DEVELOPING A

POINT OF SALE SYSTEM (POS) SYSTEM

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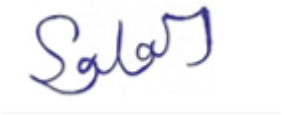

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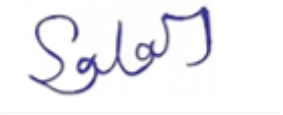
Signature : 

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DEVELOPING A POINT OF SALE SYSTEM (POS)

SHAKLIN HASSAN MOHAMMEDALI

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DEDICATION

This thesis is dedicated to my city for a better future along with my family and thanks to my supervisor for supporting through this journey

ACKNOWLEDGEMENT

I would also like to acknowledge those individuals who supported me throughout this thesis period. The project would be difficult to accomplish without the cooperation and support of many people.

Special Acknowledgement to all teachers and students that helped me with requirements through great cooperation and patience. Also big thanks to my family who supported me in my ups and downs through this projects I could have done it without them.

ABSTRACT

The purpose of the project is to develop a Point of sale system for any kind of store or market. The goal of the research project is to develop an automated point of sales system for as torn. The system will monitor the inventories and transactions of the store. Diagrams such as Use case. and Activity are used to furthermore explain the system function. Microsoft Visual studio acts as the software platform and a Survey questionnaire, consultation., and local had been done to determine the system features and applications. System end-user evaluated the efficiency and effectiveness of the system. Fact finding Fact-finding such as interviewing and observation were applied to determine the requirements of the desired application. Questionnaires were used for measuring he efficiency of the system as evaluated by the end-users. Results of the evaluation on the system were based on ISO 9126 standard which showed that the criteria on functionality ranked as the highest. followed by the reliability and usability, criteria for efficiency and lastly criteria for the maintainability and portability of the system ranks as the lowest. The result of the evaluation of Point of Sales System for store showed that the developed system has an automated inventory and monitoring of sales. stocks and transaction of the drugstore. Therefore. the researcher highly recommends that the system is recommended for implementation on any store accompanied with the following suggestions: System installation on a computer and two- three days of training and changeover method for the users. Point of Sales System for store is a solution on the manual operation and gives benefits on the present and future employee of the store to further monitor the sales and transactions. To develop an effective system is one of the vital roles of Information Technology in the society.

ABSTRACT

Tujuan projek ini adalah untuk membangunkan sistem Point of sale untuk sebarang jenis kedai atau pasaran. Matlamat projek penyelidikan adalah untuk membangunkan sistem titik jualan automatik kerana koyak. Sistem akan memantau inventori dan transaksi kedai. Gambar rajah seperti Use case. dan Aktiviti digunakan untuk menjelaskan lagi fungsi sistem. Studio Microsoft Visual bertindak sebagai platform perisian dan soal selidik Tinjauan, perundingan., dan setempat telah dilakukan untuk menentukan ciri dan aplikasi sistem. Pengguna akhir sistem menilai kecekapan dan keberkesanan sistem. Pencarian fakta Pencarian fakta seperti temu bual dan pemerhatian telah digunakan untuk menentukan keperluan permohonan yang dikehendaki. Soal selidik digunakan untuk mengukur kecekapan sistem seperti yang dinilai oleh pengguna akhir. Keputusan penilaian ke atas sistem adalah berdasarkan piawaian ISO 9126 yang menunjukkan bahawa kriteria kefungsian diletakkan sebagai yang tertinggi. diikuti dengan kebolehpercayaan dan kebolehgunaan, kriteria untuk kecekapan dan terakhir kriteria untuk kebolehselenggaraan dan mudah alih kedudukan sistem sebagai yang paling rendah. Hasil penilaian Sistem Titik Jualan bagi kedai menunjukkan sistem yang dibangunkan mempunyai inventori automatik dan pemantauan jualan. stok dan transaksi kedai ubat. Oleh itu. pengkaji amat mengesyorkan bahawa sistem disyorkan untuk dilaksanakan di mana-mana kedai disertai dengan cadangan berikut: Pemasangan sistem pada komputer dan dua- tiga hari latihan dan kaedah pertukaran untuk pengguna. Sistem Titik Jualan untuk kedai adalah penyelesaian pada operasi manual dan memberi faedah kepada pekerja kedai sekarang dan akan datang untuk memantau jualan dan transaksi. Untuk membangunkan sistem yang berkesan adalah salah satu peranan penting Teknologi Maklumat dalam masyarakat.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

POS	-	Point of sale system
UTM	-	Universiti Teknologi Malaysia
MVC	-	Model View Controller

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION

1.1 Introduction

With the ability to send emails), search the web, shop online (e-commerce), withdraw money from an account electronically (e-banking), and other criteria of communication that has transformed the world into a global village. As a result, the computerization of sales should not be excluded from this trend.

Since the 1980s, industrialized nations have embraced the use of technology in sales, which has been ascribed to their governments' aim to increase the effectiveness of their procedures, accountability, and goods and services.

It can be challenging to transition from a manual cash register to a digital point-of-sale system; there are many things to think about and dangers to avoid.

1.2 Problem Background

Sales are the keystone of any business organization. The success or failure of any company or stores depends on accurate data on sales made to support decision-making If accountability is not checked, the company will undoubtedly fail, so systems are required in any retail or hospitality business.

point-of-sale systems are useful in this situation since they provide input to management to help with decision-making

1.3 Project Aim

The aim for this project is to make any businesses in the areas of stock processing, accountability, and precise data collection for the efficient administration of the business make the switch from a cash register machine to a Point of Sales system highly important for any retail sales of business activities.

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1.4 Project Objectives

The objectives of this project are as follows:

The objective of this project is to develop and put into use a computerized point-of-sale system that will improve accountability at points of sale.

To provide a more improved user interface.

enhancing businesses by making and managing reports that can help make more informed business decisions.

1.5 Project Scope

This project focuses on providing the best suitable point of sale that is improved from the existing ones in which the system will be a role-based access system which means different types of users can access the system for different roles, in this system the there are three main users which are (users/which can be cashier or employee in a store or shop, admin which mange the updates, the owner which checks for the updates. Along with improved user interfaces.

1.6 Project Importance

It is crucial for any retail sales of business activities to switch from a manual cash register to a point-of-sale system because of the benefits to your company's processing of stocks, accountability, and precise data collection for the efficient administration of the firm.

Therefore, through this project, a personalized E-Learning will be developed for primary schools as children of that age are most valuable and most neglected. The Project will enable further development strategies to promote enforcement of necessary training for students and educators focused on blended learning. By integrating the E-Learning system will play a valuable role in providing support and prioritizes for the long-term growth of education.

1.7 Report Organization

This chapter includes six main part which is the introduction problem background, proposed solution, project aim, objective, scope, and project importance. And the next chapter which is chapter two we have a literature review. Also, this project conation 6 chapters

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter describes mainly the details of POS system Before achieving those income levels, or even before generating any noticeable revenue, new firms decide to invest in a POS system.

They might only be interested in a POS system its capability for generating reports that will increase productivity as soon as the business opens.

2.2 The benefit of POS

Before achieving those income levels, or even before generating any noticeable revenue, new firms decide to invest in a POS system.

They might only be interested in a POS system for the reporting capabilities, or they can see it as an investment that will increase productivity as soon as the business opens. A POS system is rarely completely superfluous; rather, the main concern is how quickly it will pay for itself.

Pos has the following three benefits for financial savings:

(i) Get rid of shrinking. the inventory that leaves your store or restaurant as a result of theft, wastage, and employee negligence, can be significantly reduced with a computerized point of sale system. Internal shrinkage will decrease since workers will be aware that inventory is being closely monitored.

(ii) Increase precision. POS systems make sure that every item in a store or on your bossiness is sold for the correct price, whether or not you use barcode scanning. With just one computer setting modification, your workers won't ever again enter prices incorrectly or erroneously.

(iii) Increase margins. Focusing on products with better margins might be aided by thorough sales reports.

Pos offers the following advantages for informational purposes:

(iii) Improve inventory control. You can maintain the proper stock on hand much more easily if you have detailed sales reports. Monitor your remaining stock, look for sales trends,

and make better forecasts of your demands using historical data. Frequently, the software will notify you when it is time to place another order.

The following advantages are realized when considering how POS affects enhanced productivity:

Reduce paperwork (vi). Your time spent on inventory, sales data, and other time-consuming yet crucial paperwork can be significantly decreased with POS systems. Time and mental tranquility are saved in this situation.

vii) more effective Transactions. Barcode scanners and other POS tools greatly speed up checkout in retail situations. Orders are automatically transmitted from the dining room to the kitchen, considerably streamlining the ordering process for restaurants. Your clients receive quicker, more precise service in both situations.

Another feature that has been suggested is adding a chat feature in forums. They study the difference between asynchronous learning networks, where online tools such as MOOC are utilized for questions, comments, and answers, and synchronous computer communications where real online interaction, in the form of chats, are scheduled. The latter allows students to collectively be active at a specific time with their peers and teachers to engage. Their finding does not show a definitive solution whether the asynchronous or synchronous method works best. The collected data showed a natural distribution where both methods seemed normal. The authors expressed their concern that further study is required to get a clearer idea as to which system might prove more effective.

It can be challenging to transition from a manual cashing system to a point-of-sale system; there are many things to think about and dangers to avoid. However, the benefits to your organization and the return on investment may really make the time and effort invested worthwhile POS systems

.

2.3 Features of the literature

Different POS system have different requirements. For example, for retails POS the transactions are conducted all at once, The ability to offer kits (such as 3 for $2 discounts), refunds and exchanges, also support for digital type of scales are a few POS features that retailers may require in particular.

The requirement for a product matrix can be a challenge in some retail settings. If you sell goods like an accessories or shoes that come in many styles, your POS system must support matrixes. For instance, matrixes allow you to conduct a single inventory and a record price for a certain item while still keeping track of sales by size and colour.

2.4 Chapter Summary

For this project, several studies from experts in the field have been examined to understand the challenges advantages of developing the POS system and different type of it.

CHAPTER 3

SYSTEM DEVELOPMENT METHODOLOGY

3.1 Introduction

As for the system which Is point of sale system, since we're in chapter three, it is about selecting a suitable methodology that best describes the steps for developing the system. The methodology should have different phases each phase gives a detail of the project and consists of a Gantt chart that shows how the chosen methodology will work in the process Also, the system requirements and tools that are needed for developing the point of sale system.

3.2 Methodology Choice and Justification

In this section, we are choosing a methodology that best works for the development phase. There are different types of methodologies with different phases that each has pros and cons. The selection depends on the available set of data and the amount of knowledge about the method. Here, a descriptive methodology will be chosen as it best describes the steps to develop the system with a practical result.

3.2.1 Identify the problem

In this phase, we are focusing on the main issues The biggest issue with the current method is that your tallies don't match the inventory. Sales are not being tracked. Instead of taking care of consumers, staff members spend much too much time tracking down errors. These issues, together with others, point to It's time for your company to upgrade to a point-of-sale (POS) system and do rid of its cash registers

3.2.2 Collect and analyze data

I planned a survey and have a clear mind of what a store owner or cashier would want in their system, the questions are shown in the table the size of the sample was 20 users of the existing system

Size of the sample: 20 users (of existing POS system)

Question	Results
Are you familiar with the exiting Point of sale system?	Yes: 10 No: 10
Have you notified any difficulties in the existing system? (specially the UI)	Yes: 16 No: 4
Do you think the system should improve its functionality ?	Yes: 17 No: 3
Do you want a POS system with role based access?	Yes: 20 No: 0

3.3 Solution

The new system will make it simple to save information, make it simple to retrieve previous sales transactions, and allow the printing of data from any date and year as hard copies (i.e. on a paper)

3.4 Technology Used Description

To build this system:

CSS:

For styling the content. It has the ability to control the layout of many web pages at the same time. CSS can be used to determine table cell padding, the padding around images, and the color of a table's border or other objects.

Bootstrap:

For making the website responsive and giving a friendly user interface. This works like a framework. Many ready tools and codes are prepared so that the developers do not put a lot of time into it to make it. For example, the grid systems and containers.

JavaScript:

For some actions over the web. Allows users to create modern web applications that allow them to interact without having to reload the page every time.

PHP:

As back-end of the website for processing data. It can be used to create interactive and dynamic web pages.

MySQL: The database server is MySQL. This will be used for storing all the data.

3.5 System Requirement Analysis

To run the program it needs :

3.5.1 Hardware Requirement

Laptop: to build the web application

a. processer: Minimum core i5
b. RAM: 1Gb or higher
c. Mouse: any
d. Monitor: any
e. Keyboard: any

3.5.2 Software Requirements

The program coding is developed under Visual Basic Improved application environment and tools which are capable in handling more complex systems. The system is developed using Visual studio to automatically connect the database making the process efficient for the user. The programming language provides the necessary tools for developing the system. On any type of operating systems where the system can be run. MYSQL is the database of the system storage.

3.6 Chapter Summary

In conclusion, this paper is following the descriptive research method. In which, it describes the available problems and issues. Afterwards, it brings some data to illustrate the problem and clarifies the scope.

CHAPTER 4

REQUIREMENT ANALYSIS AND DESIGN

4.1 Introduction

This chapter focuses on organizing requirements, modelling requirements and designs, validating data information, identifying data types, and the best preferred interface. The purpose of this chapter is to give a valid virtual view of the system in terms of modelling, requirements, data, and interfaces. This would be the plan of the project that will go through during the development stage to propose the final product.

4.2 Requirement Analysis

The assessment of the Point of Sales System reached the functionality on its requirements on allowing owner and the employee to get output depending on the data input to use for drugstore operation. Upon asses sing the standards and facilities of the drugstore, the system is applicable for implementation.

4.2.1 Use Case Model

Based on this use case, there are 3 main types of users, admin, general users and owner. the admin and the user have multiple common use cases, adding products adding category are the two main tasks for a general user, on the other hand, and admin have the overall control of the system besides adding product and category admin can add customer and user to the system, also adding all these tasks it come with the CRUD which means editing and deleting from each tasks and the owner can check for the updates of the day y viewing the daily sales report and notifications

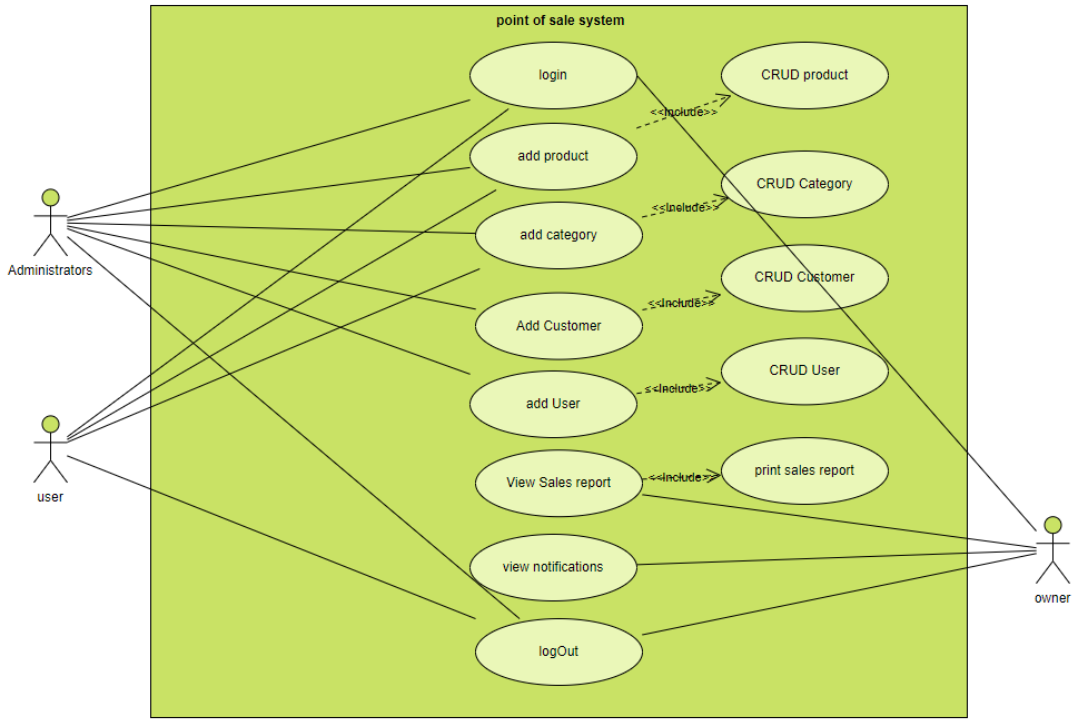

Figure 1 Use Case Model

4.2.2 Use Case Description

Below Table 4.1 offer explanation for each use case and features that are provided by the system.

Table 4.1 Use Case Model Description.

Use Case	**Description**
UC001: Register	The event enables the admin to register a new user to the system.
UC002: Login	The event enables users to login into the system.

UC003: Manage Course	The event enables the teachers to view, edit or delete courses.
UC004: Upload Course Material	The event enable the teacher to upload course martial for their lesson.
UC005: View Course	The event enable the students to view the course that their teacher created.
UC006: Submit Assignment	The event enables the student to submit assignment of their assessment.
UC007: Chat	The event enables the teacher and students to chat.

4.2.3 Design

This section presents the design of the system. Here, all the program side possibilities get introduced.

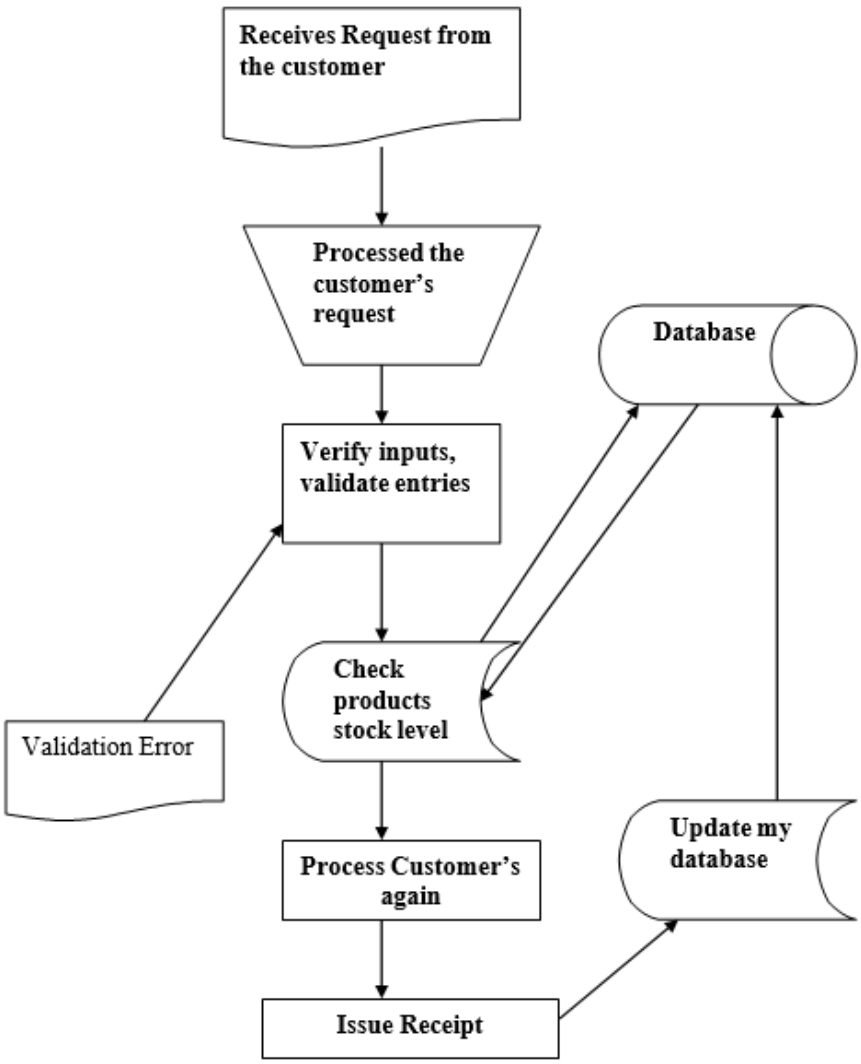

Figure 2 the flow chart of POS

4.3 Database Design

In this stage, the dataset design, tables, data types, and relationships will be shown. First, the MySQL database management system would be used as Relational Database Management System (RDBMS). Here, there will be one database that consists of 11 tables.

4.4 Chapter Summary

Different actions have been done for this project design. Once the development stage begins, these actions will be taken. The use case first described the intended users and how the system will interact with them. The requirement that the database contains some tables with descriptions, types and connections between them is also mentioned. The user interfaces, which are separated into three primary portions for two different user roles, are the main component. These steps must be taken for this web application to be developed and to work as intended.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Introduction

This section will provide a brief explanation of the system architecture, including the architecture that was chosen as well as its features and components.

5.2 Coding of System Main Functions

Depending on the operating system you intend to use to implement POS (for instance, Windows RT), the view, view-controller, and device layers will vary. The operating system has no bearing on the additional layers. To implement Modern POS functionality like workflows and entities, these layers make use of TypeScript classes and modules.

5.2.1 Architecture Model

This section shows the architecture model of POS system which is in the view, view controller and devices layer.

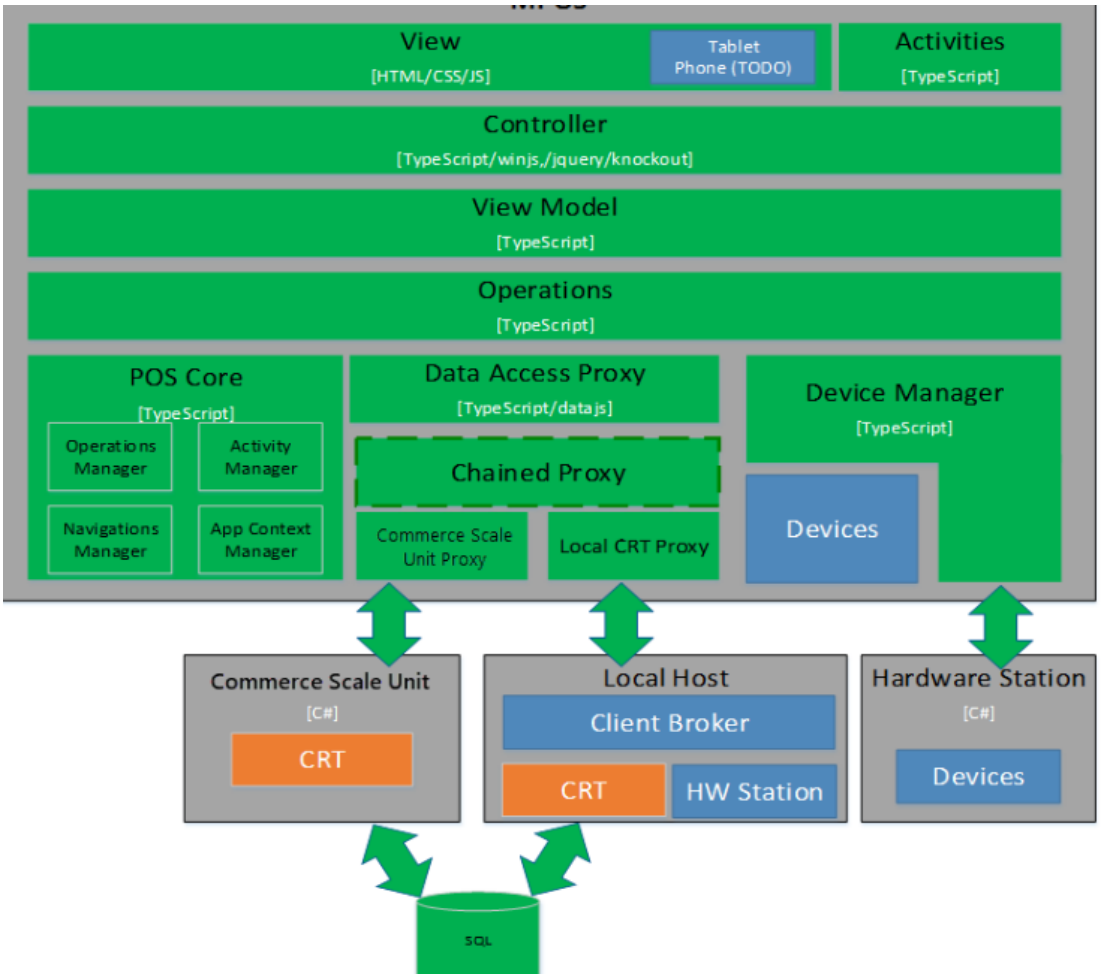

Figure 3 Component model of POS system

5.2.2 Detailed description of component

The component diagram shows the main component that build up the system as shown in below figure

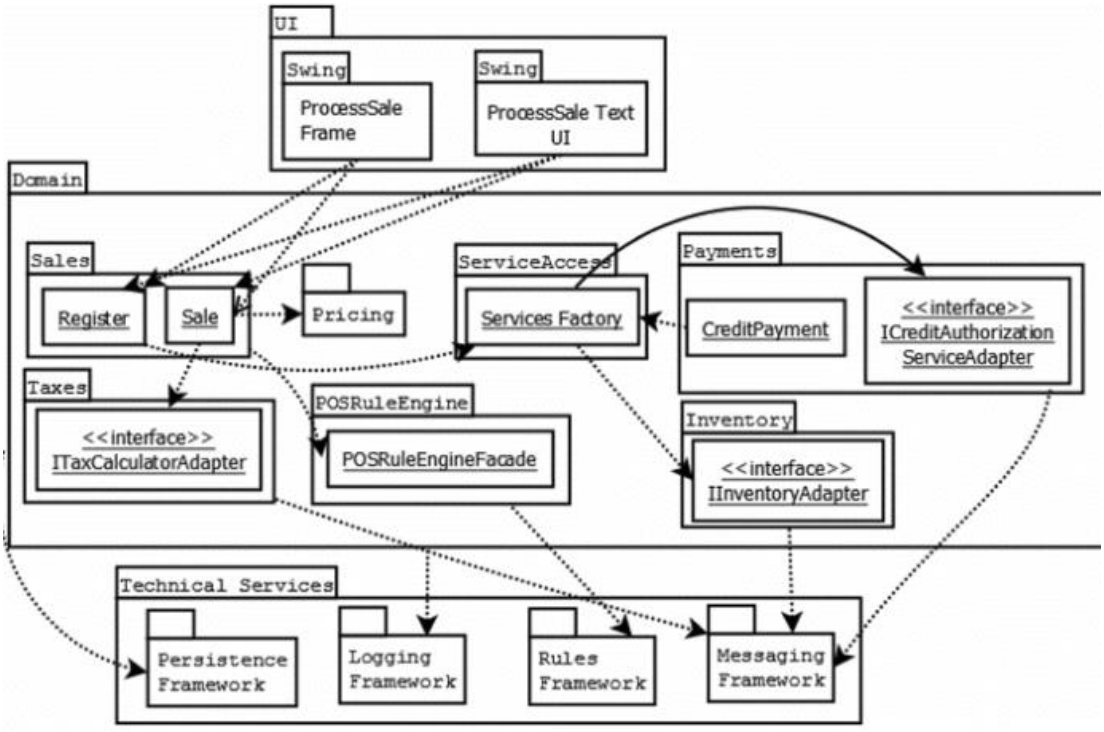

Figure 4 Component diagram of pos

5.2.3 Detailed description

Here is the sequence diagram for the system:

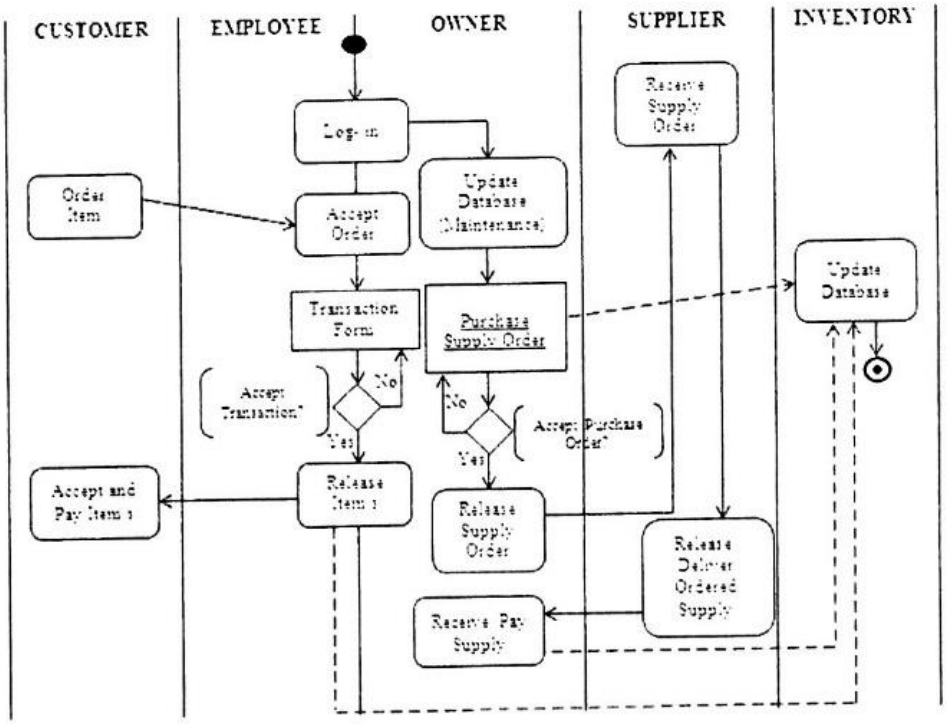

Figure 5 sequence diagram for pos

5.3 Data Design

Here is the database normalization for 11 tables for the pos system

FOR ADMIN

1 admin_id Primary int(100)

2 username varchar(100)

3 password varchar(100)

firstname varchar(100)

5 lastname varchar(100

FOR CATEGORY

1 id int(100)

2 name varchar(100)

FOR COLLECTION

1	transaction_id	int(11)
2	date	varchar(100)
3	name	varchar(100)
4	invoice	varchar(100)
5	amount	varchar(100)
6	remarks	varchar(100)
7	balance	int(11)

FOR CUSTOMER

1	customer_id	Primary	int(100)
2	customer_name		int(100)
3	address		varchar(100)
4	contact		varchar(100)
5	prod_name		varchar(100)

FOR PRODUCT

1	product_id	Primary	int(100)
2	product_code		varchar(100)
3	product_name		varchar(100)
4	cost		varchar(100)
5	o_price		varchar(100)
6	price		varchar(100)
7	onhand_qty		int(100)
8	qty		int(100)
9	qty_sold		int(100)
10	expiry_date		varchar(100)
11	date_arrival		varchar(100)

12 supplier varchar(100)

13 gen_name varchar(200)

14 profit varchar(100)

15 invoice varchar(100)

FOR PURCHASES

1 transaction_id Primary int(100)

2 invoice_number varchar(100)

3 date varchar(100)

4 suplier varchar(100)

5 remarks varchar(100)

FOR PURCHASE_ITEM

1 id Primary int(100)

2 name varchar(100)

3 qty varchar(100)

4 cost varchar(100)

5 invoice varchar(100)

FOR SALE

1 transaction_id Primary int(100)

2 invoice_number varchar(100)

3 cashier varchar(100)

4 date varchar(100)

5 type varchar(100)

6 amountvarchar(100)

7 due_date varchar(100)

8 name varchar(100)

9 profit varchar(100)

10 balance varchar(100

FOR SALE _ORDER

1 transaction_id PrimaryIndex int(100)

2 invoicevarchar(100)

3 product varchar(100)

4 qty varchar(100)

5 amountvarchar(100)

6 product_code varchar(100)

7 name varchar(100)

8 price varchar(100)

9 discount varchar(100)

10 date varchar(100)

11 profit varchar(100)

12 gen_name varchar(100)

FOR SUPPLIER

1 suplier_id Primary int(11)

2 suplier_name varchar(100)

3 suplier_address varchar(100)

4 suplier_contact varchar(100)

5 contact_person varchar(100)

6 note varchar(500)

FOR USER

1 id Primary int(100)

2	username	varchar(100)
3	password	varchar(100)
4	name	varchar(100)
5	usertype	

CHAPTER 6

Conclusion

6.1 Introduction

A point of sale system can have such a significant impact on your business. By improving productivity and the appropriate POS will give a new degree of control over your operations. However, choosing the incorrect method could be a costly mistake and a constant cause of annoyance. It can be challenging to transition from a manual register of cash to a digital POS system; there are many things to think about and dangers to avoid. However, the benefits to your organization and the return on investment may make the time and effort invested worthwhile. Therefore, it is impossible to overstate the importance of having a computerized Point of Sales system.

6.2 Achievements

A POS system can instantly inform you at any time of the day about any updates that has happened to the system You can maintain the proper stock on hand much more easily if you have detailed sales reports. To more accurately predict your demands be aware on your remaining inventory, identify sales, also use previous data. Frequently, the software will notify you when it is time to place another order. Once they have this information, many business owners who assume they understand exactly how trends affect them often discover a few shocks.

6.3 Suggested plan for Improvements

The recommendations needed and suggested plan are:

• The hardware and software specifications should be followed.

• Employees should be familiar with the fundamentals of using computers.

Installation of the original Visual Basic CD is recommended. On-the-job training is sufficient for staff members to complete full implementation.

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Appendix A Gantt chart

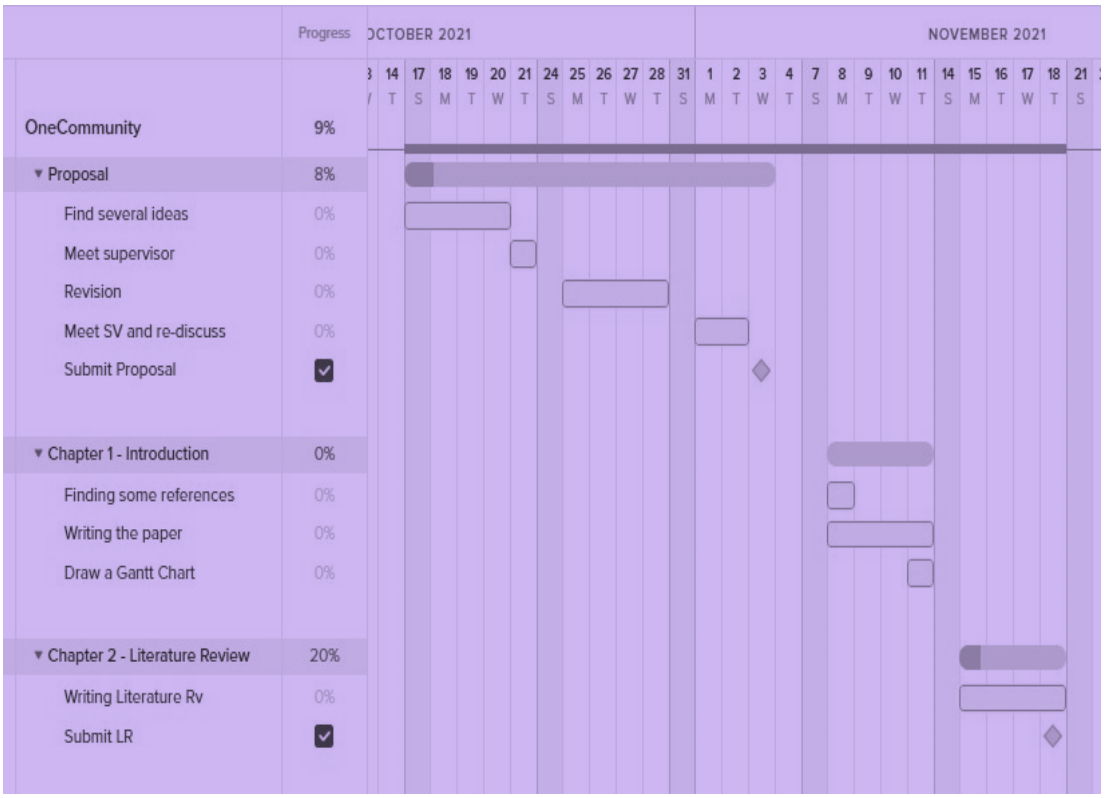

Figure A.1

Appendix B SRS Document

Software Requirements Specification

DEVELOPING A POS Systrem

Version 1.0

23 June 2022

Department Software Engineering

School of Computing

REVISION PAGE

a. Overview

The content of this report is about software requirement specification which is mainly used to ensure that the quality and the system meet the requirements specified for this project which is point of sale.

b. Target Audience

Point of sale system is mainly use on any kind of store or markets by the owner and the employee or the cashier of the store

c. Project Member

This is an individual project is developed by Shaklin hassan mohammedAli

d. Version Control History

Version	**Primary Author(s)**	**Description of Version**	**Date Completed**
Version 1.0	Shaklin Hassan MohammedAli	SRS 1.0 of POS system	23/6/2022

1. Introduction

1.1 Purpose

The purpose of this Software Requirement Specification (SRS) document is to provide the descriptions about the Point of Sale in terms of its functional and non-functional requirements. This document will be applicable in guiding the developers, users and the testing engineers of Point of Sale to ensure that the Point of Sale functionalities and requirements are met.

1.2 Scope

The Point of Sale will be designed in the way that is going to provide a computerized management and control over business taking place within a shop located in certain location.

1.3 Definitions, Acronyms and Abbreviation

Table 1.1 Definition, Acronyms and Abbreviations used in the system

Acronyms	Definitions
SRS	Software Requirements Specification
UML	Unified Modeling Language
UI	User Interface
JS	JavaScript
MVC	Model View Controller
RAM	Random Access Memory

POS	Point of Sale System

1.4 Benefit of Point of sale

Many small shops in less developed countries (with exception to large shops such as supermarkets), the business process is paper work based which not efficient (time consuming process) and inaccurate. The Point of Sale will provide a computerized efficient and accurate way of running the business process in these small shops.

2. Overall Description

This section provides the general use case diagram for the point of sale system, with the three main actors (admin, user and owner).

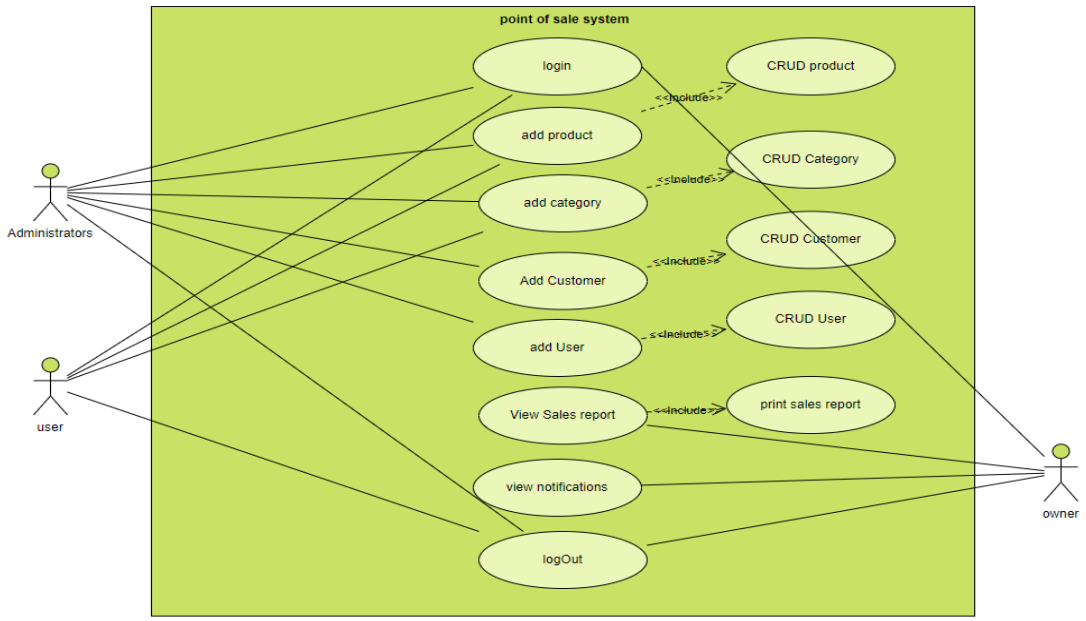

Figure 2.1 Use Case Model

2.1 Product Perspective

The Point of Sale will have two main parts which are;

A database system which will be keeping the records such as item names in the inventory, quantity of items remained in the inventory, buying prices of items, selling prices of items, transaction and sale records as well as records for users of the Point of Sale. This will be the place where all records are stored to and retrieved from it.

End user(s) or cashier who will be running the business in the working environment of Point of Sale.

2.1.1 System features

Functional requirements are those business functions which will be included in this software under development. Functional requirements describe the features of the product and what the system must do so as to fulfill the intended user requirements.

The following are the functional requirements which will be provided by the Point of Sale; -

POS will enable users (employees working at the shop) to be registered into the system by the owner of the shop.

POS will enable the registered users to login and logout the system.

POS will enable administrator to add items in the shop stock with its corresponding buying and selling price per each item added.

POS will enable its users (shop owner and employees) to modify and update changing item names and prices and so on.

POS will enable the shop owner to view day, weekly, monthly, quarterly and annually total sales and the total profit of the corresponding sale.

POS will allow the employees only to view the day sales and the profit made.

POS will provide functionality for both shop owner and employees to print sales at specific time.

POS will allow an employee to update sales by only entering the amount of items sold then the system will automatically provide other mathematical calculations.

POS will be showing the remained quantity of items in the shop's stock.

POS will allow shop owner to remove items which are and will no longer be available within a shop in case of products sold in short period of time and for a specific reason.

POS will allow a shop owner to remove/deregister an employee who is no longer a worker at a shop.

POS will finally allow a shop owner to get notifications.

Non-functional requirements may be simply defines as the properties or constraints a certain system must have.

The following are the non-functional requirements of Point of Sale;-

POS as a web based system will need the internet connection for its operation.

POS will be user friend with good interfaces and simple language

2.1.2 User Interfaces

There will be a Login page where users need to login and if they do not have an account, then admin will register their account in the Register Page. After user Login, they will be redirected to the Main page will show the parts for the user manage the whole POS system.

2.1.3 Software Interfaces

The Firebase will be used to organize and store data of the course, chat and users. ReactJS has been used for the system functionality and interface design.

2.1.4 Communication Interfaces

This web application will be secure since it used firebase authentication and internet communication channels.

2.2 System Features

2.2.1 Module admin

2.2.1.1 UC001

3. Table 3.1: Use Case Description for < login>

Use case id : UC001	Login
BREIF DESCRIPTION	User login to the system
Primary Actors	user
Preconditions	The user username and password must exist in database
userpostconditions	User login

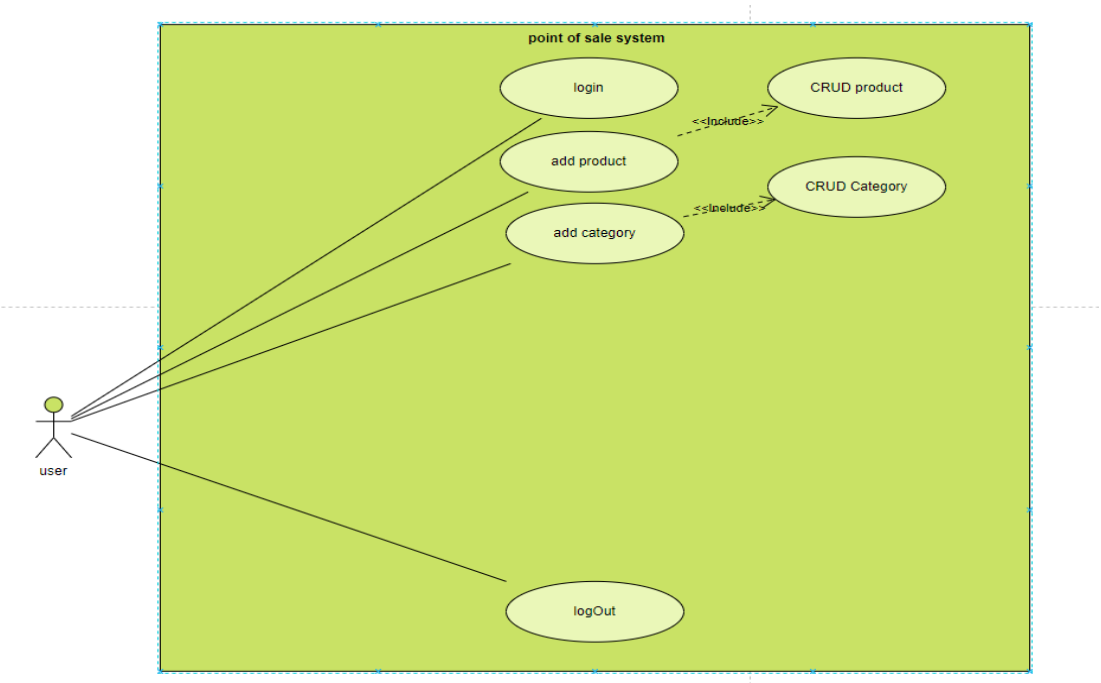

Figure 2.2 use case diagram for use

3.1.1.1 UC002: Use Case add product

Table 2.1 add product Use Case Specification

Use case id : UC002	Add product
BREIF DESCRIPTION	Admin add product to the system
Primary Actors	admin
Preconditions	The admin must log in first
Post conditions	Product will be added
Scenarios	1.Admim click on product icon 2.admin click add product button 3.admin enter product details 4.admin click on add button
Alternative Flow	1.admin edit existing product 2.admin delete existing product

3.1.2 Module user

3.1.2.1 UC003: Use Case login

Table 2.2 login Use Case Specification

Use case id : UC001	Login
BREIF DESCRIPTION	User login to the system
Primary Actors	user

Preconditions	The user username and password must exist in database
Post conditions	User login

3.1.2.2 UC004: Use Case add product

Table 2.3 add product Use Case Specification

Use case id : UC002	Add product
BREIF DESCRIPTION	User add product to the system
Primary Actors	User
Preconditions	The user must log in first
Post conditions	Product will be added
Scenarios	1.user click on product icon 2.user click add product button 3.user enter product details 4.user click on add button
Alternative Flow	1.user edit existing product 2.user delete existing product

3.1.2.3 UC005: Use Case Add category

Table 2.4 add category Use Case Specification

Use case id : UC003	Add category
BREIF DESCRIPTION	User add category to the system
Primary Actors	User
Preconditions	The user must log in first
Post conditions	Category will be added
Scenarios	1.user click on category icon 2.user click add category button 3.user enter category details 4.user click on add button
Alternative Flow	1.user edit existing category 2.user delete existing category

3.1.2.4 UC006: Use Case log out

Table 2.5 logout Use Case Specification

Use case id : UC005	logout

BREIF DESCRIPTION	User logout to the system
Primary Actors	User
Preconditions	-
Post conditions	User logout
Scenarios	1.user select logout icon 2. user will go back to login page
Alternative Flow	User will be logged in

3.1.3 Module owner

3.1.3.1 UC007: Use Case 007: login

Table 2.6 login Use Case Specification

Use case id : UC001	Login
BREIF DESCRIPTION	Owner login to the system
Primary Actors	Owner
Preconditions	The owner username and password must exist in database
Post conditions	Owner login
Scenarios	1.owner enter username and password 2.owner select user type as admin

	3.owner login
Alternative Flow	-