Inventory Management System, as described above, can lead to error free secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

The aim is to automate its existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients

The best part of this project is that inventory management system can be used for any product. Here we are considering inventory for maintaining record of a small mobile shop which enables the user to perform various tasks like maintaining a record, buying the product, adding product in the inventory and many more things.

INTRODUCTION

The "Inventory Management System" has been developed to override the problems prevailing in the practicing manual system. This project is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. Inventory Management System, as described above, can lead to error free secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping thus it will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the information of Product. Customer, Product Type, Stock, Supplier. Every Inventory Management System has different Customer needs therefore it is designed exclusively as employee management systems that are adapted to our managerial requirements This is designed to assist in strategic planning, and will help us ensure that our organization is equipped with the right level of information and details for our future goals.

PROPOSED PROJECT

The proposed system has the following requirements:

- ✓ System needs store information about new entry of customer name.
- ✓ System needs store information about new entry of new product.
- ✓ System needs to help the internal staff to keep information of product as per various queries.
- ✓ System need to maintain quantity record.
- ✓ System need to keep the record of Product Company
- ✓ System need to update the record.
- ✓ System also needs a search area.
- ✓ It also needs a security system to prevent data theft.

REQUIREMENTS

Hardware Requirements

- ✓ Processor – Minimum Intel Pentium III 630MHz or any 1.2 GHz processor
- ✓ RAM – 512 MB RAM or more
- ✓ Hard Disk – Minimum 32 GB or more
- ✓ Monitor - (800 × 600) Capable video adapter and monitor

Software Requirements

- ✓ Operating Systems- Windows 98, Windows 7, Windows XP…., Linux
- ✓ Language – Python 3.7 series
- ✓ Browser – Any browser that can support python
- ✓ IDE – IDLE (Python 3.7 32 bit), Spyder, Google Collaboratory, Jupyter

MODULAR REPRESENTATION

Inventory Management System includes different modules like-

- ✓ Menu driven section
- ✓ Product section
- ✓ Buying section
- ✓ New product section

1) Menu Driven section

The menu driven part includes the main page of the project. This section is basically a welcome page for the user to get to know the inventory system. Now here the user can be anyone even the admin also uses it as a user perspective, this embarks the user friendly nature of the project. It can be accessed by anyone very easily. This part enables us to view a set of options which we can choose to perform the required task we need to do. Since the project is about an inventory system for maintaining a record of mobile phones and accessories the heading is shown. The options displayed are as followed.

1. Show all products
2. Buy a product
3. Add new product
4. Exit

Now this menu allows user to choose whatever option we want according to the user task requirements and the cursor points to the next line where we can type our option and click enter to be redirected to the option where the user can perform its required task.

2) Product Section

This section deals with the display of all the different products that is present in the inventory. The products are present in a tabular form with every product properly lined up together with serial number mentioned as index. Here we can say that the serial number acts as a primary key as every serial number represents the different product and it is different from every product to avoid redundancies in the table. The table consists of the following parameters –

- ✓ Serial number
- ✓ Product name
- ✓ Product Quantity
- ✓ Product Price

Here in the project the products are all listed in a single list named as all_products which is pre-defined earlier in the first section of the code. This list is called in various parts of the code section so that it becomes easy for the user to see the list of the product and to choose rightly whatever is required.

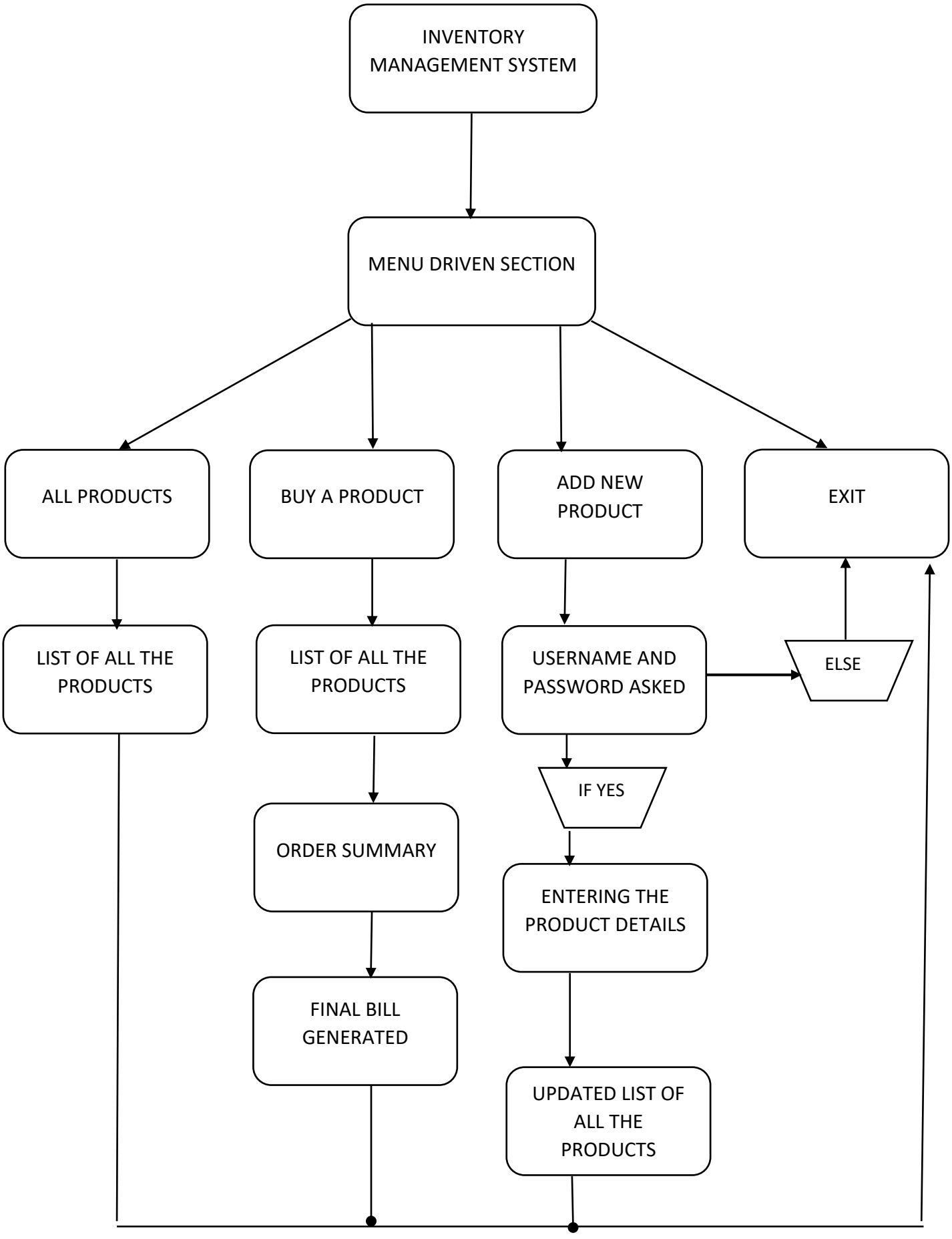
3) Buying Section

This section enables the user to buy the product which he or she wants to buy. So again the list all_product pops up again followed by a query to enter the product id which the user wants to buy. As we enter the product id we are followed to a order summary part where a summary of the order is mentioned this is basically for the user to know the details of the product. This order summary makes the user sure of its choice to whatever he/she wants to buy the order summary consists of the product id, product name and the price of the product thus finally generating a miniature bill of the product. Then the user is asked if he/she wants to confirm the order or not by clicking either ‘y’ or ‘n’ (y for yes and n for no). As soon as the user clicks ‘y’ to confirm the order a bill is generated. This bill consists of a bill number which is generated from the random library file and also to add a more secure transaction a bill date with time is also generated to maintain the track of time of the process.

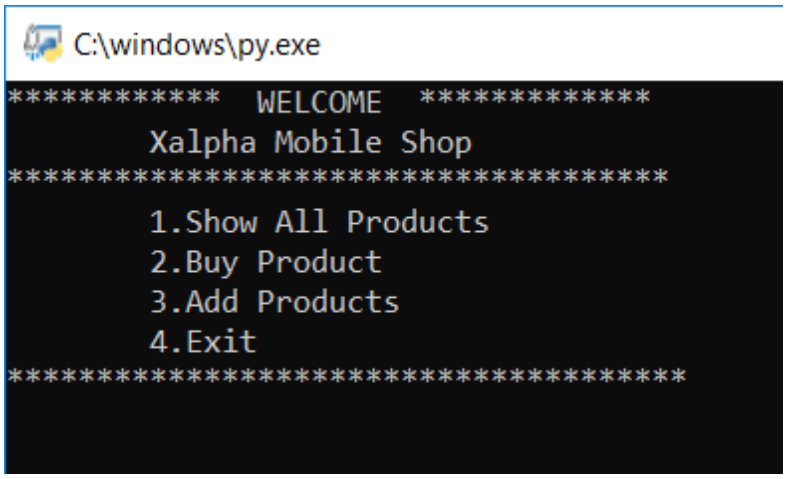
4) New Product Section

This module deals with adding of new product in the inventory. Adding of new product can only be done by the administrator of the project so as the user clicks the ‘Add new Product’ option on the menu page he/she is first asked to enter the username followed by a password which would allow them to enter the page to add new product. If the username and password is correctly added the admin is asked to type the product name which is entered in a string format and enter is pressed; then the quantity of the product to be entered in the inventory is added; furthermore a price of the product is set and then finally the product is entered in the inventory. Again here the list all_products is updated and called to show that the new product is added in the inventory efficiently. As soon as the product is added due to the present of loop in the program it again reaches to the actual interface where the user can again enter the choice thus making the project at the utmost user friendly nature.

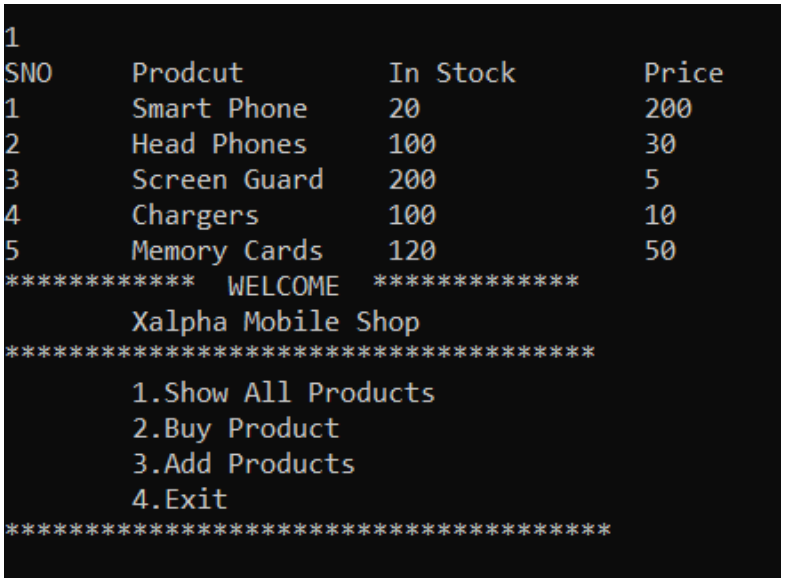
FLOWCHART


INVENTORY MANAGEMENT SYSTEM
MENU DRIVEN SECTION
ALL PRODUCTS
BUY A PRODUCT
ADD NEW PRODUCT
EXIT
LIST OF ALL THE PRODUCTS
LIST OF ALL THE PRODUCTS
USERNAME AND PASSWORD ASKED
ELSE
IF YES
ORDER SUMMARY
ENTERING THE PRODUCT DETAILS
FINAL BILL GENERATED
UPDATED LIST OF ALL THE PRODUCTS

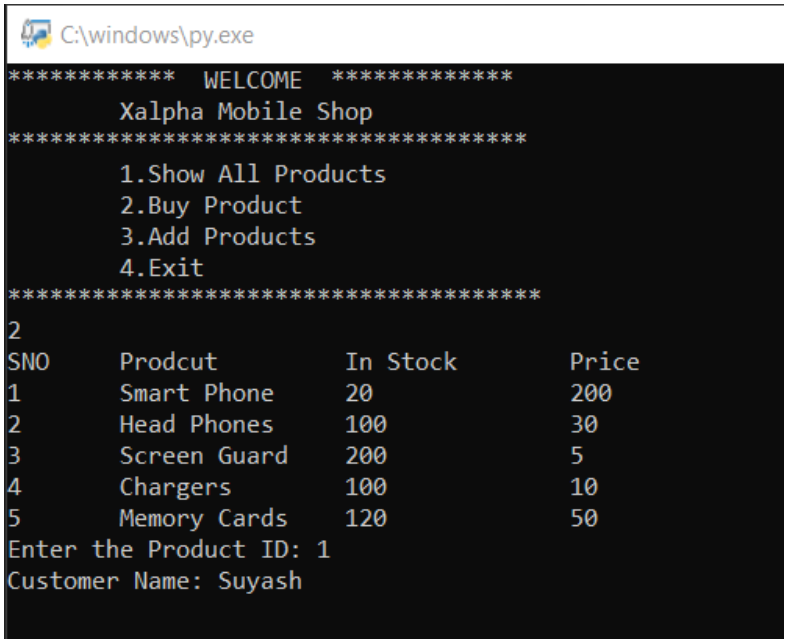
IMPLEMENTATION



WELCOME PAGE

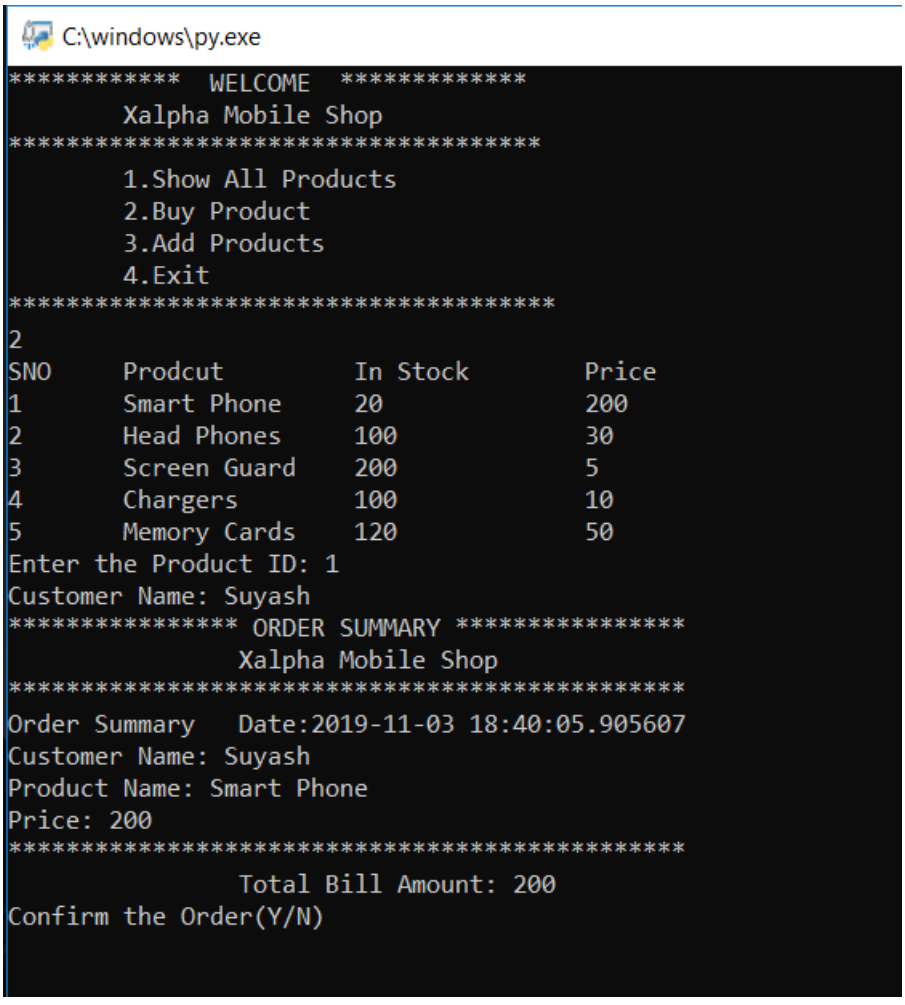


ALL PRODUCTS SECTION



BUYING ANY PRODUCT

REQUIREMENT OF PRODUCT ID AND CUSTOMER NAME



ORDER SUMMARY OF THE PRODUCT

```
*******************************************
               Total Bill Amount: 200
Confirm the Order(Y/N)y
**************  GENERATE BILL  **************
               Xalpha Mobile Shop
*******************************************
Bill:183        Date:2019-11-03 18:44:12.964180
Customer Name: Suyash
Product Name: Smart Phone
Price: 200
*******************************************
               Total Bill Amount: 200
Thanks For shopping with Us
```

GENERATION OF A FINAL BILL

C:\windows\py.exe

```
************  WELCOME  ************
        Xalpha Mobile Shop
***************************************
        1.Show All Products
        2.Buy Product
        3.Add Products
        4.Exit
***************************************
3
Enter Admin UserID: Suyash
Enter the Password: password
```

ADDING PRODUCTS SECTION; REQUIREMENT OF USERID AND PASSWORD

C:\windows\py.exe

```
************  WELCOME  ************
        Xalpha Mobile Shop
***************************************
        1.Show All Products
        2.Buy Product
        3.Add Products
        4.Exit
***************************************
3
Enter Admin UserID: Suyash
Enter the Password: password
Enter the Product Name: Back Cover
Quantity: 40
Price: 150
```

ENTERING THE PRODUCT DETAILS

```
***********  WELCOME  ************
        Xalpha Mobile Shop
************************************
        1.Show All Products
        2.Buy Product
        3.Add Products
        4.Exit
************************************
1
SNO     Prodcut         In Stock        Price
1       Smart Phone     20              200
2       Head Phones     100             30
3       Screen Guard    200             5
4       Chargers        100             10
5       Memory Cards    120             50
6       Back Cover      40              150
```

THE ENTERED PRODUCT IS SUCCESSFULLY ADDED IN THE INVENTORY

```
C:\windows\py.exe
***********  WELCOME  ************
        Xalpha Mobile Shop
************************************
        1.Show All Products
        2.Buy Product
        3.Add Products
        4.Exit
************************************
4
Thank you for visiting Xalpha Mobile Shop
```

IF EXIT IS CHOSEN

REFERENCES

1) www.w3schools.com
2) www.stackoverflow.com
3) www.leetcode.com
4) www.youtube.com