PURBANCHAL UNIVERSITY

DEPARTMENT OF COMPUTER ENGINEERING
KHWOPA ENGINEERING COLLEGE
LIBALI-2, BHAKTAPUR

A
FINAL REPORT
ON
DEPARTMENT STORE INVENTORY MANAGEMENT SYSTEM

Project work submitted in partial fulfillment of requirements for the award of the degree of Bachelor of Engineering in Computer Engineering (Third Semester)

SUBMITTED BY:

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CERTIFICATE OF APPROVAL

This is to certify that the project entitled "DEPARTMENT STORE INVENTORY MANAGEMENT SYSTERM" submitted by Ms. Anupa Gaire, Ms. Rohisha Shrestha, Ms. Rosa Prajapati and Ms. Shristi Yakami as partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering in Computer Engineering of Purbanchal University has been examined by us and may be placed before the examination board for their consideration.

Panel of Examiners:

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Er. Bikash Chawal	----------	----------
Project Supervisor		
Er. Reena Manandhar	----------	----------

ACKNOWLEDGEMENT

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ABSTRACT

The Project “department store management system” deals with the automation of stores. Department store is a place where people go for buying items. This report details the development of the Department store inventory management system that is written in C language. The aim of this management system is to provide a user-friendly department store inventory system. In addition, the report details the implementation of a complex algorithm used in the development of the system. This software will help admin in managing the various types of Records pertaining to the number and types of items and will also help the admin to work in a highly effective and efficient environment. Our project Department store management system that is a reflection of a real department store includes billing system, adding or deletion of items, displaying, issuing items. The Department store management system can be accessed by the admin. The items can be added or deleted easily and the bill is also generated.

Keywords: Billing system, department store, inventory system, management system

LIST OF ABBREVIATION

DSMS: Department Store Management System

DSM: Department Store Management

RFID: Radio Frequency Identification

List of Figures

Table of Contents

CHAPTER 1
INTRODUCTION

1.1. Background

A department store is a retail establishment offering a wide range of consumer goods in different areas of the store [1]. These goods/products are usually categorized as per their types, and sometimes departmental stores are based on the type of product itself. These usually include ready-to-wear clothing and accessories for adults and children, yard goods and household textiles, small household wares, furniture's, cosmetics, electrical appliances and accessories, and often food. Additionally, other lines of products such as books, jewelry, electronics, stationery, photographic equipment, baby products, and products for pets are sometimes included. Departmental store may feature a variety of only one of these items but multiple brands of it. These goods are separated into divisions and departments supervised by managers and buyers. Department stores are often classified according to the kinds of goods they carry and the prices they charge. Many offers additional services, including gift wrapping, alternations, delivery, and personal shopping. This concept was introduced so that consumers could purchase all of their necessary products from one destination instead of having to go to multiple stores.

A **Departmental Store Inventory Management System (DSIMS)** is an application that executes a collection of protocols to co-ordinate the actions of multiple processes on a network, such that all components cooperate together to perform a single or small set of related tasks. This system is good when one has an established Shop and wants his/her stores to blink [2]. DSMS keeps the information related to the management of the department store which includes product, staff, stock, sale and purchase, etc. It also provides information on calculating, adding, viewing goods and other features. The admin or user is kept up to date on the records with less effort, and it is highly liked by those in the business world. As we are aware of business people's busy and stressful schedules, this Departmental Store Management System proves to be a fantastic relief for them because it is simple to use. This application has a lot of potential for reducing billing mistakes and shortening the time it takes to distribute invoices to clients.

Departmental Store Inventory Management System (DSMS) has a wide scope to minimize errors in the making of bills and it also limits the delay of delivering bills to the customers. This system has very least risk of data/record loss and is easy to operate.

1.2. Motivation

Department Store Management System (DSMS), commonly found in retail establishments and known as DSM, often feature a complex arrangement of software. DSM systems rely on predictable operation, and any number of problems can appear when software or users do not perform as expected. So, this perspective things motivates us to kind of software in real time business.

1.3. Statements of Problems

Nowadays users want more flexible and user-friendly system which is not easy to develop with C and C++ programming language. Previously, this system was developed by other developers also but it lacked user friendly environment and recording of material consumed long time. We

want to make interactive program. There might occur error during updating the details. Therefore, a system is needed that will be able to make changes instantaneously in a synchronized manner.

1.4. Objective

To computerize a department store inventory management system using C programming language.

1.5. Scope and Application

1. Department store management system is easy to use and eliminates the error caused by paperwork.
2. Helps to provide information to the staff about the items that are purchased, their price, bill generation system and so on.

CHAPTER-2
LITERATURE REVIEW

A Departmental Store is a large store that stocks many varieties of goods in different departments [3]. Departmental Store Management System (DSMS) is commonly found today at most retail store registers. A Department store management system should not interfere or make it harder for you to run your business. It should run parallel to your business operation. A perfect DSM system should run your business for you [4].

Store management is the activity of controlling the continuous flow of inventory in any organization, which is into production, trading, sales, or services. A Departmental Store Management System (DSMS) is an application that executes a collection of protocols to co-ordinate the actions of multiple processes on a network, such that all components cooperate together to perform a single or small set of related tasks [5].

An inventory management system (or inventory system) is the process by which you track your goods throughout your entire supply chain, from purchasing to production to end sales. Inventory systems tell you the number of components or ingredients you need to create or assemble your final product. Without this information you may end up with excess stock, eroding your bottom line, or with insufficient stock to meet customer demand [6].

"Inventory Management of a Department Store: A Case Study," Zhang et al.[7] analyze the inventory management practices of a department store in China. The authors identify key challenges faced by the store, including inventory accuracy, stock outs, and excess inventory. They propose a set of strategies to address these challenges, including the use of RFID technology, real-time inventory tracking, and vendor collaboration.

Department stores have been an integral part of the retail industry for many years. In recent times, with the advent of digital technology, department stores are being managed with the help of computerized management systems. The purpose of this literature review is to examine various studies on department store management systems and highlight their findings and contributions [8].

CHAPTER 3
PROJECT MANAGEMENT

3.1 Team Management

All the required efforts for this project were done by all of the four members of a team:

i. Anupa Gaire (770304)
ii. Rohisha Shrestha (770332)
iii. Rosha Prajapati (770334)
iv. Shristi Yakami (770343)

3.2. Work Breakdown Structure

S. N		Duration	1st week	2nd week	3rd week	4th week	5th week	6th week
1.	Problem Identification	3 Days						
2.	Analysis	5 Days						
3.	Design	7 Days						
4.	Coding	21 Days						
5.	Implementation and testing	7 Days						
6.	Documentation	26 Days						

CHAPTER-4
METHODOLOGY

4.1. Generic Model

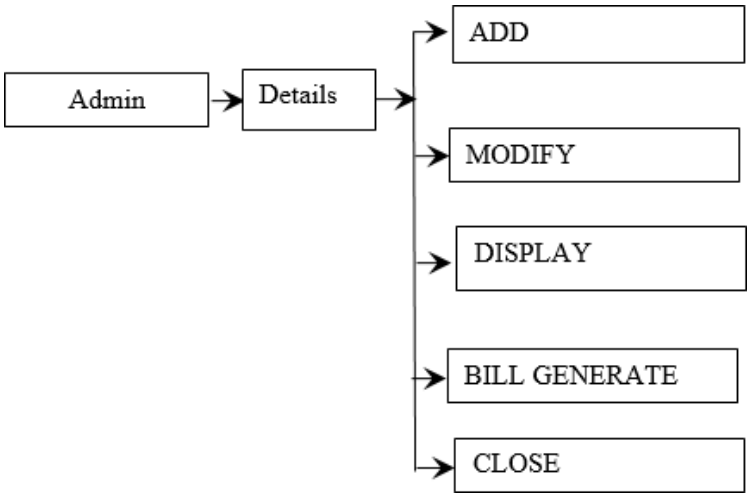

Fig 4.1: Generic model

In our system, we have admin as our login and an exit option to close the application. Admin login contains details of add, modify, display, bill generate and close operation. Choosing any of the options we can further process our need in the system and record the details.

4.2. Zero Level Data Flow Diagram (Context Diagram)

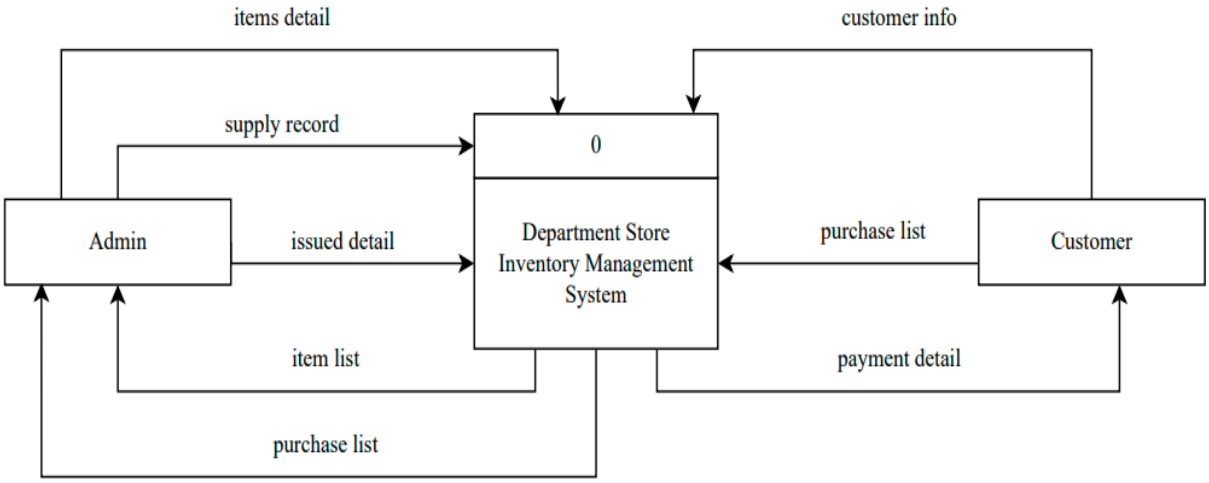

Fig 4.2: Data Flow Diagram

4.3 Algorithm

Step 1: Start

Step 2: Choose Admin or Exit.

i. If admin is encountered go to step 3.
ii. If exit is encountered, the program closes.

Step 3: choose any one from these 5 options

a) Add items
b) Modify item
c) Display items
d) Bill Generate
e) Close the application

Step 4: If choice is 'a', select an option.

i. Add category
ii. Add items
iii. Exit

If option 'i' is encountered, we can add new category.
If option 'ii' is encountered, we can add new items.
If option 'iii' is encountered, go to step 3.
Search according to your choice. And go to step 3 after completion.

Step 5: If choice is 'b' select an option.

i. Delete items
ii. Edit items list
iii. Remove issued item
iv. Exit

If option 'i' is encountered, then enter item id to be deleted. If item id exists delete the item. If item id is valid then go to further process and if invalid go to step 5.
If option 'ii' is encountered, we can edit items detail in the store. Then go to step 5.
If option 'iii' is encountered, we can remove issued item record for a particular id. Then go to step 5. If option 'iv' is encountered, go to step 3.

Step 6: If choice is 'c'. Select an option

i. View items in store
ii. Search items in store
iii. View issued item
iv. Search issued item
v. exit

If option 'i' is encountered, view the list of all items in the store. If option 'ii' is encountered, search the items in store by id or name. If option 'iii' is encountered, view the list of all issued item in the store. If 'iv' is encountered, we can search issued item by id. If 'v' is encountered, go to step 3 else go to step 6.

Step 7: If choice is'd'. Select an option

i. bill
ii. Issue an item.
iii. exit

If option 'i' is encountered, generate bill. If option 'ii' is encountered, issue record is maintained. If 'iii' encountered, go to step 3.

Step 8: If choice is 'e', close the application'.
Step 9: end

4.4 Flowchart

4.5. Tools And Platform

Software: Turbo C/C++
Platform: Windows

CHAPTER 5
RESULTS AND DISCUSSION

Our project is only a humble venture to satisfy the needs to manage business work. Several user-friendly things have also been adopted. We have created a management system which includes 5 basic functions needed to manage the department store system.

5.1 Screenshots

Fig 5.1: Admin/Exit interface

At the beginning, when the user enters the system s/he is introduced to the admin/exit interface.

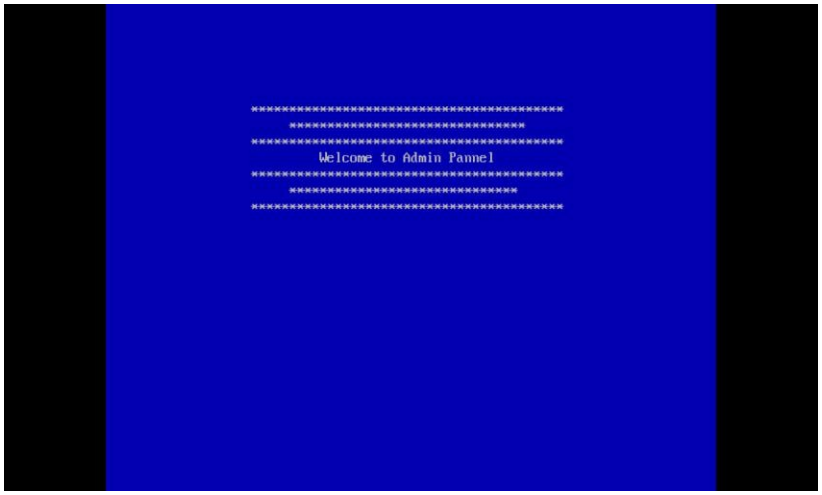

Fig 5.2: Welcome message

If the user chooses admin, s/he is welcomed to the admin pannel and if the user chooses exit, the system closes.

Fig 5.3: Admin panel

The admin panel includes 5 functions which can be performed by entering the number choice (from 1 to 5).

Fig 5.4: Add

Inside the first function we again have three options (1 to 3) which are:

i. Add category
ii. Add an item
iii. Exit

.

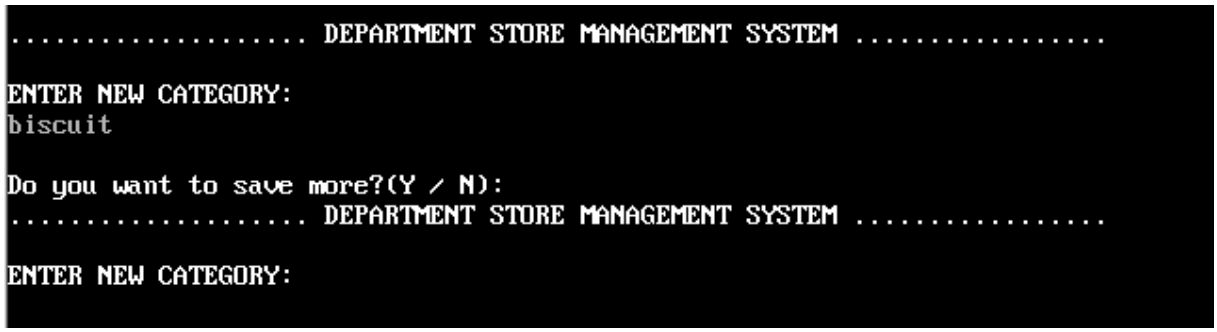

Fig 5.5: Adding Category

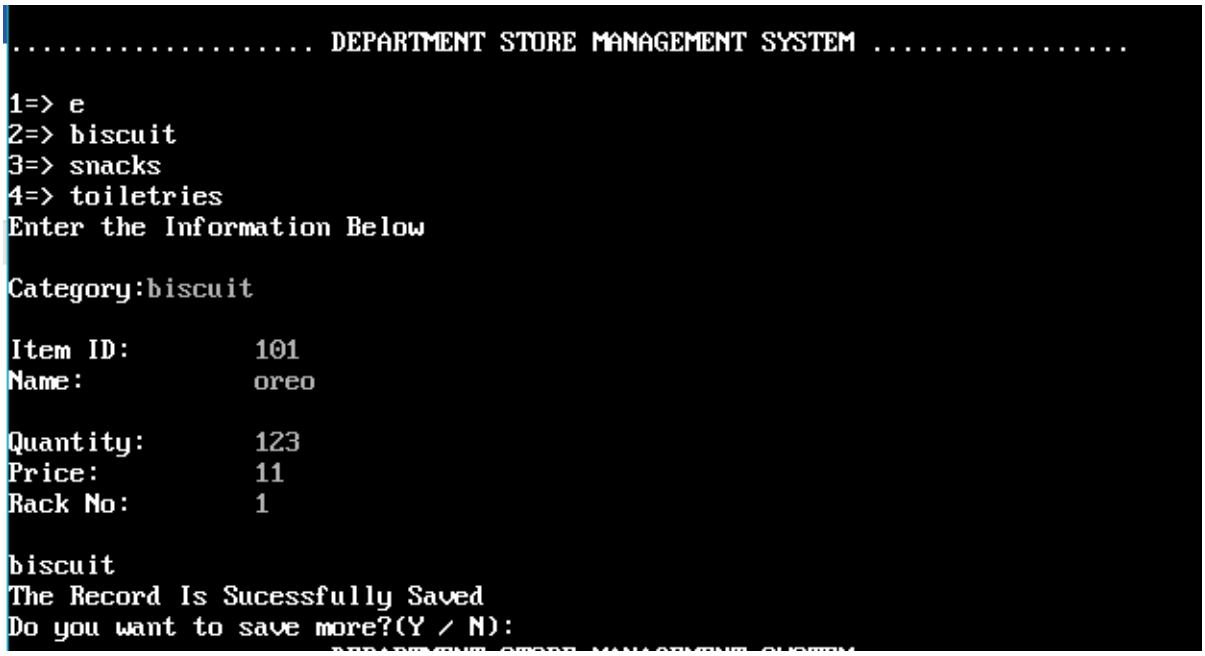

Fig 5.6: Adding Item

The second option (2) inside the function 1 is to add the items into the system which includes category, id, name, quantity, and price and rack number of the item.

Fig 5.7: Modify items

Inside the second function we again have 4 options (1 to 4) which are:

i. Delete items
ii. Edit item list
iii. Remove Issued Item
iv. Exit.

Fig 5.8: Deleting items

The first option (1) inside the second function (2) is used to delete the items from the system.

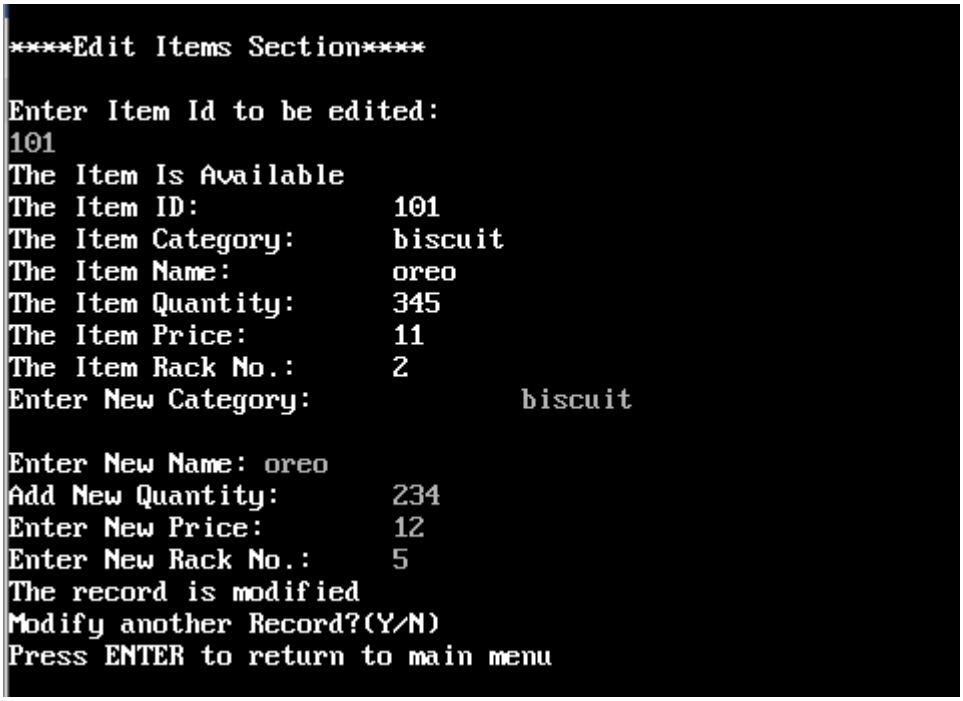

Fig 5.9: Editing section

The second option (2) inside the second function (2) is used to edit the item's record in the system and will change the list of the items accordingly.

Fig 5.10: Removing issued item section

The third option (3) inside the second function (2) is used to remove issued item in the system.

Fig 5.11: Display items

Inside the third function we again have 4 options (1 to 4) which are:

i. View Items in store
ii. Search Items in store
iii. View Issued Item
iv. and exit.

Fig 5.12: View Items list

The first option (1) inside the third function (3) shows the items in tabular form (including category, id, name, quantity, price and rack number of the item) that are present in the system and also shows the total number of items in the store/system.

Fig 5.13: Searching items

The second option (2) inside the third function is to search the items available in the system either by its id or name.

Fig 5.134 View Issued Items

The third option (3) inside the third function is to view issued the items available in the system.

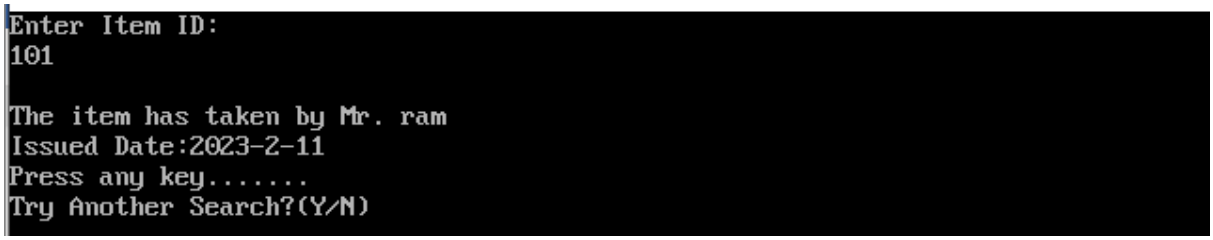

Fig 5.15: Search Issued Items

The fourth option (4) inside the third function is to Search issued the items available in the system.

Fig 5.16: Bill generate

Inside the fourth function we again have 3 options (1 to 3) which are:

i. Produce bill
ii. Issue an item
iii. exit.

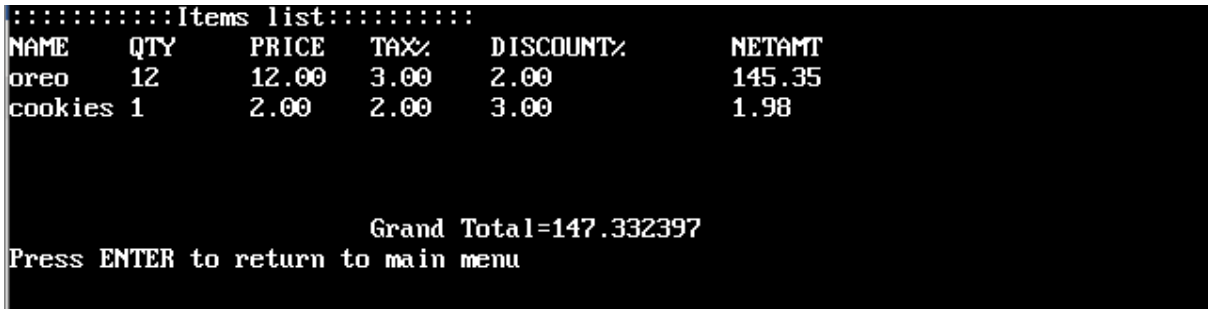

Fig 5.17: Billing section

The first option (1) inside the fourth function is to produce bill.

Fig 5.18: Issuing items

The second option (2) inside the fourth function is used to store the record of items that has been issued..

And the fifth function (5) is used to close the admin panel which will lead to the first page of the system.

CHAPTER 6

CONCLUSION AND FUTURE ENHANCEMENT

6.1 CONCLUSION

Our project satisfies the needs in a department store to keep and maintain the record. Several user-friendly coding has been adopted. This improves the client experience, protects against difficulties like refunds, and encourages repeat purchases. Adding, deleting, modifying, billing of products, etc. are basic needs to be recorded in a system of our department store. It helps in better planning and ordering of stock products. Though it has some limitations like the item id number is not specified in terms of int/float and the instructions for the admin/user during adding of items is not clearly stated, our team strongly believes that the implementation of this system will surely benefit the organization.

6.2 FUTURE ENHANCEMNET

Since this project was started with very little knowledge about the Department Store Inventory Management System and due to the limitation of time, we came to know about the enhancement capability during the process of building it. Some of the scope we can increase for the betterment and effectiveness are listed below:

- Making more user friendly.
- Profit and loss details can be added.
- QR code scanner can be added.

CHAPTER 7
REFERENCE AND WEBSITE

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