

SWEEKIZ POPCORN MANAGEMENT SYSTEM



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

SWEEKIZ POPCORN MANAGEMENT SYSTEM

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This report is submitted in partial fulfillment of the requirements for the Bachelor of [Computer Science (Database Management)] with Honours.

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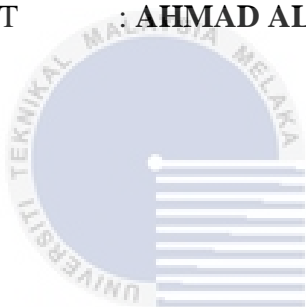
FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2020/2021

DECLARATION

I hereby declare that this project report entitled
SWEEKIZ POPCORN MANAGEMENT SYSTEM
is written by me and is my own effort and that no part has been plagiarized
without citations.

STUDENT : **AHMAD AL-AMIN B AHMAD RAIS** Date : 7 September 2021



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I hereby declare that I have read this project report and found

this project report is sufficient in term of the scope and quality for the award of
Bachelor of [Computer Science (Database Managment)] with Honours.

SUPERVISOR : **TS MR ABDUL RAZAK B HUSSAIN** Date : 7 September 2021

DEDICATION

I would like to dedicate this Final Year Project to my beloved parents, Ahmad Rais B Mohamad and Noridah Bt Mat Dros because always giving me the spirit to keep learning and keep trust me to not give up since I am young until today. Thank you for giving me an opportunity to study until today. Without them, I may not who I am today. I also would like to dedicate this Final Year Project (FYP) to my supervisor Ts. Mr Abdul Razak B Hussain, for his idea, helps, keep motivated me, give efforts tells any mistakes that made by me and endless support to complete this project. I also want to say thank you to my friends and housemates of DT 292 that helped me during the development of this project. I wish all the best to my friend who involved during the Final Year Project with me.



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This system and report were made successfully with the help of the lecturer, friend, and family. Please allow me to express my greatest gratitude to the following significant advisor and contributors. First, I would like to express my sincere thanks to my supervisor which is Ts Mr Abdul Razak B Hussain. He has been my greatest supporter and advisor during the development of this project. He always guide me and encourage to do the best for the development of this system. He always keep motivating me to finish this project. It would not have been possible without his professional guidance, advice, expert, encouragement, and support throughout this Final Year Project (FYP). He has given me the spirit of adventure regarding research and convinced me to do better as always being supportive for me by giving valuable guidance as well as extended encouragement. Next, I also would like to thank my institution, Faculty of Information and Communications Technology (FTMK) in Universiti Teknikal Malaysia Melaka (UTeM) and also the staff UTeM giving me the appropriate and effective information which can help me to complete my project. Besides, I also would like thank to my family especially my father and mother for all the endless moral support, financial support, and idea to complete this project. Last but not least, I also want to thank my friend for their help and time to teach me a lot to finish this project. This project could not be done without help from them.

ABSTRACT

Today everyone in the world, management is essential to keep things running smoothly. A good management structure is essential to building a successful organization. For the Sweekiz Popcorn Management System, a company which produced popcorn have interact with many customers, suppliers and others. So this situation makes more people who coming and going to the company so it gives many impacts and make it not manageable and cannot went smoothly for the company.

Sweekiz Popcorn Management System is a system that allows customers who would like to buy popcorn and customers who interested to generate side income can request to become an agent and admin who need to monitor their sales, manage product in stock and view the requests by the customers. In this system, there are 5 modules to be developed. This report contains the introduction, literature review and project methodology, analysis and design. The methodology used in developing this project is the Database Life Cycle (DBLC). The last chapter in this report is the conclusion that is explained in details after the completion of this system and the better performance for future use.

ABSTRAK

Pada era globalisasi ini, pengurusan amat penting untuk memastikan semua perkara berjalan dengan lancar dan berkesan. Struktur pengurusan yang baik adalah amat penting untuk membina sebuah organisasi yang berjaya. Untuk Sweekiz Popcorn Management System, sebuah syarikat yang mengeluarkan bertih jagung telah berinteraksi dengan ramai pelanggan, pembekal dan lain-lain. Dalam keadaan ini telah menyebabkan pelanggan datang dan pergi kepada syarikat ini dan boleh memberi kesan jika syarikat tidak terurus dengan baik dan lancar.

Sweekiz Popcorn Management System ialah satu system yang membolehkan pelanggan yang berhasrat untuk membeli bertih jagung dan pelanggan yang berhasrat untuk mencari pendapatan sampingan boleh menghantar permohonan untuk menjadi agen dan admin yang perlu memantau jualan, menguruskan produk yang ada dalam stok dan meneliti permohonan yang dihantar oleh pelanggan. Dalam sistem ini, terdapat 5 modul yang akan dibangunkan. Dalam report ini mengandungi pengenalan, menunjukkan kaedan dan merancang, analisis dan reka bentuk. Kaedah yang digunakan dalam membina projek ini ialah Database Life Cycle. Bab terakhir dalam laporan ini ialah kesimpulan yang dijelaskan dalam terperinci selepas penyiapan sistem ini dan prestasi lebih baik untuk kegunaan masa depan.

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LIST OF ABBREVIATIONS

FYP	-	Final Year Project
PSM	-	Projek Sarjana Muda
PHP	-	Hypertext Preprocessor
CSS	-	Cascading Style Sheets
HTML	-	Hypertext Markup Language
SQL	-	Structured Query Language
SDLC	-	Software Development Life Cycle
DBLC	-	Database Life Cycle
ERD	-	Entity relationship diagram

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LIST OF ATTACHMENTS



CHAPTER 1: INTRODUCTION

1.1 Introduction

Today, food business have been expand and many medium had been used to make sure their business growth. Many types of food had been introduced and promoted to make sure that people know their products. As we all know, food is one of the necessary products to consume. There are a lot of food that suitable for breakfast, dinner, lunch or snacks for leisure time included the Sweekiz Popcorn Management System. It is a company that provided products that suitable for any level of ages included kids or adult. Now, we are not only can have popcorn from cinema only, Sweekiz Popcorn also provided a lot of packages that can be bought to eat at home.

Sweekiz Popcorn is a company based in Melaka and has been producing popcorn since 2014. It produces and packages the popcorn in various sizes and packages, targeted for agents and regular customers. It also supplies popcorn for various occasions. Business has been good and the production is getting bigger from year to year. As part of the expansion efforts, Sweekiz is increasing the number of agents and many customers from other states. Currently when the orders are taken over the phone, their details such as deposit amount and date of delivery are monitored. The company will deliver the orders by courier to the agents or customers. This project proposes a solution to ensure that the management is well organized right from order taking until the delivery of the popcorn.

This project propose a solution for the company to ensure high monitoring of the popcorn production and services that are coming and outgoing from the company. The system provides a quick and user-friendly approach for the admin to monitor the

company or the customers that are interested to buy their products. Generally, this system will be developed using web-based technology to ensure the system more structured and systematic. Hypertext Processor (PHP) language will be used to develop the system interface and the database will be using MySQL to store the data.

1.2 Problem Statement

The problem statement is the description of the problem that currently exist and needs to be addressed from the company. Sweekiz Popcorn Management System have several problems which are if a customer want to order popcorn, they need to use the platform of WhatsApps which not so convenient to the company. This is because they didn't have a centralized platform or web application that provide this service. The company also need to calculate their profit at end of the month manually, need to check who the agents under them in particular area and any customer who interested to be an agent need to register manually.

1.3 Objective

- 1) To enable a single view of orders so that the orders initiated by the customer and the updates made by the staff are consistently recorded.
- 2) To facilitate the monitoring of raw materials so that whenever it reaches a minimum threshold level, the staff will be alerted to re-order them.
- 3) To provide recommendation to the management in appointing agents in a particular area based on certain criteria.

1.4 Scope

1.4.1 Module to be developed

a) Login and registration

- customer login and registration

b) Order and view order

- customer can order popcorn
- the amount need to be paid will calculated
- customer can view the order that be made and past order

c) Request to be an agent

- Any customer can request to be an agent
- Request will be review by the admin and confirmation can be seen when the status of the customer had change

d) Generate report of sales and expenses of raw materials

- Admin can view the report of monthly sales and sales for each product
- Admin also can view the sales for each week

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- Admin can view sales agent and area that have agent

- Admin can view expenses for raw materials for each month

e) Give feedback

- Customer can give and see other customers feedback for every product

f) Staff completed orders

- Staff will complete the orders and update the status of the orders.

1.4.2 Target user

System Scope	Explanation
Admin of Sweekiz Popcorn Management System	<ul style="list-style-type: none"> • Admin can view product in stock. Admin also can update the product or delete the product • Admin can view the request made by customer who want to be an agent • Admin can view the total agent in particular area. Admin also can add or decrease the number of people in the particular area. • Admin can generate report of total sales by searching particular date, weekly, monthly and report of raw materials expenses. • Admin also can see the sales made by agent and sales of particular area.
Customer of Sweekiz Popcorn Management System	<ul style="list-style-type: none"> • Customer can sign up as a user to make order for popcorn • Customer can give feedback for each popcorn that they had bought
Agent of Sweekiz Popcorn Management System	<ul style="list-style-type: none"> • Customer who wish to generate side income can request to be an agent • Customer had accepted as agent will get special prices
Staff of Sweekiz Popcorn	<ul style="list-style-type: none"> • Staff can completed orders made by customer and updates the status of the orders • Staff can update the new stock of popcorn • Staff can update the quantity of raw materials in stock

Table 1: Target User

1.5 Project Significance

The system is about providing service for customer to order popcorn, request to be an agent and admin can view the total sales. The target audience are customers who want to buy popcorn from Sweekiz Popcorn. By developing the system, they can order popcorn, make payment and their product will be shipped to them after that. This will ease the admin who before this mostly received and get orders through WhatsApp messages and phone calls. From there, admin can easily monitor their sales from time to time and monitor their product in stock. This systems also allows the customers to give feedback for the product that they had bought.

1.6 Expected Output

- a) **Output 1:** Customer can sign up for an account and login to view, order and buy popcorn through the systems.
- b) **Output 2:** Admin can monitor product in stock and see the total sales monthly and sales for each product.
- c) **Output 3:** Customer who interested to become an agent can send their request and select which area that they want to cover.
- d) **Output 4:** Customer can give feedback for product that they bought.
- e) **Output 5:** Staff can completed the order by updating the status of the order in the system
- f) **Output 6:** Staff can add new stock for raw materials
- g) **Output 7:** Admin can view the report for raw expenses for each month

1.7 Conclusion

In conclusion, the objectives of the system to be develop must be clear in order to solve the problem. Each of the objectives requires different scopes and modules. This chapter is very important to develop a system that is more stable, efficient and more functional to the user to be used. Moreover, the system can be developed easily because the developer will understand all about the system such as problem statement, the objective and expected output of the system. This chapter will help developer a lot to understand what modules should to be develop according to the real data given. Next, we will proceed to the methodology and planning in developing the system.



CHAPTER 2: LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter discussed about the literature review and system methodology. In the literature review there will be the details of the existing system that currently being used, advantages and disadvantages of the system. Then, the database system methodology and planning is the process to obtain requirements, analyze requirements, designing the data structure and the functions in the system and implementing the design to the system. Database Life Cycle (DBLC) method is used as database development methodology to ensure that the system on track.

2.2 Literature review

Current system that use by Sweekiz Popcorn Management System, they mostly use old-school or manual method which are customer need to order though WhatsApp messages and phone calls, admin need to calculate the total sales manually and sometimes the records might lost.

2.3 Project methodology

For Software Development Cycle (SDLC), waterfall model approach is used to develop the system. The stages for the development are requirement gathering and analysis, system design, implementation, integration and testing, deployment of system and maintenance.

a) Requirement gathering and analysis

Requirement is important as it is the benchmark and guidance for developing the system. So, the requirement is collected by spreading survey form to get the requirement from the user. Other than that, the requirement is gathered by doing research on existing system. All the requirements are collected and documented.

b) System Design

From the requirement gathered in the first phase of SDLC, the requirement is studied to prepare system design. The software, tools, and the programming language for developing the system is defined. Other than that, the overall system architecture is defined.

c) Implementation

In the implementation phase, the design from the system design is implemented to the system. The interface and the function from the design phase is applied using decided programming language. In this phase, the physical design is turned into coding process that follows the requirements.

d) Testing

The purpose of testing and evaluation is to search for bugs and errors in the system. The system is tested by doing data transaction such as inserting data and deleting data from database. For the testing, several random users are assigned to detect any error or bug in the system. Then, the bugs and errors found is fixed to make sure the system can run very well.

e) Maintenance

After deployment phase, the maintenance and support is done to make sure the system run smoothly. Any bugs during the system execution will be fix during the maintenance.

2.4 Database development methodology

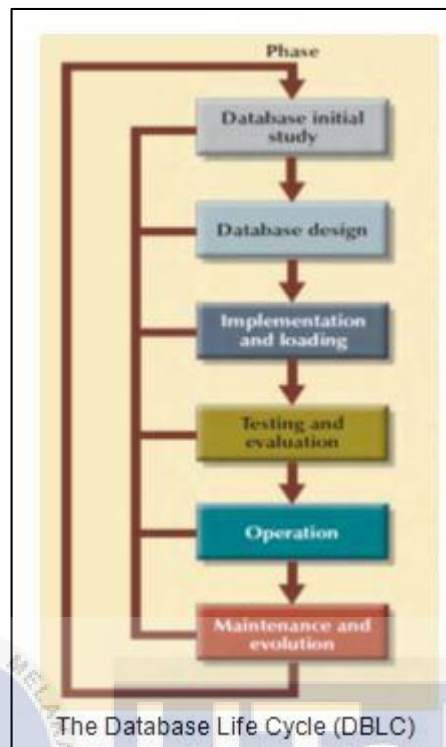


Figure 1: Database Life Cycle (DBLC)

i) Database Initial Study

In this phase, the mission objectives of database project are defined. The mission statement defines the major aims of database application while objective identifies particular task that the database support. Next, the scope and boundaries of database project are defined after that. Knowing these will help in defining the required data structures, the type and number of entities, and others. The information of what the planned system supposed to function for now and in the future also will be gathered in this phase. In this phase, company situation will be analyze and being made and will defines problem and constraints.

ii) Database Design

The second phase focuses on the design of the database model that will support safety inventory operations and objectives. In this phase the conceptual design the logical design and physical design are created and the DBMS software selection is also being prepared. Three phase of database design are conceptual database design, logical database design and physical database design. Conceptual database design is to build the conceptual representation of the database, which has the identification of the important entities, relationship and attributed. Data modeling assist in understanding data and facilitate communication about information requirement. Logical database design converts the conceptual representation to the logical structure of the database, which includes designing the relations. Physical database design decides how the logical structure is to be physically implemented, tailored to specific DBMS.

iii) Implementation and loading

This phase is the physical realization of the database and application design. DDL and DML will be used to implement the database in DBMS.

After the database of the system has been created, the data must be loaded into the database tables. The application is implemented using programming language.

iv) Testing and evaluation

Testing and evaluation is the process of running the system database with intent of to find errors. The database will be tested to ensure that it maintains the integrity and security of the data. This phase demonstrates that database and application program appear to be function and working according to requirements.

v) **Operation**

Once the database had passed the evaluation stage, it is considered to be operational. At that point, the database, its users, its management and its application program constitute a complete information system. In this phase, the required information flows such as all the queries are produced.

vi) **Maintenance and evolution**

For the maintenance and evolution, the database should be maintained from time to time. The required periodic maintenance activities including the preventive and corrective maintenance which is backup and recovery, adaptive maintenance and assignment of access permission for old and new users. In this phase, database administrator must be prepared to perform routine maintenance activities within the database.

2.5 Milestones

Week	Start Date	End Date	Product
Week 1	14/3/2021	19/3/2021	The proposal PSM The proposal Assessment & verification The proposal correction
Week 2	23/3/2021	28/3/2021	Proposal submission to committee Proposal approval
Week 3	29/3/2021	4/4/2021	Proposal presentation & submission at Ulearn

			Chapter 1 (system development begins)
Week 4	5/4/2021	11/4/2021	Report chapter 1 & 2
Week 5	12/4/2021	18/4/2021	Report chapter 1 & 2 correction
Week 6	19/4/2021	25/4/2021	Progress presentation 1 Report chapter 3 & 4
Week 7	26/4/2021	2/5/2021	Report of chapter 3 & 4 corrections
Semester break			
Week 8 & 9	3/5/2021	16/5/2021	Implementation 1 st Project demonstration
Week 10	17/5/2021	23/5/2021	Implementation 2 nd Project demonstration
Week 11 & 12	24/5/2021	4/6/2021	Project demonstration Improvement on system
Week 13 & 14	7/6/2021	18/6/2021	Project demonstration Improvement on system
Week 15	21/6/2021	25/6/2021	Final demonstration Schedule presentation

Week 16	28/6/2021	2/7/2021	Final presentation to supervisor & evaluator QnA session Submission report PSM 1& logbook
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Table 2: Milestones



2.6 Gantt chart

Work/Progress	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	
1) Proposal PSM																	
2) Proposal submission to committee																	
3) Proposal presentation and submission at Ulearn																	
4) Report chapter 1 & 2																	
5) Progress presentation 1 & report chapter 3 & 4																	
6) Implementation 1 & project demo																	
7) Implementation 2 & project demo																	
8) Project demo and improvement																	
9) Final demo and schedule presentation																	
10) Final presentation to supervisor & evaluator																	

CHAPTER 3: ANALYSIS

3.1 Introduction

The analysis stage involves the critical evaluation of the database development planning carried out beforehand. In this stage, the developer will assesses the plan of the database development against the element like cost, time-period, development platform, programming languages and forecasted development results to analyze the effectiveness associated with the planned database system. This phase involves the analyzing the current system of the company and the system to be developed.

3.2 Problem Analysis

3.2.1 Current Sweekiz Management System

Based on the selected current system, there are common flow for the users to use the system. The customers' need to order first the product that they want. Then, after view their order, customer can proceed for payment. Next, the system will view and updates the orders for the customer.



Figure 2: Workflow of current system

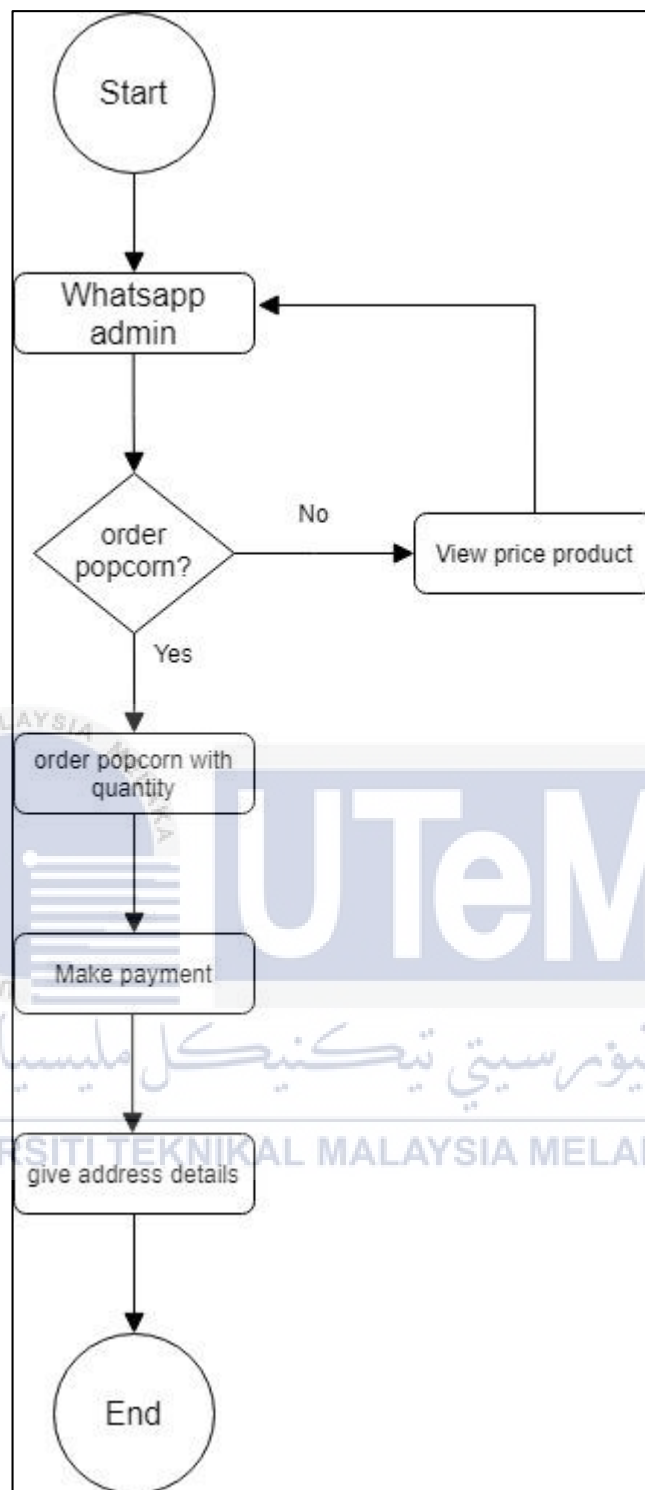


Figure 3: Flowchart of previous system use by Sweekiz Popcorn Management System

3.2.2 Problems of current system

One of the problem in the current system are, customers who want to buy popcorn make their orders over phone calls and WhatsApp messages. These orders always have specific descriptions and sometimes cancellations. Order taking in this manner is hard to keep track. Sometimes, the order might be missed.

Other than that, there is no specification for customer who want to become an agent. The company also receives many requests from individuals who want to become Sweekiz's agent. Sometimes there are too many agents in a particular area and this may lead to unhealthy competition among them. The management have difficulty on how to appoint agents in certain areas.

3.3 Proposed solutions

New system will improve some functionality in the system. Customer can order how many popcorn that they want and updates shipping address for delivery. Customer also can proceed payment after checkout. Customer who want to generate side income by become an agent, customer can make request in which area they want to be an agent. Admin will update if the customer eligible to become an agent. Orders will be completed by staff and status of orders will updated by staff.

3.3.1 Functional requirement (Process Model)

Functional requirement describes the service of the application. Other than that, it also defines the component of the system. The functional requirement in the system are:

1) Manage agent in certain areas

Admin can view and update request that made by customer who interested to become an agent. If a customer eligible to become an agent, they will get discount price or special price. Admin also can monitor how many agent in an area and see sales performance in that particular area.

2) **Generate report of sales**

Admin can view total sales that being made in that month. Admin can see how many sales that had been made by each product. Admin also can search total sales from certain date until certain date. Admin can print the sales for analysis or documented later. Admin also can see the orders from week to week.

3) **Give feedback**

Customer who wish to buy popcorn can view feedback that been made by other customer. They can view the feedback before made an order. Customer who also already buy popcorn who wish to give feedback also can add their feedback using their account.

4) **Add to cart**

Customer can add their product into cart before proceed to checkout. The system will calculate estimated receipt that being made by the customer. They can update the cart if they want to add or reduce product in the cart.

5) **Print receipt**

Customer can view their past order in the system. They also can print the receipt for further process or if there any problem with their order.

6) **Keep track of orders**

Customer can keep track of their order. By default, once the customer made the order, it will update the status as “Order Received”. Then, once the admin already shipped out the order or order completed, customer can see the status in the system.

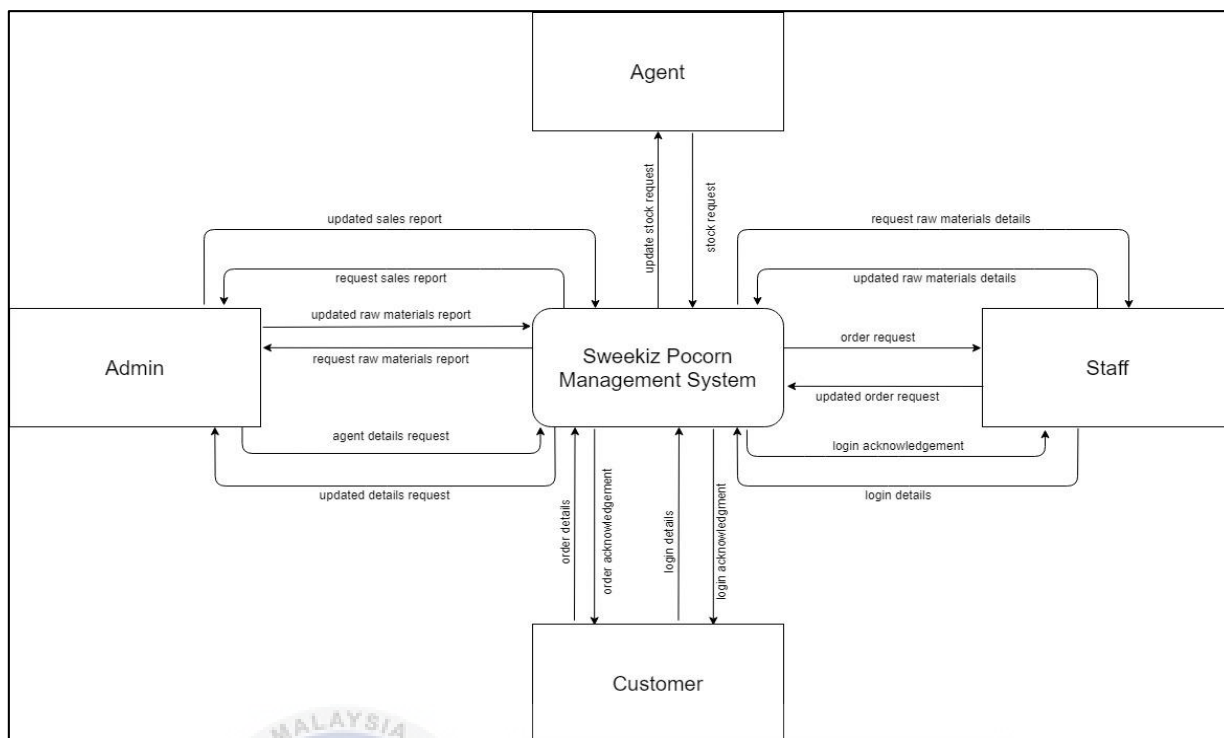


Figure 4: Context diagram

Figure 4 shows the context diagram in the proposed system. There are three users which are customer, admin and staff.

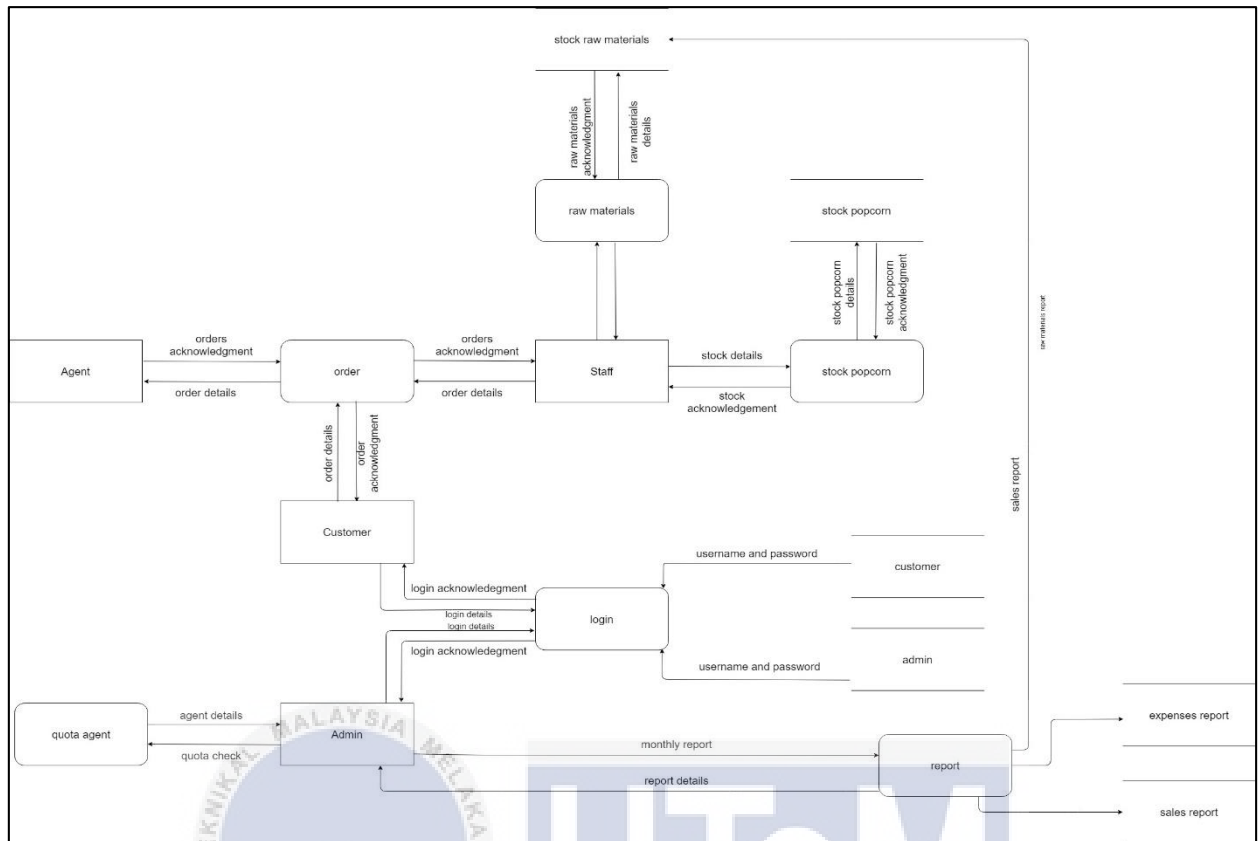


Figure 5: Data flow diagram

The figure 5 shows the data flow in the proposed system. The customer can register into the system by providing data in the registration process. Then, customer can proceed to order or view product in the system. Once customer already add to cart, customer can proceed to checkout by fill up the form and order will be succeed. Next, admin can view order that being made by customer. Then, staff will proceed with the order and then staff will updates the status of the order. Admin also can view order, generate report of sales by month or search by date. Customer who wish to become an agent can send request and will be review by the admin. Admin will check the request with the quota available. When succeed, admin will update the status succeed and status of customer will change to “Agent”.

3.3.2 Non-functional requirement

The non-functional requirements are referring to the quality attributes of the system. Some of the non-functional requirement for the system are:

1) Reliability

Reliability is the quality of being trustworthy or performing consistently well. The system can provide services for the customer and admin efficiently by providing accurate process of order, generate report and calculate sales of popcorn.

2) Functional stability

Every function in the system is completely developed and stable. The customer can order, add to cart and make payment to complete the order successfully. The customer also can view the past order and admin can process the order efficiently.

3) Integrity

Every user will have their primary key to differentiate from another user. Other than that, the user can only insert specific data in the specific field. For example, the user is restricted to insert phone number in the phone number field, not their address.

4) Efficiency

Every order that being made by customer will be view by admin immediately. Admin can proceed the order as soon as customer made their payment.

5) Learnability

The customer and admin user interface are user friendly and easy to use which every component in the system is direct, straight forward and easy to understand. For example, every button in the system has their own label to show its function.

3.3.3 Other requirements

Software and hardware requirements are important in developing the system. It is to ensure that the process of development the system to be smooth and efficient.

Software requirement

1) Documentation

- **Draw.io**

Draw.io is online diagram software. It can be used to draw diagram such as flowchart, UML diagram, entity relationship diagram and more.

- **Microsoft Office 365**

Office 365 is a version of Office that's available Office 365. This product contains Access, Excel, OneNote, Outlook, PowerPoint, Publisher, and Skype for Business and Word. Microsoft Word is a word processor software that used in this project for documentation purpose.

2) Programming tool

- **Adobe Dreamweaver**

Adobe Dreamweaver is an application web designers and developers use to create websites and applications for use across multiple targets including browsers, devices and tablets. It is a freeware source-code editor for Windows, Linux, and macOS. Dreamweaver CS6 features an intuitive, user-friendly design that boasts enhanced jQuery Mobile support as well as program integration with other Adobe-based products such as Adobe PhoneGap and Adobe Business Catalyst. It ease and efficient to use, able to view html pages during the design process and consistent on the looking web pages.

3) Programming language

- **PHP**

PHP is a server side scripting language. That is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages. PHP is open source and free. PHP has in built support for working hand in hand with MySQL; this doesn't mean you can't use PHP with other database management systems. You can still use PHP with Postgres, Oracle, MSSQL Server, ODBC and etc. PHP is cross platform this means you can deploy your application on a number of different operating systems such as windows, Linux, Mac OS etc.

- **HTML**

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript and PHP.

- **CSS**

Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

4) DBMS

- **MySQL**

MySQL is a relational database management system based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. The application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications. Its primary functions are to

store data securely and return that data in response to requests from other software applications.

3.4 Conclusion

For the conclusion, analysis is very important part in the process of development of the system. It defines the requirement such as functional requirement and non-functional requirement. By doing analysis phase, the software required to develop the system can be planned. Hence, after completing the analysis, the next phase is design phase.



CHAPTER 4: DESIGN

4.1 Introduction

This chapter will summarize the design phase which is concerned with the physical construction of the system. Design is one of the processes of defining the elements of the system. For example, modules and interfaces are part of the system that involve in the design phase. Furthermore, design is the continuation from the requirements analysis, which the design must meet the requirements and needs from the requirements analysis.

4.2 Architecture view of the system

Software architecture depicts the structure of the system while providing how the system behaves. Three-tier architecture is one of the software architectures that composes an application into presentation tier, application tier, and data tier.

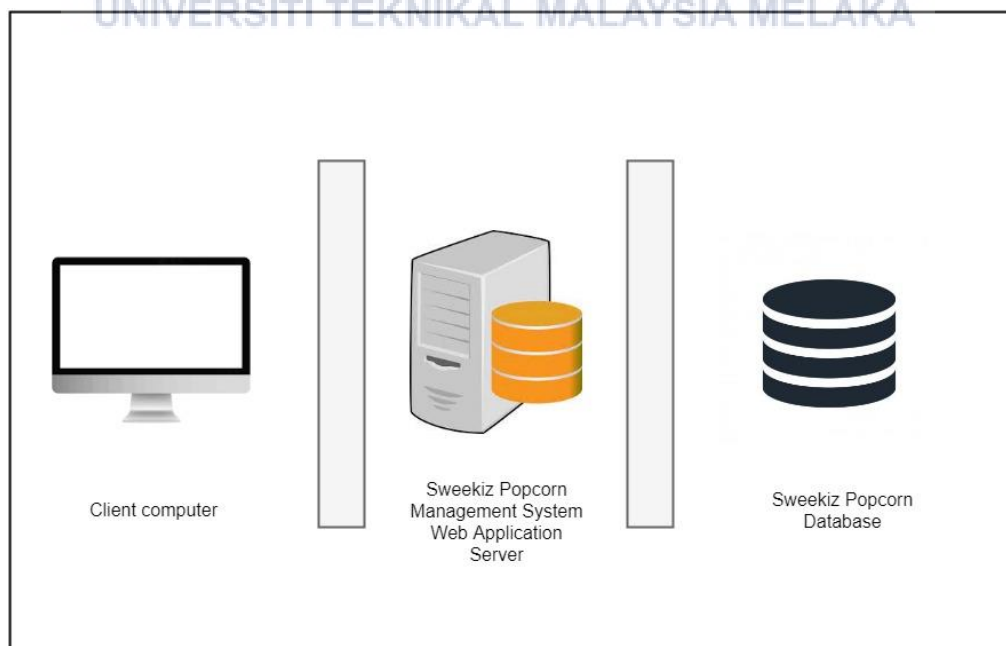


Figure 6: Architecture view of Sweekiz Popcorn Management System

In the Sweekiz Popcorn Management System, the client computer represents the presentation tier of the system architecture. In this tier, the purpose is to display and collect information from the user through the interface of the system that usually runs in the browser. The web application is developed using HTML, CSS and JavaScript.

Next, Sweekiz Popcorn Management System represents the application tier. It is written in programming language of PHP and JavaScript and also contains the business logic that supports the application's core functions.

Then, the database tier is the part where consists of the data and information that being processed is stored and managed. The relational database management system used is MySQL.

4.3 Database design

Database design is the process of designing, creating, implementing, and maintaining business data management system. It consists three parts of database design which are conceptual design, logical design and physical design.

4.3.1 Conceptual Design

Conceptual design phase is to build a conceptual model based upon the previously identified requirements but closer to the final physical model. It defines on how different entities related to each other and describes the attributes in each of the entities. The result of conceptual database design is Entity Relationship Diagram (**ERD**).

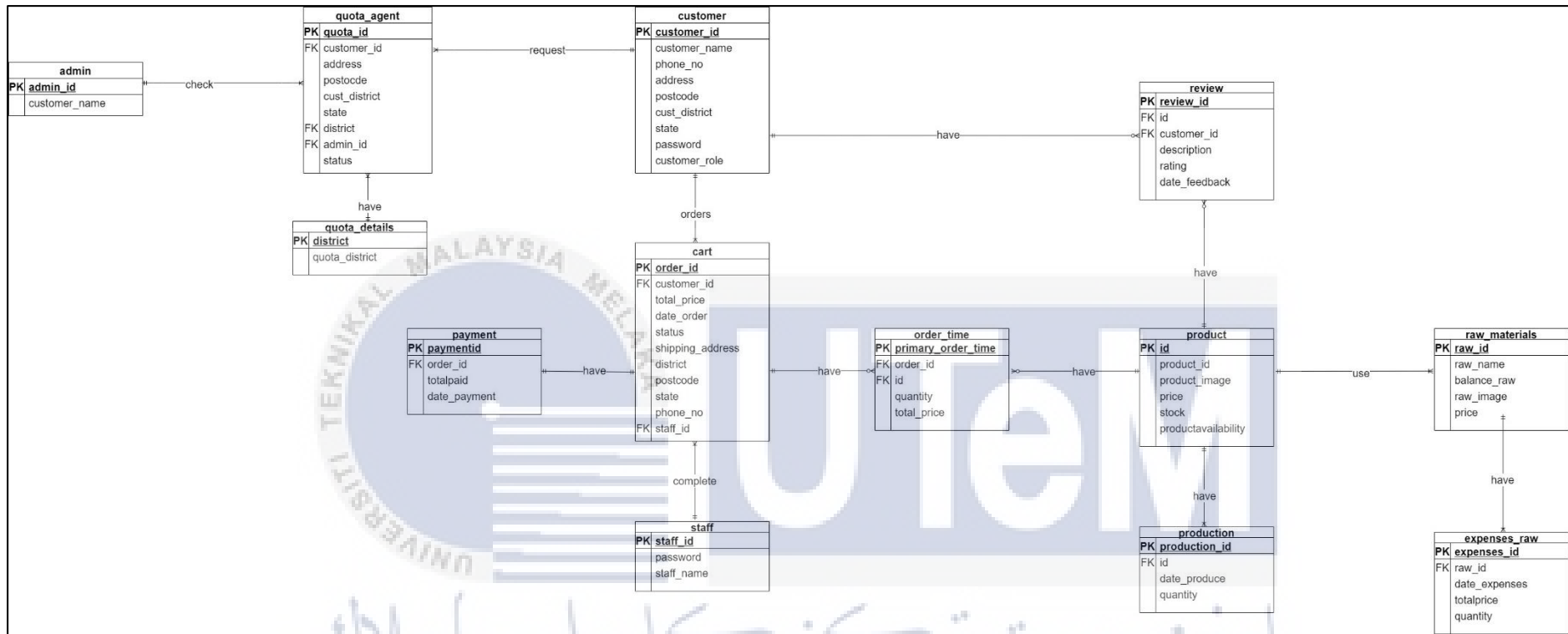
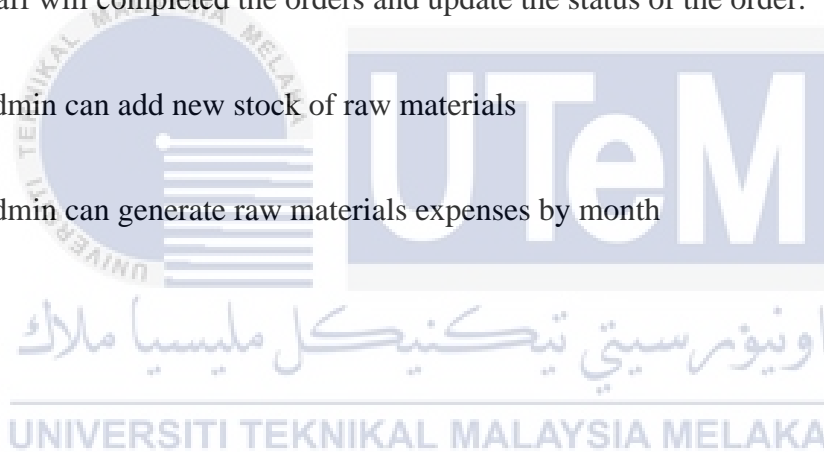


Figure 7: ERD

ERD: All table are in 3rd normal form.

Business rule:

- Customer can order, add to cart and proceed to checkout.
- Customer can give review or feedback on each product.
- Customer can request to be an agent.
- Admin can generate sales report by search certain date to certain date or see sales monthly and from week to week.
- Admin can review and update request agent of customer.
- Staff will completed the orders and update the status of the order.
- Admin can add new stock of raw materials
- Admin can generate raw materials expenses by month



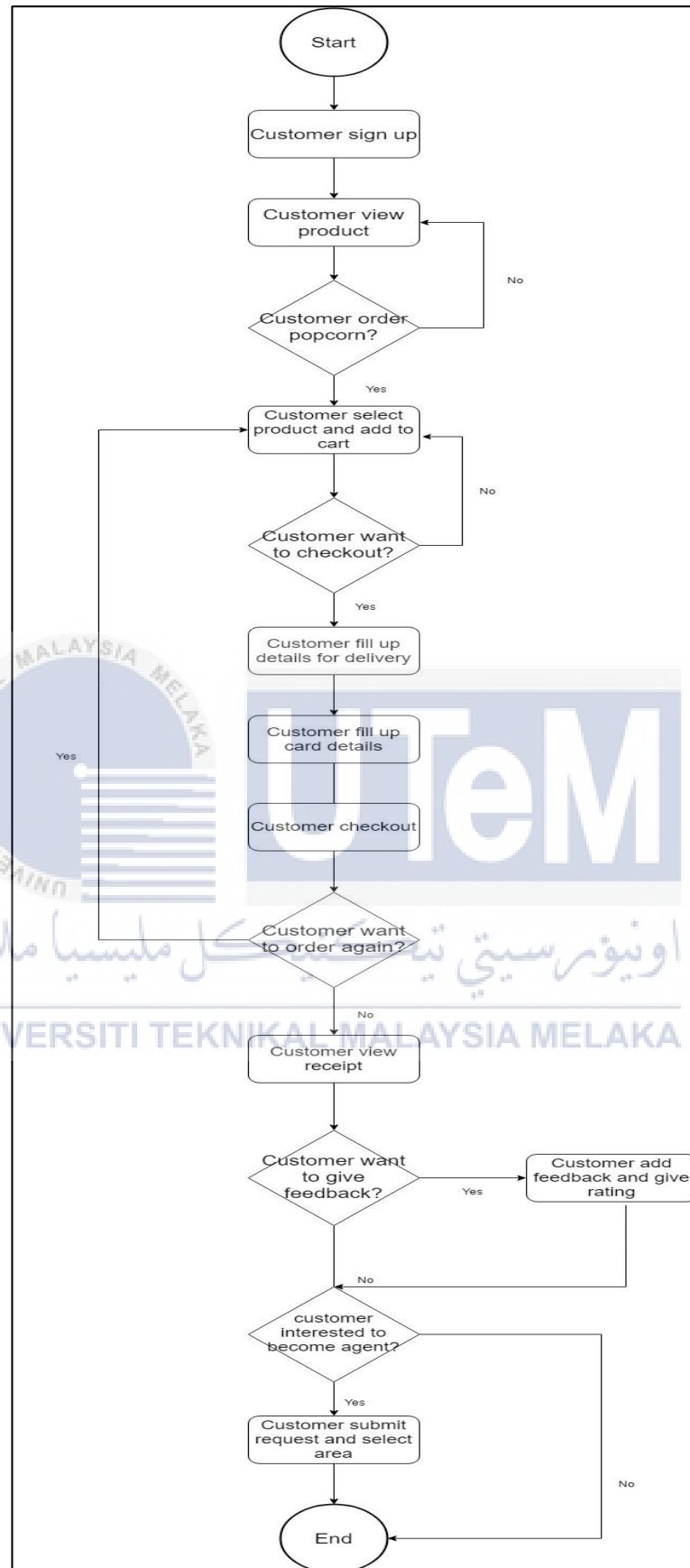


Figure 8: Flowchart for customer

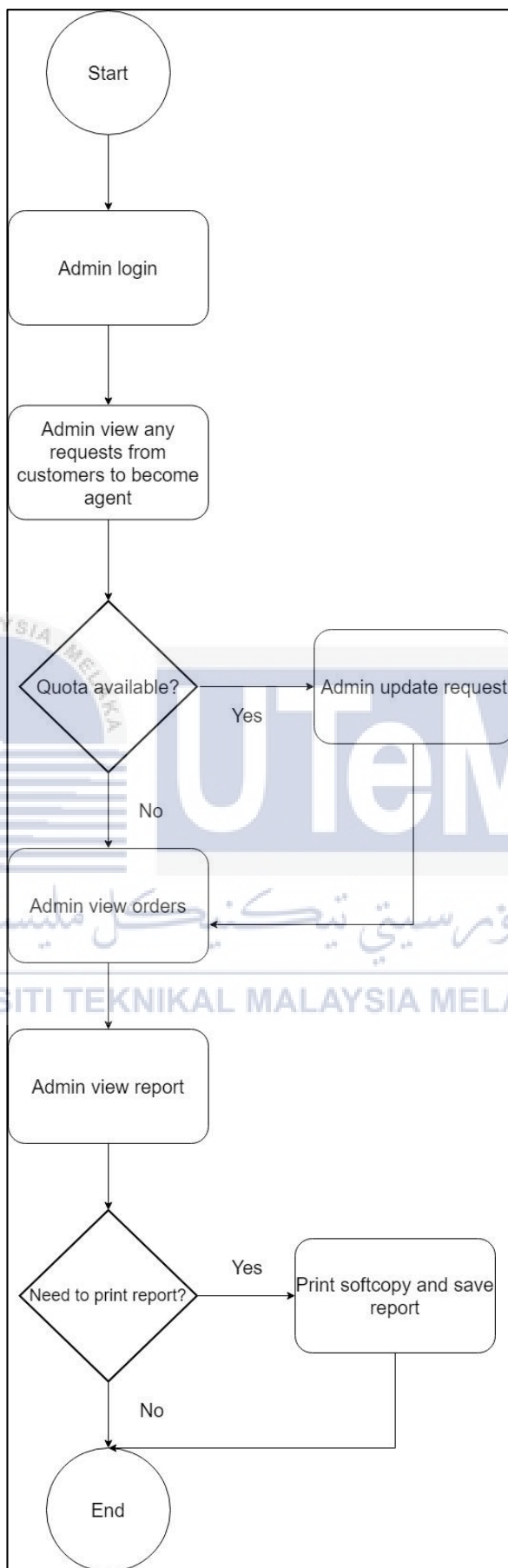


Figure 9: Flowchart for admin

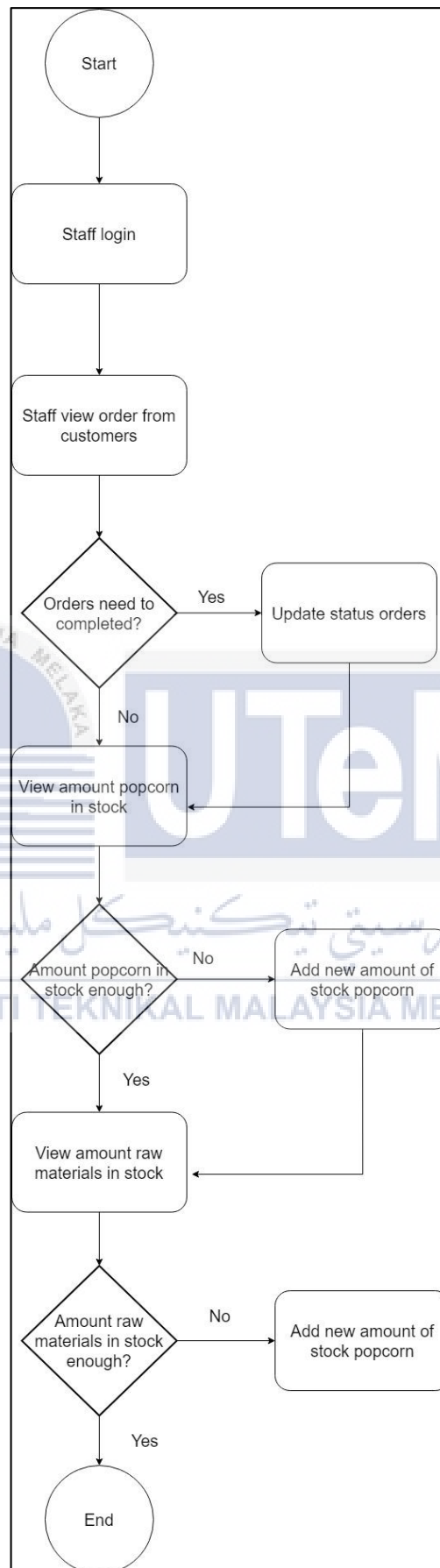


Figure 10: Flowchart for staff

4.3.2 Logical Design

The process of deciding the logical data structures needed to support information resources within an organization is known as logical database design. The logical design process aids in the implementation of a database that meets the needs and requirements. Hence, the product of logical design is data dictionary and the query to be used in the system.

a) Data dictionary

Key	Attribute	Data type and size	Description	FK reference table
PK	admin_id	Varchar(20)	Admin Id	
	password	Varchar(10)	Password for login	

Table 3: Table admin

Key	Attribute	Data type and size	Description	FK reference table
PK	quota_id	int(11)	Quota Id	
FK	Customer_id	Varchar(20)	Customer id	Table customer
FK	district	Varchar(50)	District that request	Table quota details
	Cust_district	Varchar(30)	District address for customer	
	Address	Varchar(80)	Address of customer	
	Postcode	Varchar(10)	Postcode of address customer	
	state	Varchar(20)	State of address customer	
	Status	Varchar(30)	Status of request	
FK	Admin_id	Varchar(20)	Admin id	Admin

Table 4: Table quota_agent

Key	Attribute	Data type and size	Description	FK reference table
PK	district	Varchar(50)	District for area	
	Quota_district	Varchar(20)	Quota of each district	

Table 5: Table quota_details

Key	Attribute	Data type and size	Description	FK reference table
PK	Customer_id	Varchar(20)	Customer id (based on ic number)	
	Customer_name	Varchar(50)	Customer name	
	Phone_no	Varchar(20)	Phone no	
	Address	Varchar(100)	Address for customer	
	Postcode	Varchar(10)	Postcode for address	
	Cust_district	Varchar(30)	District of address customer	
	State	Varchar(20)	State of address	
	password	Varchar(20)	Password for customer	
	Customer_role	Varchar(10)	Role which are customer or address	

Table 6: Table customer

Key	Attribute	Data type and size	Description	FK reference table
PK	Order_id	Int(11)	Id for each order	
FK	Customer_id	Varchar(20)	Customer id (based on ic number)	Customer
	Date_order	Date	Date order	
	Date_completed	Date	Date order completed	
	Status	Varchar(20)	Status of order	
	Shipping_address	Varchar(100)	Address for shipping address	
	Phone_no	Varchar(20)	Phone no customer	
	district	Varchar(30)	District of address	
	State	Varchar(30)	State of address	
	Postcode	Varchar(10)	Postcode of address	
FK	Staff_id	Varchar(20)	Staff id	Staff

Table 7: Table cart

Key	Attribute	Data type and size	Description	FK reference table
PK	Paymentid	Int(20)	Id for each payment	
FK	Order_id	Int(11)	Id for each order	Table cart
	Totalpaid	Decimal(20,2)	Amount that being paid	
	Date_payment	Date	Date of payment	

Table 8: Table payment

Key	Attribute	Data type and size	Description	FK reference table
PK	Primary_order_time	int(11)	Id for each order	
	order_id	int(11)	Id for each order	Table cart
	id	int(11)	Id of each product	Table product
	quantity	varchar(20)	Quantity of popcorn	
	total_price	Double(20,2)	Total price of each product	

Table 9: Table order_time

Key	Attribute	Data type and size	Description	FK reference table
PK	Id	Int(11)	Id for each product	
	Product_id	Varchar(20)	Product name for each product	
	Product_image	Longblob	Image of product	
	Price	Double(10,2)	Price for each product	
	Stock	Varchar(10)	Stock of product that available	
	Productavailability	Varchar(20)	Availability of product	

Table 10: Table product

Key	Attribute	Data type and size	Description	FK reference table
PK	Review_id	Int(10)	Id for each review	
FK	Id	Int(11)	Id of product	Product
FK	Customer_id	Varchar(20)	Customer id	customer
	Description	Varchar(255)	Review of product	
	Review_image	Longblob	Image upload for review by customer	
	Rating	Double(5,2)	Rating given by customer	

Table 11: Table review

Key	Attribute	Data type and size	Description	FK reference table
PK	Raw_id	Int(100)	Id for each raw materials	
	Raw_name	Varchar(20)	Name of raw materials	
	Balance_raw	Varchar(20)	Balance of each raw materials	
	Price	Double(20,2)	Price	
	Raw_image	Longblob	Image of raw materials	

Table 12: Table raw_materials

Key	Attribute	Data type and size	Description	FK reference table
PK	Expenses_id	Int(11)	Id for each expenses of raw materials	
FK	Raw_id	Int(100)	Id of raw materials	
	Date_expenses	Date	Date of expenses made	
	totalprice	float(20,2)	Total price of raw materials	
	Quantity	Int(11)	Quantity of raw materials added	

Table 13: Table expenses_raw

Key	Attribute	Data type and size	Description	FK reference table
PK	Staff_id	Varchar(20)	Staff id for staff	
	Password	Varchar(10)	Password	
	Staff_name	Varchar(30)	Name for staff	

Table 14: Table staff

Key	Attribute	Data type and size	Description	FK reference table
PK	Production_id	Int(11)	Id for production	
FK	Id	Int(11)	Id for product	product
	Date_produce	Date	Date production	
	Quantity	Varchar(20)	Quantity of production	

Table 15: Table production

Physical Design

Physical design is the process of translating logical design into the actual database structure. For example, the entities to tables and attributes to column. MySQL is the database management system chosen for the Sweekiz Popcorn Management System.

4.4 Data definition language (DDL)

1) Table admin

```
CREATE TABLE admin (  
  
admin_id          varchar(20)          NOT NULL,  
  
password          varchar(10)          NOT NULL,  
  
PRIMARY KEY (admin_id));
```


2) Table quota_agent

```

CREATE TABLE quota_agent (

quota_id          int(11)          NOT NULL,

customer_id      varchar(20)

district         varchar(50)

cust_district    varchar(30)          NOT NULL,

address         varchar(80)          NOT NULL,

postcode        varchar(10)          NOT NULL,

state           varchar(20)          NOT NULL,

status          varchar(30)          NOT NULL,

PRIMARY KEY (quota_id),

FOREIGN KEY (customer_id) REFERENCES customer (customer_id),

FOREIGN KEY (district) REFERENCES quota_details (district));

```

3) Table quota_details

```

CREATE TABLE quota_details (

District         varchar(50)          NOT NULL,

Quota_district  varchar(20)          NOT NULL,

PRIMARY KEY (district));

```

4) Table customer

```
CREATE TABLE customer (  
  
customer_id          varchar (20)      NOT NULL,  
  
Customer_name       varchar (50)      NOT NULL,  
  
Phone_no            varchar (20)      NOT NULL,  
  
Address             varchar (100)     NOT NULL,  
  
Postcode            varchar(10)       NOT NULL,  
  
Cust_district       varchar (30)      NOT NULL,  
  
State               varchar (20)      NOT NULL,  
  
Password            varchar (20)      NOT NULL,  
  
Customer_role       varchar (10)       NOT NULL,  
  
PRIMARY KEY (customer_id));
```

5) Table cart

```

CREATE TABLE cart (

Order_id            int(11)            NOT NULL,

Customer_id        varchar(20),

Date_order         date            NOT NULL,

Date_completed     date            NOT NULL,

Status             varchar(20)     NOT NULL,

Shipping_address   varchar(100)     NOT NULL,

Phone_no          varchar(20)     NOT NULL,

District          varchar(30)     NOT NULL,

State             varchar(30)     NOT NULL,

Postcode          varchar(10)     NOT NULL,

Staff

PRIMARY KEY (order_id),

FOREIGN KEY (customer_id) REFERENCES customer (customer_id)

FOREIGN KEY (staff_id) REFERENCES staff (staff_id));

```

6) Table payment

```

CREATE TABLE payment (
    Paymentid          int(20)          NOT NULL,
    Order_id           int(11),
    Totalpaid          decimal(20,2)     NOT NULL,
    Date_payment       date              NOT NULL,
    PRIMARY KEY (paymentid),

```

7) Table order_time

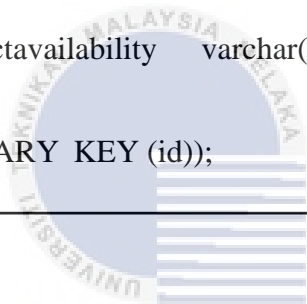
```

CREATE TABLE order_time (
    Primary_order_time int(11)          NOT NULL,
    Order_id           int(11),
    Id,                int(11),
    Total_price        double(20,2)     NOT NULL,
    PRIMARY KEY (primary_order_time),
    FOREIGN KEY (order_id) REFERENCES cart (order_id),
    FOREIGN KEY (id) REFERENCES product (id));

```

8) Table product

```
CREATE TABLE product (  
  
  Id          int(11)    NOT NULL,  
  
  Product_id  varchar(20)  NOT NULL,  
  
  Product_image  longblob    NOT NULL,  
  
  Price       double(10,2) NOT NULL,  
  
  Stock       varchar(10)  NOT NULL,  
  
  Productavailability  varchar(20)  NOT NULL,  
  
  PRIMARY KEY (id));
```



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9) Table review

```

CREATE TABLE review (
Review_id          int(10)          NOT NULL,
Id                 int(11),
Customer_id        varchar(20),
Description         varchar(255)      NOT NULL,
Review_image       longblob        NOT NULL,
PRIMARY KEY (review_id),
FOREIGN KEY (id) REFERENCES product (id),
FOREIGN KEY (customer_id) REFERENCES customer (customer_id)

```

10) Table raw_materials

```

CREATE TABLE raw_materials (
Raw_id            int(100)          NOT NULL,
Raw_name          varchar(20)       NOT NULL,
Balance_raw       varchar(20)       NOT NULL,
Price             varchar(20)       NOT NULL,
Raw_image         longblob          NOT NULL,
PRIMARY KEY (raw_id);

```

11) Table staff

```

CREATE TABLE staff (
Staff_id          varchar(20)      NOT NULL,
Password          varchar(10)     NOT NULL,
Staff_name        varchar(30)     NOT NULL,
PRIMARY KEY (staff_id));

```

12) Table production

```

CREATE TABLE production (
Production_id     int(11)          NOT NULL,
Id                int(11),
Date_produce     date             NOT NULL,
Quantity          varchar(20)     NOT NULL,
PRIMARY KEY (production_id),
FOREIGN KEY (id) REFERENCES product (id));

```

13) Table expenses_raw

```

CREATE TABLE expenses_raw (
Expenses_id      int(11)          NOT NULL,
Raw_id           int(100),
Date_expenses    date             NOT NULL,
Totalprice       float(20,20)     NOT NULL,
Quantity         int(11)          NOT NULL,
PRIMARY KEY (expenses_id),
FOREIGN KEY (raw_id) raw_materials REFERENCES (raw_id));

```

4.5 Trigger, stored procedure and view

1) Trigger

Type of trigger	Implemented in table	Use of trigger
Before insert	Customer	To notice data that key in by user, if the data in lower case it will auto change to upper case. So the data will looks better in database.

2) Stored procedure

Type of procedures	Implemented in table	Use of procedure
Stored procedure (DML)	Customer join Cart join order_time join product	For viewing data from table
Stored procedure (DML)	Quota_agent	For viewing data from table

3) View

Implemented in table	Use of view
Payment	To view the total amount of sales and total orders monthly
Payment	To view the total amount of sales and total orders weekly

Raw_expenses	To view the total amount spend for expenses and the total quantity to buy raw materials montly
--------------	--

4.6 Graphical user interface (GUI) design

Customer

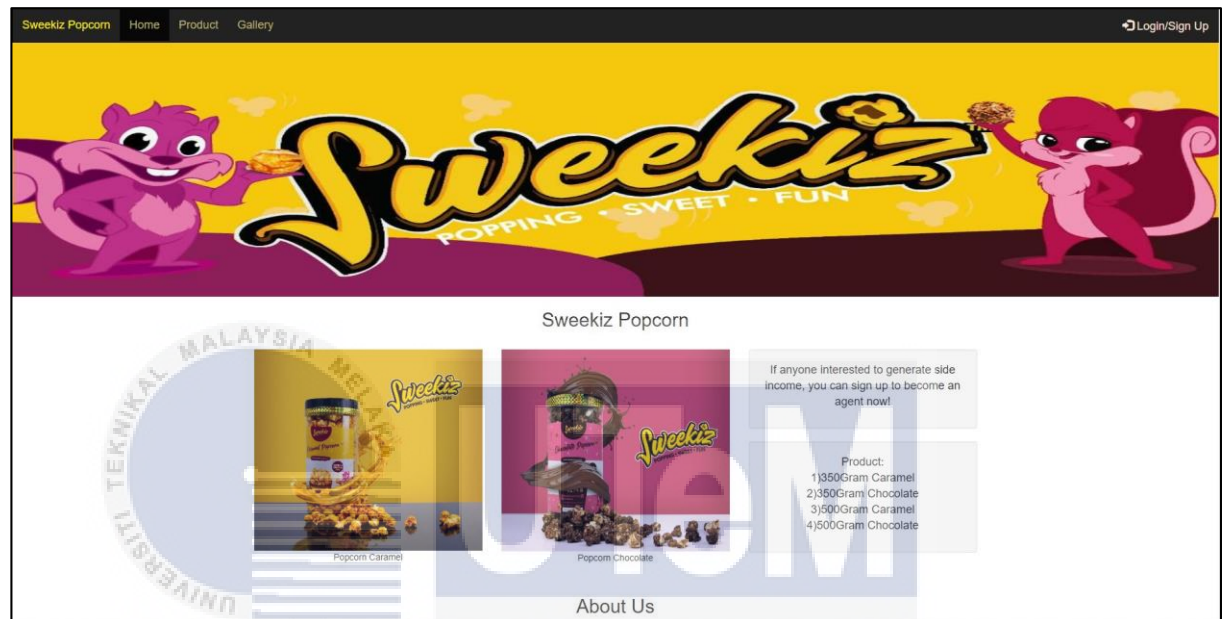


Figure 11: Main page of system

This is the main page of the system. There are details of product that Sweekiz Popcorn sell for customer. User who interested to buy need to sign up for an account first before can proceed with order.

Packages That We Provided

Popcorn Caramel (350G)
RM18
Mencari kudapan untuk masa lapang? Cubalah Popcorn Caramel 350Gram ini!

Popcorn Chocolate (350G)
RM20
Ingin mencuba popcorn perisa baharu? Cubalah popcorn chocolate ini sekarang!

Popcorn Caramel (500G)
RM19
Sesuai untuk dinikmati bersama-sama ahli keluarga!

Popcorn Chocolate (500G)
RM25
350Gram mungkin tidak cukup. Beliiah popcorn chocolate 500Gram ini sekarang!

Customer Feedback

Customer Name	Your Thought	Product
Ahmad Al-Amin	Sedap sangat-sangat! recommended!	350Gram (Caramel)
Hariz	berbaloi sangat-sangat!	350Gram (Caramel)
Hariz	Membuatkan pembelian	500Gram (Caramel)

Figure 12: Product and customer feedback

This is the page of product with details each of it. There also feedback of customers for every product.

Gallery

Figure 13: Gallery of product

This is the page of gallery of product by Sweekiz Popcorn Management System.

Welcome to Sweekiz Popcorn!

Sign In

Ic Number

password

Login

Don't have an account! Sign Up Here

Home

Figure 14: Login page for customer

This is the login page for customer. Customer who didn't have any account yet can click on "sign up here" to register.

Sweekiz Popcorn Home Order Product Feedback Request To Be Agent? Profile Logout

Welcome AHMAD AL-AMIN B AHMAD RAIS

Customer Role: Customer

3 order
is being prepare

2 order
has been send

0 order
has being shipped out

6 order
has been completed

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Figure 15: Main page of customer

This is the main page of customer. Here customer can see the status of their order that display on the right. There also display the customer role which either the customer is an agent or not.

Sweekiz Popcorn Home Order Product Feedback Request To Be Agent? Profile Logout

Place Order

Order your popcorn here!

Order Popcorn





Product Image	Product Name	Item Price/Piece	Quantity In Stock	
	350Gram (Caramel)	RM 18.00	945	Quantity <input type="text" value="1"/> <input type="button" value="ADD"/>
	350Gram (Chocolate)	RM 20.00	960	Quantity <input type="text" value="1"/> <input type="button" value="ADD"/>
	500Gram (Caramel)	RM 19.00	1215	Quantity <input type="text" value="1"/> <input type="button" value="ADD"/>
	500Gram (Chocolate)	RM 25.00	1070	Quantity <input type="text" value="1"/> <input type="button" value="ADD"/>

Figure 16: Page to order

This is the page for customer to order. There also information about the amount of availability of popcorn in stock.

LIST OF ORDER CLEAR

Estimated Receipt

Remove	Item Name	Quantity	Price
Remove	350Gram (Caramel)	<input type="text" value="1"/>	RM 198
Remove	350Gram (Chocolate)	<input type="text" value="10"/>	RM 200
Remove	500Gram (Caramel)	<input type="text" value="10"/>	RM 190
Remove	500Gram (Chocolate)	<input type="text" value="10"/>	RM 250
Total			RM 838

Figure 17: Table of add to cart

Here is the table list of order. There will be estimated price of total product that had been added before checkout.

Figure 18: Page of checkout customer

Here is the page of checkout customer. Customer need to fill up the address where the product need to ship.

Figure 19: Payment getaways

Here, customer need to fill up card details for the payment.

Sweekiz Popcorn **TEST MODE**

Sweekiz Popcorn
MYR 50.00

Powered by [stripe](#) | [Terms](#) | [Privacy](#)

Pay with card

Email
ahmadalamin@gmail.com

Card information
4242 4242 4242 4242 VISA
10 / 22 201

Name on card
Ahmad Al-Amin

Country or region
Malaysia

Processing...

Figure 20: Payment is being processed.

After user fill up the card details, the payment will be processed and once finished, user will be redirect to the past orders page. The latest order will be on top in the table.

Sweekiz Popcorn Home Order- Product Feedback Request To Be Agent?- Profile Logout

Past Order

Date Order	Details	Total Price	Status
2021-06-12	Receipt	RM 838.00	Order Received
2021-06-12	Receipt	RM 125.00	Order Received
2021-06-12	Receipt	RM 305.00	Order Completed
2021-06-12	Receipt	RM 239.00	Order Received

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Figure 21: Page of past order

Here, customer can view of their past order. There will be the date of the order and amount. Customer can view the receipt of the order by clicking the “receipt”.

Invoice » ID: 125 Print

Sweekiz Popcorn

To: Ahmad Al-Amin DT 292 Lorong Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana, Alor Gajah Melaka 0134825723	Invoice ID: 125 Date Order: 2021-06-12
--	--

#	Description	Quantity	Unit Price	Total Amount
1	350Gram (Caramel)	11	RM 18.00	RM 198
2	350Gram (Chocolate)	10	RM 20.00	RM 200
3	500Gram (Caramel)	10	RM 19.00	RM 190
4	500Gram (Chocolate)	10	RM 25.00	RM 250
SubTotal:				RM 838
Total Amount:				RM 838

Thank you for your purchase!

Back

Figure 22: Page of receipt order

This is example of the receipt of order for customer. There will be the details of order which are what products and the total order.

Invoice » ID: 125 Print

Sweekiz Popcorn

To: Ahmad Al-Amin DT 292 Lorong Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana, Alor Gajah Melaka 0134825723	Invoice ID: 125 Date Order: 2021-06-12
--	--

#	Description	Quantity	Unit Price	Total Amount
1	350Gram (Caramel)	11	RM 18.00	RM 198
2	350Gram (Chocolate)	10	RM 20.00	RM 200
3	500Gram (Caramel)	10	RM 19.00	RM 190
4	500Gram (Chocolate)	10	RM 25.00	RM 250
SubTotal:				RM 838
Total Amount:				RM 838

Thank you for your purchase!

Back

1 page

Destination: Save as PDF

Pages: All

Pages per sheet: 1

Margins: Default

Options: Headers and footers, Background graphics

Save Cancel

Figure 23: Print receipt

Customer also can print the receipt for further reference.

Admin

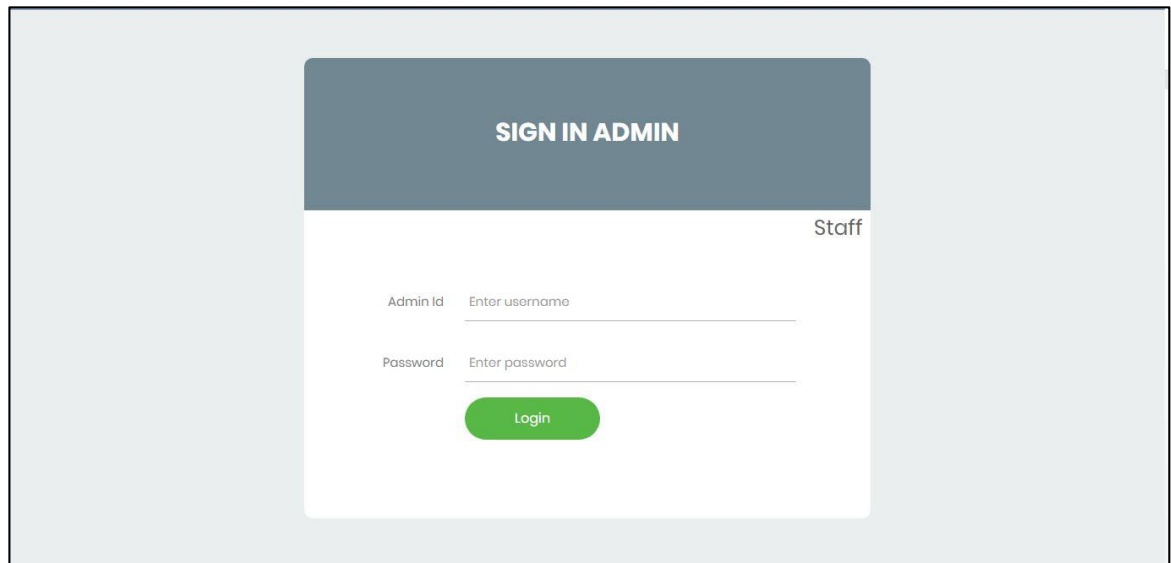


Figure 24: Login page for admin

This is the page login for admin. Admin need to insert the admin id and password to enter the page.

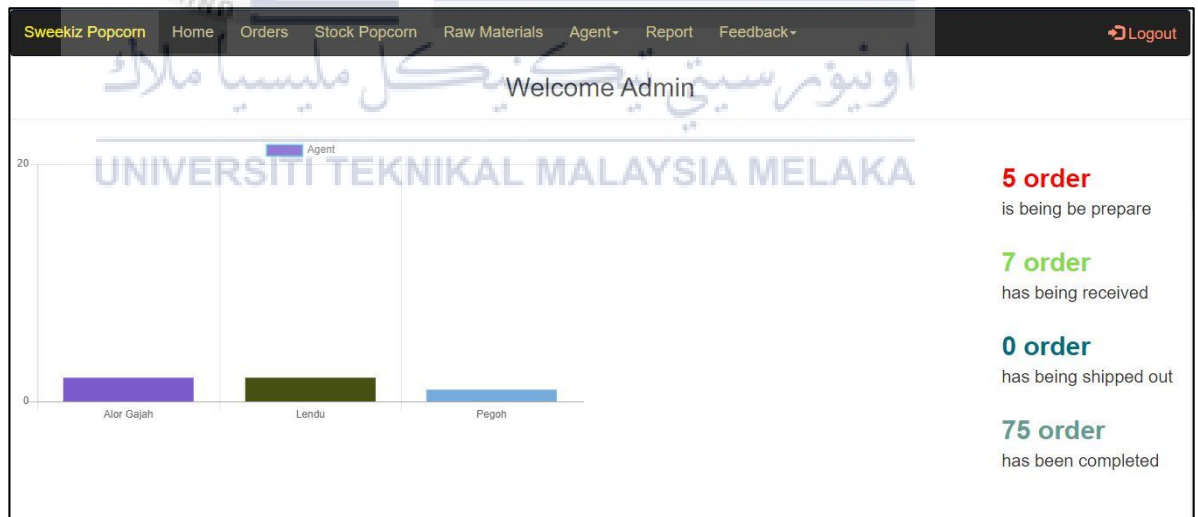


Figure 25: Main page for admin

This is the main page for admin. Here, customer can see the total of quota agent in certain area and on the right is the status of order that had been received, order that being process and order that had been shipped out.

Date Order	Name	Total Price	Date Completed	Status	Staff Completed
2021-06-18	AHMAD AL-AMIN B AHMAD RAIS	RM 50.00	0000-00-00	Order Received	
2021-06-18	AHMAD AL-AMIN B AHMAD RAIS	RM 18.00	0000-00-00	Order Received	
2021-06-18	AHMAD AL-AMIN B AHMAD RAIS	RM 25.00	0000-00-00	Order Received	
2021-06-17	MOHD RUSLI	RM 125.00	0000-00-00	Order Preparing	staff2
2021-06-17	MOHD RUSLI	RM 420.00	0000-00-00	Order Received	
2021-06-17	MOHD RUSLI	RM 20.00	0000-00-00	Order Received	
2021-06-17	MOHD RUSLI	RM 18.00	0000-00-00	Order Received	
2021-06-17	MOHD RUSLI	RM 18.00	0000-00-00	Order Received	
2021-06-17	ABU B AHMAD	RM 22.50	0000-00-00	Order Received	
2021-06-17	MOHD RUSLI	RM 18.00	0000-00-00	Order Received	
2021-06-17	MOHD RUSLI	RM 18.00	0000-00-00	Order Received	
2021-06-17	ABU B AHMAD	RM 22.50	0000-00-00	Order Received	
2021-06-17	ABU B AHMAD	RM 22.50	0000-00-00	Order Received	

Figure 26: Customer order records

This is the page of record for every customer's orders. Admin can see which staff that update the orders.

Name	Quantity (pcs)	Price	Total Price
350Gram (Caramel)	11 pcs	RM18.00	RM198
350Gram (Chocolate)	10 pcs	RM20.00	RM200
600Gram (Caramel)	10 pcs	RM19.00	RM190
500Gram (Chocolate)	10 pcs	RM25.00	RM250

Figure 27: Details of order

This is example of details of order for each order.




Product	Product Details	Price	Current Stock	Add Stock		
	350Gram (Caramel)	RM 18.00	938 pcs	<input type="text"/> pcs Add Amount	<input type="button" value="UPDATE"/>	<input type="button" value="DELETE"/>
	350Gram (Chocolate)	RM 20.00	970 pcs	<input type="text"/> pcs Add Amount	<input type="button" value="UPDATE"/>	<input type="button" value="DELETE"/>
	500Gram (Caramel)	RM 19.00	1205 pcs	<input type="text"/> pcs Add Amount	<input type="button" value="UPDATE"/>	<input type="button" value="DELETE"/>

Figure 28: Current stock popcorn

This is the page of current stock of popcorn. Admin can update the amount of stock by entering amount of popcorn that available to sell. Admin also can update the product by clicking the “update” to update the product name, the price or the image.




Name Materials	Raw Materials	Balance in Stock	
Jagung		37890 Gram	<input type="button" value="DELETE"/>
Minyak Masak		11420 Gram	<input type="button" value="DELETE"/>
Margarin		10890 Gram	<input type="button" value="DELETE"/>
Gula Pasir		8900 Gram	<input type="button" value="DELETE"/>
Garam		8800 Gram	<input type="button" value="DELETE"/>

Figure 29: Current stock of raw materials

This is the page of raw materials in stock.

List current Agent						
Search...						
Name	Phone No	Address	Postcode	District	State	
Syam	0134825722	DT 310 Lorong Bukit Tambun Perdana 5	76100	Durian Tunggal	Melaka	
Hafy	0134825723	Batu 17 Kampung Lendu	76000	Alor Gajah	Melaka	
amin	0104867281	No 51 Taman Belimbing Dalam	76100	Durian Tunggal	Melaka	

Figure 30: List of agent

This is the page of list of agent. Admin can search the agent by entering any keywords in the search button.

List Agent Request						
Agent Quota:						
District	Current People	Quota Available	Total Quota Allowed	Add new quota		
Jasin	1 people	9 people	10 people	<input type="text"/>	<input type="text"/>	People
Lendu	1 people	9 people	10 people	<input type="text"/>	<input type="text"/>	People
Pegoh	1 people	9 people	10 people	<input type="text"/>	<input type="text"/>	People
Alor Gajah	4 people	6 people	10 people	<input type="text"/>	<input type="text"/>	People
Durian Tunggal	6 people	4 people	10 people	<input type="text"/>	<input type="text"/>	People
Segamat	6 people	0 people	6 people	<input type="text"/>	<input type="text"/>	People

District:

Agent Request:							
Name	Address	District	Postcode	State	Area Requested	Status	Updates:
Ahmad	No 292 Taman Bukit Tambun Perdana	Durian Tunggal	76100	Melaka	Alor Gajah	Pending	<input type="button" value="Updates"/>

Figure 31: List of agent request

This is the page of agent request. Here, in the table is the table of agent quota in certain area. Admin can update the amount of quota that admin want in particular area.

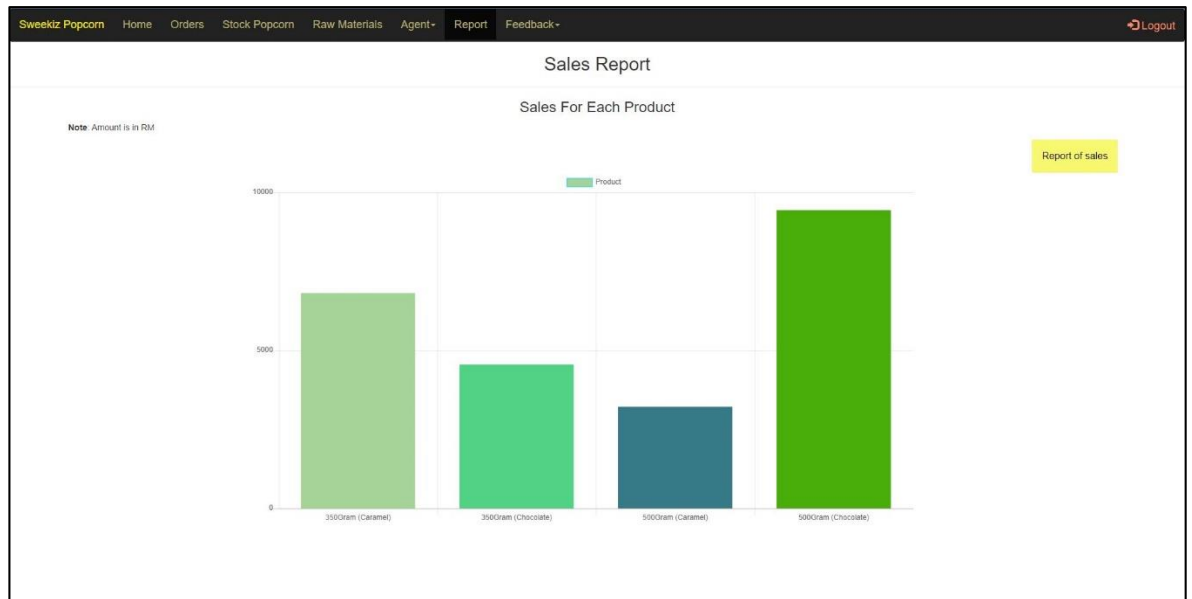


Figure 32: Page of report

Here is the page of total sales for each product. The bar graph will show the amount of sales in RM.

Sales Report

Search sales by date

Start Date dd/mm/yyyy End Date dd/mm/yyyy Show Report Back

Print this page

Total Order between 2021-06-01 and 2021-06-24

There was **87** orders between the range

The total amount between the range are : RM 24002.70

No.	Date Order	Order Id	Amount
1	2021-06-13	127	RM 730.00
2	2021-06-13	128	RM 418.00
3	2021-06-13	129	RM 878.00
4	2021-06-13	130	RM 365.00
5	2021-06-13	131	RM 108.00
6	2021-06-13	132	RM 800.00
7	2021-06-13	133	RM 780.00
8	2021-06-13	134	RM 567.00
9	2021-06-13	135	RM 1070.00
10	2021-06-13	136	RM 735.00
11	2021-06-13	137	RM 629.00
12	2021-06-13	138	RM 595.00
13	2021-06-13	139	RM 743.00

Figure 33: Page of sales search by date

In this page, admin can search for sales for certain date by entering from what date until latest date. The table will display the total order and the total sales between that dates.

Sales Report

Search sales by date

Start Date End Date Show Report Back (salesreport.php)

[Print this page](#)

Total Order between 2021-06-01 and 2021-06-24

There was 87 orders between the range.

The total amount between the range are : RM 24002.70

No.	Date Order	Order Id	Amount
1	2021-06-13	127	RM 730.00
2	2021-06-13	128	RM 418.00
3	2021-06-13	129	RM 878.00
4	2021-06-13	130	RM 365.00
5	2021-06-13	131	RM 108.00
6	2021-06-13	132	RM 800.00
7	2021-06-13	133	RM 780.00
8	2021-06-13	134	RM 567.00
9	2021-06-13	135	RM 1070.00
10	2021-06-13	136	RM 735.00
11	2021-06-13	137	RM 629.00
12	2021-06-13	138	RM 595.00
13	2021-06-13	139	RM 743.00
14	2021-06-13	140	RM 601.00

Figure 34: Admin can print report of sales that search by date

Admin also can print that report for further analysis or for documentation.

Report Monthly

Search sales by month

Month Show Report Back

Order for month 6

There was 1 transaction between the range.

The total amount in this month are : RM 24002.70

No.	Month	Total Order	Amount
1	6	87	RM24002.70

[Print this page](#)

Figure 35: Page of sales by month

Here, admin can search sales for any month. It will show the total order and the total sales in that month.

Report Monthly

Search sales by month

Month Show Report Back (salesreport.php)

Order for month 6

There was 1 transaction between the range.

The total amount in this month are : RM 24002.70

No.	Month	Total Order	Amount
1	6	87	RM24002.70

Print this page

Print 1 page

Destination

Pages

Layout

More settings

Figure 36: Admin can print report of sales by month

Admin also can print that report for further analysis or for documentation.

Report Weekly

Sales weekly

Back

No.	Week	Total Order	Amount
1	24	80	RM23115.10
2	25	7	RM887.60

Figure 37: Admin can view sales by weekly.

Sales By Agent

Sales agent [Back](#)

No.	Week	Total Order	Amount
1	ABU B AHMAD	Alor Gajah	RM 1216.80
2	ALI B ABU	Lendu	RM 819.00
3	SITI BT AHMAD	Lendu	RM 727.70
4	MOHD B ALI	Pegoh	RM 387.00
5	ABDULLAH B ALI	Alor Gajah	RM 47.50

Figure 38: Admin can see sales made by agent in their area.

Sales By Area

Sales area [Back](#)

No.	District	Total Order	Amount
1	Lendu	9	RM 1546.70
2	Alor Gajah	34	RM 1264.30
3	Pegoh	2	RM 387.00

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Figure 39: Admin can see sales in area of the agent

Report Production

Production Performance

[Back](#)

No.	Month/Week	Production
1	Month: 6 Week: 25	350Gram (Caramel) Amount: 55
2	Month: 6 Week: 25	350Gram (Chocolate) Amount: 6
3	Month: 6 Week: 25	500Gram (Caramel) Amount: 14
4	Month: 6 Week: 25	500Gram (Chocolate) Amount: 14

Figure 40: Admin can the total production of stock that being made by month and week

Report Monthly

Search raw expenses by month

Month: [Show Report](#) [Back](#)

raw expenses for month 6

The total amount spend for raw materials in this month are : RM 229.00

No.	Month	Raw Name	Total Expenses	Quantity
1	6	Jagung	RM100.00	20KG
2	6	Minyak Masak	RM05.00	1KG
3	6	Margarin	RM15.00	3KG
4	6	Gula Pasir	RM06.00	2KG
5	6	Caramel	RM02.00	1KG
6	6	Cocoa Powder	RM100.00	10KG

[Print this page](#)

Figure 41: Admin can see the expenses spend on raw materials by month

Staff

The screenshot shows a web application interface for staff. At the top, there is a navigation bar with links: Sweekiz Popcorn, Home, List Orders, Stock Popcorn, Raw Materials, and a Logout button. Below the navigation bar, the main content area is titled "Welcome Staff". On the right side, there are four summary cards:

- 5 order** is being prepare
- 7 order** has being received
- 0 order** has being shipped out
- 75 order** has been completed

Figure 42: Interface for staff

Here, there will be the total amount of orders that are being prepare, new orders receive, order that being shipped out and orders that had being completed.

The screenshot shows a table titled "Popcorn Orders" with the following columns: Order id #, Date Order, Name, Date Completed, Status, Details Orders, and Staff Completed. The table contains 12 rows of order data. The status column includes "Order Received", "Order Completed", and "Order Preparing". The "Details Orders" column has a dropdown menu and an "Updates" button. The "Staff Completed" column shows the staff member responsible for the order, such as "staff1" and "staff2".

Order id #	Date Order	Name	Date Completed	Status	Details Orders	Staff Completed
222	2021-06-24	FARIS B TAMRULAN	0000-00-00	Order Received	Update status: [dropdown] Updates	
221	2021-06-23	FARIS B TAMRULAN	0000-00-00	Order Received	Update status: [dropdown] Updates	
220	2021-06-23	AHMAD AL-AMIN B AHMAD RAIS	2021-06-23	Order Completed	Update status: [dropdown] Updates	staff1
219	2021-06-23	AHMAD AL-AMIN B AHMAD RAIS	0000-00-00	Order Received	Update status: [dropdown] Updates	
218	2021-06-22	ABU B AHMAD	2021-06-22	Order Completed	Update status: [dropdown] Updates	staff2
217	2021-06-22	AHMAD AL-AMIN B AHMAD RAIS	0000-00-00	Order Preparing	Update status: [dropdown] Updates	staff2
216	2021-06-21	FARIS B TAMRULAN	0000-00-00	Order Received	Update status: [dropdown] Updates	
215	2021-06-19	AHMAD AL-AMIN B AHMAD RAIS	0000-00-00	Order Received	Update status: [dropdown] Updates	
214	2021-06-19	ABDULLAH B ALI	0000-00-00	Order Received	Update status: [dropdown] Updates	
213	2021-06-19	ABDULLAH B ALI	0000-00-00	Order Received	Update status: [dropdown] Updates	

Figure 43: List of orders that staff need completed. Staff that who update or completed the order will update the order.




Sweekiz Popcorn Home List Orders Stock Popcorn Raw Materials Logout			
Current Stock Popcorn			
Product	Product Details	Current Stock	Add Stock
	350Gram (Caramel)	1615 pcs	<input type="text"/> pcs Add Amount
	350Gram (Chocolate)	1247 pcs	<input type="text"/> pcs Add Amount
	500Gram (Caramel)	1300 pcs	<input type="text"/> pcs Add Amount

Figure 44: Stock of popcorn

Here, staff can view the total product that in stock. If the amount is low, staff can add new stock by updating the amount of stock that had being made.

Sweekiz Popcorn Home List Orders Stock Popcorn Raw Materials Logout			
Stock Raw Materials			
Name Materials	Raw Materials	Balance In Stock	Add New Quantity
Jagung		37850 Gram	<input type="text"/> KG Add Amount Note: the amount will be convert into Gram
Minyak Masak		11420 Gram	<input type="text"/> KG Add Amount Note: the amount will be convert into Gram
Margerin		10850 Gram	<input type="text"/> KG Add Amount Note: the amount will be convert into Gram
Gula Pasir		8900 Gram	<input type="text"/> KG Add Amount Note: the amount will be convert into Gram
Garam		8500 Gram	<input type="text"/> KG Add Amount Note: the amount will be convert into Gram

Figure 45: Stock of raw materials

Here, staff can update the amount of raw materials if the stock is low. If the amount of one of raw materials is insufficient, the new stock cannot being made.

CHAPTER 5: IMPLEMENTATION

5.1 Introduction

This chapter discusses about the implementation of software development environment setup and system database implementation. The software developing environment will be explained the steps of installation of the software, executing and configuring the software and database.

For the database implementation, it will be explained about the DBMS that was the schedule which is MySQL database using PhpMyAdmin with XAMPP server, the data definition language (DDL), data manipulation language (DML) and lastly about the main processes such as stored procedures and trigger that implemented on this system using PL/SQL programming language.

5.2 Software development environment setup

The software that is used for the development process of the Sweekiz Popcorn Management System is Adobe Dreamweaver as the text editor to write the PHP code. Then, for database management, this system use MySQL database to store the data and the database object is using PhpMyAdmin to handle the administration of MySQL. Lastly, for the server platform, this system use XAMPP server to be a server that will handle the database and the system together.

5.2.1 Software environment setup XAMPP server

Apache Friends

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Download

XAMPP is an easy to install Apache distribution containing MariaDB, PHP, and Perl. Just download and start the installer. It's that easy.

XAMPP for Windows 7.2.32, 7.3.20 & 7.4.8

Version	Checksum	Size
7.2.32 / PHP 7.2.32	What's Included? md5 sha1	Download (64 bit) 154 Mb
7.3.20 / PHP 7.3.20	What's Included? md5 sha1	Download (64 bit) 154 Mb
7.4.8 / PHP 7.4.8	What's Included? md5 sha1	Download (64 bit) 155 Mb

Requirements Add-ons More Downloads »

Windows XP or 2003 are not supported. You can download a compatible version of XAMPP for these

Documentation/FAQs

There is no real manual or handbook for XAMPP. We wrote the documentation in the form of FAQs. Have a burning question that's not answered here? Try the [Forums](#) or [Stack Overflow](#).

- Linux FAQs
- Windows FAQs
- OS X FAQs
- OS X XAMPP-VM FAQs

Add-ons

WordPress Joomla Drupal Magento

Figure 46: XAMPP server web sites download folder

Step 1: Go to <https://www.apachefriends.org/download.html> and start to download the XAMPP Server installer. Figures 46 show the web site to download the XAMPP Server installer. Make sure before downloading, choose the right version of the XAMPP Server installer that will be used on the computer configuration either 64 bits (x64) or 32 bit (x86), and also choose the right operating system for the computer.

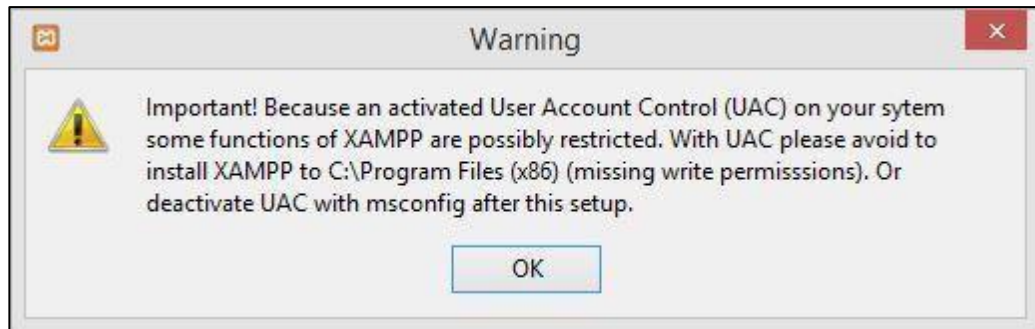


Figure 47: User account control (UAC)

Step 2: Click 'OK' to continue the installation if windows pop up warning about User Account Control (UAC)



Figure 48: XAMPP setup wizard

Step 3: Next, Welcome to the XAMPP Setup Wizard will appear. Click 'Next' to continue the installation.

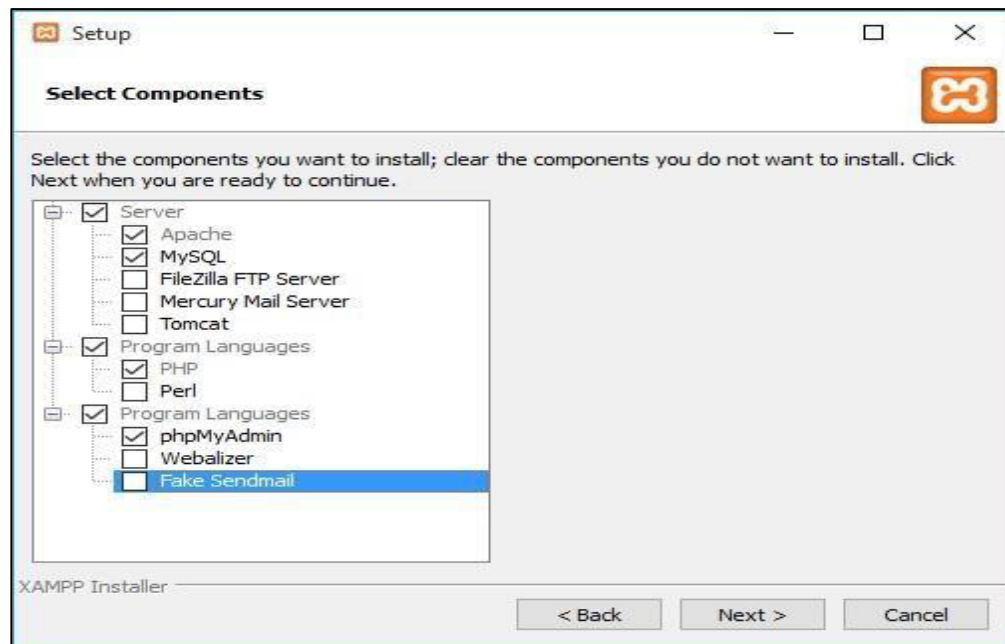


Figure 49: Components selection interface

Step 4: The components selection screen will appear next. This screen asked to make the selection which components of the software would like to install and which ones do not want. Click 'Next' to continue.

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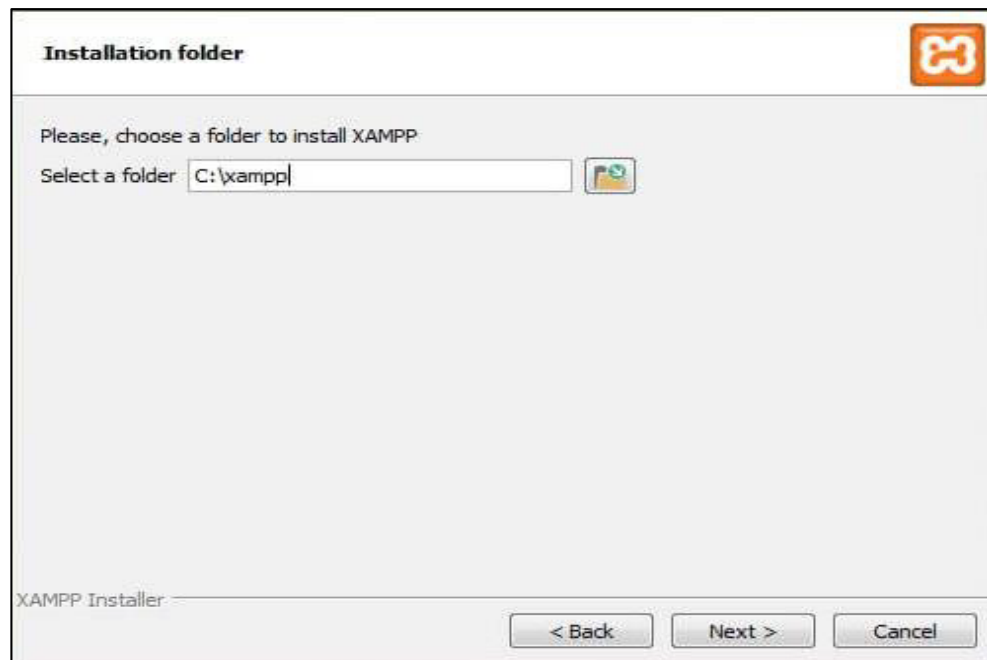


Figure 50: Choose the installation directory

Step 5: In this step, users need to choose the directory for the XAMPP software packet to be installed. If the user chooses for the standard setup, then the folder name XAMPP will be created under C:\. To continue the installation, click 'Next'.



Figure 51: Installation process started

Step 6: XAMPP will be started installing the files to the location selected in the previous step.



Figure 52: Complete installation

Step 7: After all the components are unpacked and installed, users can click on 'Finish'. Click to tick the corresponding and open the XAMPP Control Panel.

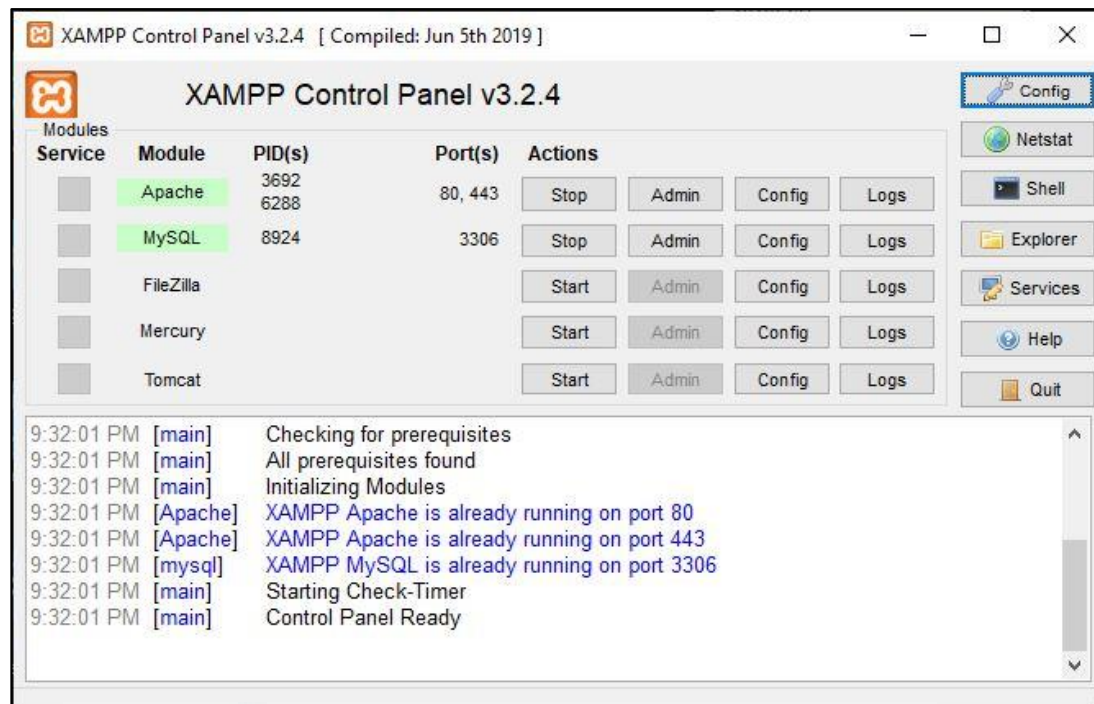


Figure 53: XAMPP control panel

Step 8: The Control Panel will automatically open, but if users unchecked the option in the previous window, users can search the XAMPP folder and open the XAMPP Control Panel manually. Figure 53 show the example of modules that had been started. The modules can be started or stopped on the XAMPP control panel on the buttons under 'Actions'. Users also can detect which modules have been started because the names are highlighted green under the 'Module' title.

5.2.2 Database environment setup

Step 1: Users can access PhpMyAdmin by entering <http://localhost/phpmyadmin/> in the web server. The PhpMyAdmin first screen will appear.

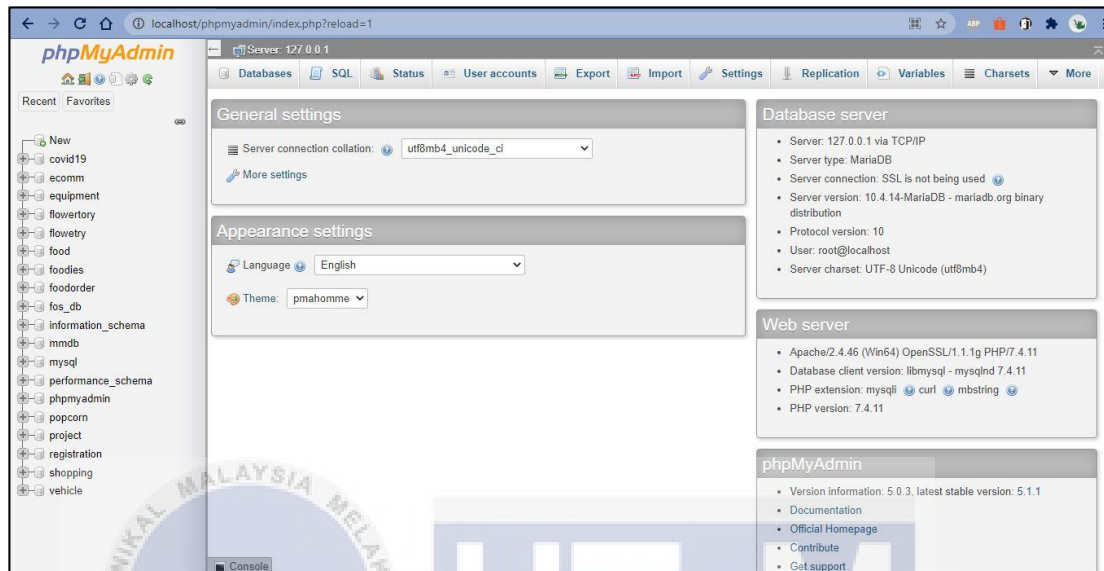


Figure 54: PhpMyAdmin first page

Step 2: The main PhpMyAdmin first-page screen will appear. On the left is a list of the databases that already exist. Users need to create a new database, click database in the top navbar or click the SQL.

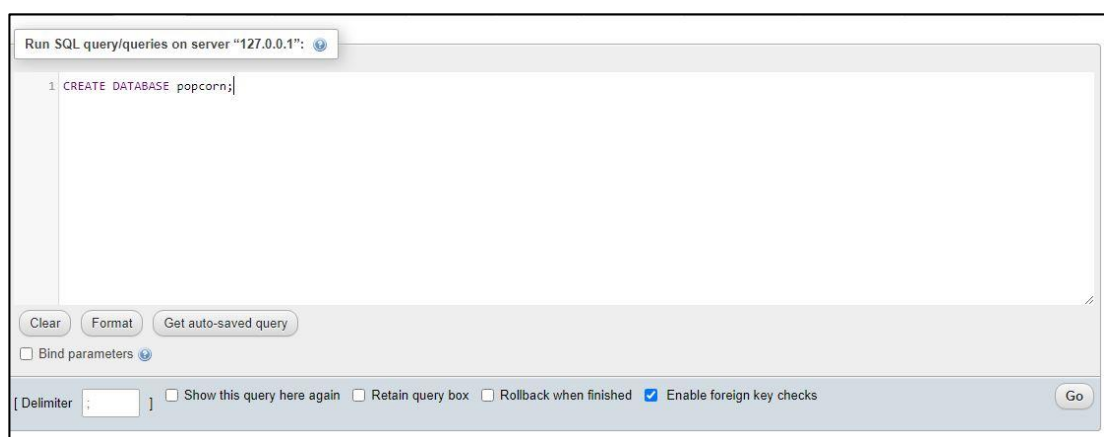


Figure 55: Creating a database for Sweekiz Popcorn Management System

Step 3: Using SQL language, type the command to create a new database such as 'popcorn' for Sweekiz Popcorn Management System.

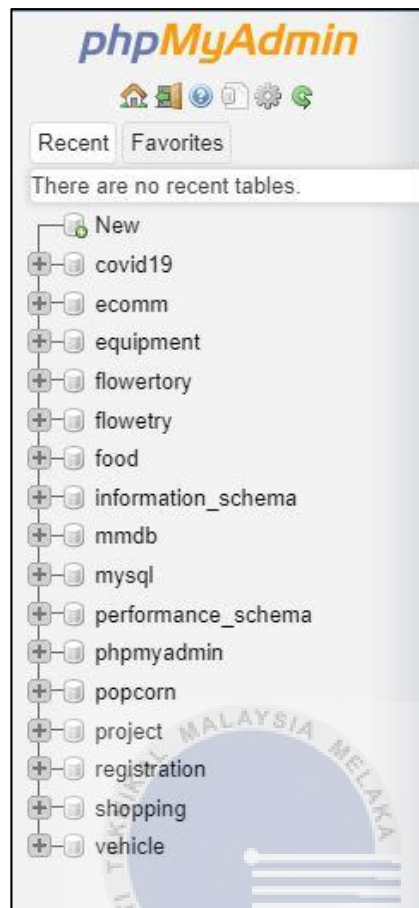


Figure 56: List database that created

Step 4: After the database is successfully created, the message successful will pop up. Users can view the databases that are created and can start using the database such as create a new table.

5.3 Database implementation

The database implementation phase explained to the Data Definition Language (DDL), trigger and stored procedures to show the functionality in this system.

5.3.1 Data definition language (DDL)

In the implementation phase of the database, data definition language (DDL) is primarily used by database administrator to create the database and table. Below are shown the DDL that is used in Sweekiz Popcorn Management System.

5.3.1.1 Create database

The first thing user need to do is create the database by using the ‘Create Database’ command. After that, users can create any new table in the database. The database name for this system is ‘popcorn’.

```
CREATE DATABASE 'popcorn';
```

Figure 57: Create database

5.3.1.2 Create table

After database is successfully created, the user need to create the table in the database by using the ‘Create Table’ command and need to add the attribute name, data type, field length, constraint, the primary key and lastly the foreign key. Figures below show all the tables that is created into database ‘popcorn’ that are required for develop the Sweekiz Popcorn Management System.

14) Table admin

```
CREATE TABLE admin (
  admin_id          varchar(20)          NOT NULL,
  password          varchar(10)          NOT NULL,
  PRIMARY KEY (admin_id));
```

Table 16: create table admin

15) Table quota_agent

```

CREATE TABLE quota_agent (
    quota_id          int(11)          NOT NULL,
    customer_id       varchar(20)
    district          varchar(50)
    cust_district     varhcar(30)      NOT NULL,
    address           varchar(80)      NOT NULL,
    postcode          varchar(10)      NOT NULL,
    state             varchar(20)      NOT NULL,
    status            varchar(30)      NOT NULL,
    PRIMARY KEY (quota_id),
    FOREIGN KEY (customer_id) REFERENCES customer (customer_id),
    FOREIGN KEY (district) REFERENCES quota_details (district));

```

Table 17: create table quota_agent

16) Table quota_details

```

CREATE TABLE quota_details (

District          varchar(50)          NOT NULL,

Quota_district   varchar(20)          NOT NULL,

PRIMARY KEY (district));

```

Table 18: create table quota_details

17) Table customer

```

CREATE TABLE customer (

Customer_id      varchar(20)          NOT NULL,

Customer_name    varchar(50)          NOT NULL,

Phone_no        varchar(20)          NOT NULL,

Address         varchar(100)         NOT NULL,

Postcode        varchar(10)          NOT NULL,

Cust_district   varchar(30)          NOT NULL,

State           varchar(20)          NOT NULL,

Password        varchar(20)          NOT NULL,

customer_role   varchar(10)          NOT NULL,

PRIMARY KEY (customer_id));

```

Table 19: Create table customer

18) Table cart

```

CREATE TABLE cart (
Order_id          int(11)          NOT NULL,
Customer_id      varchar(20),
Date_order       date             NOT NULL,
Date_completed   date             NOT NULL,
Status           varchar(20)      NOT NULL,
Shipping_address varchar(100)     NOT NULL,
Phone_no        varchar(20)      NOT NULL,
District         varchar(30)     NOT NULL,
State            varchar(30)     NOT NULL,
Postcode        varchar(10)      NOT NULL,
PRIMARY KEY (order_id),
FOREIGN KEY (customer_id) REFERENCES customer (customer_id));

```

Table 20: Create table cart

19) Table payment

```

CREATE TABLE payment (

Paymentid          int(20)          NOT NULL,

Order_id          int(11),

Totalpaid         decimal(20,2)    NOT NULL,

Date_payment      date          NOT NULL,

PRIMARY KEY (paymentid),

FOREIGN KEY (order_id) REFERENCES cart (order_id));

```

Table 21: create table payment

20) Table order_time

```

CREATE TABLE order_time (

Primary_order_time int(11) NOT NULL,

order_id          int(11),

id               int(11),

total_price      double(20,2) NOT NULL,

PRIMARY KEY (primary_order_time),

FOREIGN KEY (order_id) REFERENCES cart (order_id),

FOREIGN KEY (id) REFERENCES product (id));

```


Table 22: Create table order_time

21) Table product

```

CREATE TABLE product (
  id                int(11)    NOT NULL,
  product_id       varchar(20) NOT NULL,
  product_image    longblob   NOT NULL,
  price            double(10,2) NOT NULL,
  Stock            varchar(10) NOT NULL,
  Productavailability varchar(20) NOT NULL,
  PRIMARY KEY (id));

```

Table 23: Create table product

22) Table review

```
CREATE TABLE review (  
  
Review_id          int(10)          NOT NULL,  
  
Id                 int(11),  
  
Customer_id       varchar(20),  
  
Description        varchar(255)     NOT NULL,  
  
Review_image      longblob        NOT NULL,  
  
PRIMARY KEY (review_id),  
  
FOREIGN KEY (id) REFERENCES product (id),  
  
FOREIGN KEY (customer_id) REFERENCES customer (customer_id));
```

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23) Table raw_materials

```

CREATE TABLE raw_materials (

Raw_id            int(100)    NOT NULL,

Raw_name          varchar(20)  NOT NULL,

Balance_raw      varchar(20)  NOT NULL,

Price             varchar(20)  NOT NULL,

Raw_image        longblob    NOT NULL,

PRIMARY KEY (raw_id));

```

Table 25: Create table raw_materials

5.4 Create Trigger

The trigger is a condition that automatically checks the data manipulation event had happened on the selected table. The trigger is performing before or after operations occurred.

5.5 About List of Figures

To update List of Figures, place the cursor on the list that needs to be updated. Next, click on the icon “Update Table” under References tab to list down the updates, as shown in Figure 4.1.

5.6 Conclusion

In conclusion, the implementation phase is the final phase before goes to the testing phase. Sweekiz Popcorn Management System is developed using the XAMPP Server and MySQL using php MyAdmin to control the database. The database for this project have 12 tables, triggers and stored procedures that data storage implemented database.

CHAPTER 6: TESTING

6.1 Introduction

Software testing may be a preparation of assess the usefulness of a program application with an expectation to find whether the created software met the required necessities or not and to recognize the error or bugs to guarantee that the software is defect-free in arrange to create the quality software. Software testing is really important because if there are any bugs or errors in the software, it can be identified early and can be fixed and solved before delivery of the software product. Properly tested software product ensures reliability, security and high performance which further results in time saving, cost effectiveness and customer satisfaction.

This chapter explained about the testing phase of Sweekiz Popcorn Management System. This phase is for make sure that system developed have all the requirements. The testing that has been done on Sweekiz Popcorn Management System to check and confirm all the functionality meets the objective of proposed system that requested by user.

In this venture, the testing methodologies to be embraced are black-box and white-box testing. Black-box testing is performed utilizing computer program interfacing to guarantee that they work as anticipated whereas white-box testing looks interior the program (coding) and employments that the information as portion of the testing prepare. White-box testing requires inside information of the framework and programming abilities.

6.2 Test plan

Test plan reflects the complete extensive testing schedule and approach that the developer utilizes within the testing stage. A test plan consists of text organization, test environment and test schedule. Test plan also offer assistance the testing steps and check the effectiveness of Sweekiz Popcorn Management System.

Test Organization is to explain the involvement of person within the testing procedure. Test environment is to explain the environment of testing to be carried out and to characterize hardware, configuration, arrangements and preparing the testing. Test schedule is to characterize how numerous cycles and duration of the test to be conducted.

6.2.1 Test organization

Test organization is a group of people who is responsible to handle the test procedure of this project. Test procedures will be great if people in different background involve because few points of view may be delivered due to their own knowledge in Information Technology.

Software developer is the person that responsible in developing Sweekiz Popcorn Management System. Then, the client is targeted person who will be the end user of this system such as customers. Table 26 shows the list of tester that involve for testing this system and their responsibilities.

Activities	Description	Responsibilities
Tester 1	Software developer	<ol style="list-style-type: none"> 1. Responsible to developing, executing, reviewing the integration and component of current system 2. Elaborate ideas of improvement the system 3. Writing the system code

Tester 2	Client	<ol style="list-style-type: none"> 1. Act as the end user to get some feedbacks which are customers and agent 2. Testing the module of system developed 3. Give feedbacks or opinion for improvements of the system
----------	--------	--

Table 26: List of tester and their responsibilities

Table 26 shows the list of tester that will do testing for Sweekiz Popcorn Management System. There are 2 testers which are software developer and client.

6.2.2 Test environment

A testing environment may be a setup of software and hardware for the testing to execute test cases of Sweekiz Popcorn Management System. In other words, it bolsters test execution with hardware, software and network configuration. A test environment enables to create identical environments every time you need to test the product. It really important tool for a testing in order to have confidence in the testing results. The test environment setup must imitate the generation environment in arrange to reveal any configuration related issues. It will figure out whether this system can be adaptable to run on different platform of hardware and software.

6.2.3 Environment setup

The environment setup depicts the environment of testing which can be carried out reliably all through the testing, the testing modules include the software and hardware utilized. Table 27 shows the environment setup specification in testing phase.

Environment configuration	Specification
Operating system	Windows 10
Processor	Intel(R) Core(TM) i3-6006U CPU @ 2.00GHz 1.99 GHz
Random Access Memory (RAM)	12GB
Database	MySQL
Server	Apache
Programming language	<ul style="list-style-type: none"> • Hypertext Preprocessor (PHP) • Hypertext Markup Language (HTML)

Table 27: Environment setup specification in Sweekiz Popcorn Management System

6.2.4 Software Application

Software application consist all the application or module inside Sweekiz Popcorn Management System. Table 28 shows all the application in Sweekiz Popcorn Management System.

System/application	<ol style="list-style-type: none"> 1) System login 2) Add and update product for admin and add to cart for customer 3) Report weekly, monthly and for each product sales 4) Generate PDF for the report and receipt for customers
--------------------	---

Table 28: Sweekiz Popcorn Management System application environment

6.2.5 System software

System software consists all the tools that have been used in the Sweekiz Popcorn Management System. Table 29 shows all the software that have been used in this system.

System software	1) Windows 10 Home
	2) XAMPP Server v3.2.4 (Apache, MySQL)
	3) Adobe Dreamweaver
	4) Google Chrome (Browser)
	5) SQL developer (MySQL)

Table 29: System software

6.2.6 System hardware

System hardware consists all the hardware that have been used in this system. Table 30 shows the hardware used for developed Sweekiz Popcorn Management System.

Hardware	1) Laptop
	2) Mouse
	3) iPad
	4) External hard disk
	5) Keyboard

Table 30: System hardware

6.2.7 Test schedule

Test plan is the technique of testing all the data collected within the length of time which has been set. The test schedule is to assign about the schedule for testing of Sweekiz Popcorn Management System such as when and by whom the test will be conducted. The schedule is function as guideline for developer to perform the testing on time as in project timeline. Table 31 shows the test schedule.

Testing module	Test activity	Duration day(s)	Cycle time(s)
Login (user authentication)	Error handling test and integration test	1	7
Product	Error handling test and integration test	3	10
Payment gateways	Error handling test and integration test	2	10
Add to cart	Error handling test and integration test	3	10
View and download receipts	Error handling test and integration test	3	7
Upload image product	Error handling test and integration test	2	7

Table 31: Test schedule

6.3 Test strategies

Test strategy is planned to facilitate the testing process. Test strategy outline the test approach and everything that surround it. Test strategy is different from test plan, to put that is test strategy is only a subset of the test plan. It is a hard-core test document that is to an extent generic and static. In this system, type of test strategy that are used is white box testing and black box testing.

White Box testing is testing technique which checks the internal functioning of the system. In this method, testing is based on coverage of code statements, branches, paths or conditions. White box testing is considered as low-level testing. It is also called glass box, transparent box, clear box or code base testing. The

white-box testing method assumes that the path of the logic in a unit or program is known.

Black Box testing is tester doesn't have any information about the internal working of the software system. Black box testing is a high level of testing that focuses on the behavior of the software. It involves testing from an external or end-user perspective. Black box testing can be applied to virtually every level of software testing which are unit testing, integration testing, system testing and acceptance testing. Table 32 shows explanation about White Box Testing vs. Black Box Testing.

White box testing	Black box testing
Test application using the internal structure (coding) of application.	Test without using internal structure (coding) of application. It tests based on the behavior (functional and non-functional) of the system.
Known as Glass box testing or Structural testing	Known as functional testing
Developer and tester are involved in white box testing	Only tester is involved in white box testing

Table 32: White box testing vs. black box testing

6.4 Classes of text

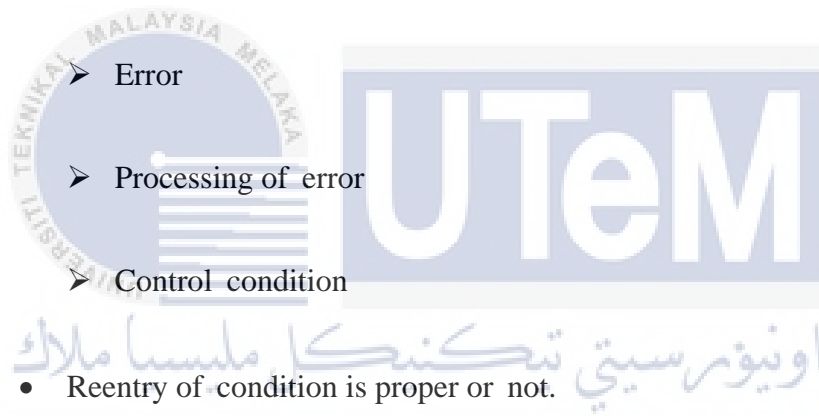
Two types of test were selected to use in this phase which are error handling test and integration test.

i. Functional testing

Functional testing is a type of testing that is performed to check whether the system is capable of or able to handle the errors. This testing performed with the help of both developers and the testers and not only focuses on error but also focuses on the exception handling. This test will validate only correct and accurate data from

the client. (No null values in any form). Error message will pop up on the screen to inform user. Steps how to do error handling testing are listed below:

- Knowledgeable people is required to know what can go wrong in the system.
- It is needed that all the application knowledgeable people assemble to integrate their knowledge.
- Then logical test error conditions should be created based on this assimilated information
- The error handling testing technique should test-



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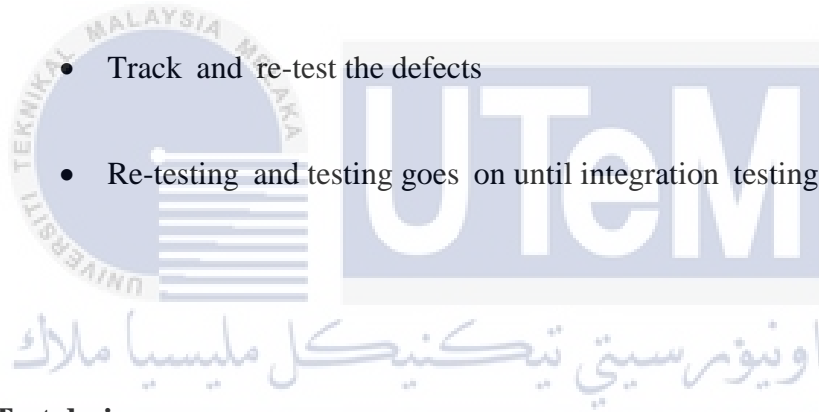
- The iterative process should be used where first the errors in the system trapped should be corrected.
- Then the corrected system should be re-tested to check the authenticity of application operation and to complete the error handling testing.

ii. Integration testing

Integration testing is to test the interfaces between the modules. This test to ensure this system captures data into the database correctly based on input from user. If the process is successful, means that the system is well integrated with the database. Integration testing makes sure that the integrated modules or components work

properly. Integration testing can be started once the modules to be tested are done. It does not require the other module to be completed for testing to be done. Below is integration testing steps:

- Prepare integration test plan
- Prepare integration test scenarios and test cases
- Prepare test automation scripts
- Execute test cases
- Report the defects
- Track and re-test the defects
- Re-testing and testing goes on until integration testing is complete



6.5 Test design

There are two parts of test design which are test description and test data. Test design will clarify about the test that has been performed for each module. Test description is the test case identification, test cases and result for each testing module. As for the test data, it incorporates the genuine life information that will be chosen. Test design will explain about the test has been performed for each module.

6.6 Test description

Test description is a test that documented set of the data input and operating condition needs to run a test item. The test will be shown under the modules and will be explain more in details on how the test cases was conducted.

1) Module login and registration

Registration is a process for user to create an account to use this system for them to order popcorn from Sweekiz Popcorn Management System. The user need to fill out 4 fields which are identification number (IC number), full name, phone number and password. For login, users which are customers, admin and staff can login using their username and password correctly. Table below show how the test for registration of customers can be conducted.

Table 6.1: Registration customer test description

Test case ID	Test case	Step to execute	Expected result
TC001_01	Check all the spelling and input format	Check all the content	Should not have any error appear on user interface
TC001_02	Check the submission of empty form	1)Empty all the fields 2)Submit the form by click on "Register"	System will display "Please fill out this field"
TC001_03	Check by fill in one required field	1) Fill only one field 2)Empty the other fields Submit the form by click on "Register"	System will display "Please fill out this field"
TC001_04	Check by fill the incorrect format of identification number	1)Fill all the field with the correct input except the identification number field 2)Enter other input except number	System will display the error message "Please fill out this field with correct format"

		3)Submit the form by click on “Register”	
TC001_05	Check by fill out the existing identification number	1)Enter the “IC number” field with the existing IC number 2)Enter the other fields correctly. 3)Submit the form by click on “Register”	User will not be able to register and system will display error message
TC001_06	Check by enter all the field with the correct data	1)Fill all the fields correctly. 2)Submit the form by click on “Register”	User are successfully registered into the system

Welcome to Sweekiz Popcorn!

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Sign Up Sign In

Ic Number:

Full Name: Please fill out this field.

Phone No:

Password:

[Home](#) [Sign Up](#)

[Staff/Admin Login](#)

Figure 58: Example of registration for customer

Login is a process for customer to login into their account before that can order popcorn. Customer can login into their account using their identification number (IC number) and correct password or else they cannot enter into their account. Test case below to test will explain more in details on how the test case is conducted.

Table 6.2: Login customer test description

Test case ID	Test case	Step to execute	Expected result
TC002_01	Check all the text and input	Check all the content in the page	Should not have any error appear on user interface
TC002_02	Check by enter the incorrect identification number and the correct password	1)Enter the incorrect identification number on the username field. 2)Enter the correct password on the password field Click the "Login" button	System will display error message
TC002_03	Check by enter the incorrect identification number and the incorrect password.	1)Enter the incorrect identification number on identification number field 2)Click the "Login" button	System will display error message
TC002_04	Check by submit the blank identification number field	1)Empty the identification number field	System will display "Please fill up the field"

		<p>2) Enter the password on password field</p> <p>3) Click the “Login” button</p>	
TC002_05	Check by submit the blank for both field	<p>1) Empty the username and password field</p> <p>2) Click the “Login” button</p>	System will display “Please fill up the field”
TC002_06	Check by enter the correct identification number and correct password	<p>1) Enter the correct identification number</p> <p>2) Enter the correct password</p> <p>3) Click the “Login” button</p>	User successful login into the system

Welcome to Sweekiz Popcorn!

Sign In

990602045150

....

Login

Don't have an account? [Sign Up Here](#)

[Home](#)

[Staff/Admin Login](#)

Figure 59: Example of login for customers

Admin can login by using their username and password. If the username or password is wrong, the admin cannot login into their account. Test case below will show more in details how the test case will be conducted when the admin only fill one of the field, insert incorrect input one of the field, blank one of the field and fill the fields with correct input.

Table 6.3: Admin login test description

Test case ID	Test case	Step to execute	Expected result
TC003_01	Check all the text and input	Check all the content in the page	Should not have any error appear on user interface
TC003_02	Check by enter the incorrect username and the correct password for admin	1)Enter the incorrect username on the username field. 2)Enter the correct password on the password field 3)Click the “Login” button	System will display error message
TC003_03	Check by enter the incorrect username and the incorrect password for admin	1)Enter the incorrect username on username field 2)Click the “Login” button	System will display error message
TC003_04	Check by submit the blank username field	1)Empty the username field	System will display “Please fill up the field”

		<p>2)Enter the password on password field</p> <p>3)Click the “Login” button</p>	
TC003_05	Check by submit the blank for both field	<p>1)Empty the username and password field</p> <p>2)Click the “Login” button</p>	System will display “Please fill up the field”
TC003_06	Check by enter the correct username and correct password	<p>1)Enter the correct identification number</p> <p>2)Enter the correct password</p> <p>3)Click the “Login” button</p>	User successful login into the system

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SIGN IN ADMIN

[Staff](#)

Admin Id

Password

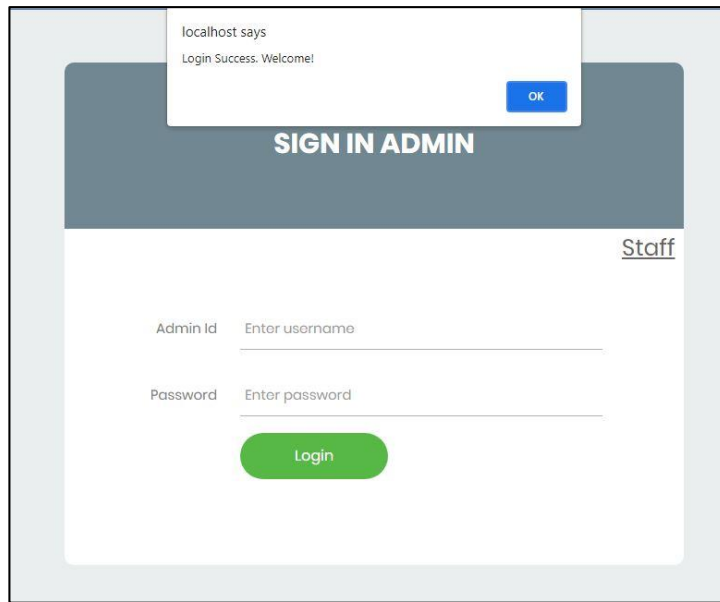


Figure 60: Example of admin interface and the popup show the admin success to login

Staff can login into the system by entering their username and password correctly before their can completed the orders. Table below show how the test case conducted to test what happen if the staff login with correct username and password, left one of the field blank or enter incorrect one of the field and insert all the fields with correct input.

Table 6.4: Staff login test description

Test case ID	Test case	Step to execute	Expected result
TC004_01	Check all the text and input	Check all the content in the page	Should not have any error appear on user interface
TC004_02	Check by enter the incorrect username and the correct password for staff	1)Enter the incorrect username on the username field.	System will display error message

		<p>2)Enter the correct password on the password field</p> <p>3)Click the “Login” button</p>	
TC004_03	Check by enter the incorrect username and the incorrect password for staff	<p>1)Enter the incorrect username on username field</p> <p>2)Click the “Login” button</p>	System will display error message
TC004_04	Check by submit the blank username field	<p>1)Empty the username field</p> <p>2)Enter the password on password field</p> <p>3)Click the “Login” button</p>	System will display “Please fill up the field”
TC004_05	Check by submit the blank for both field	<p>1)Empty the username and password field</p> <p>2)Click the “Login” button</p>	System will display “Please fill up the field”
TC004_06	Check by enter the correct username and correct password	<p>1)Enter the correct identification number</p> <p>2)Enter the correct password</p>	User successful login into the system

		3)Click the “Login” button	
--	--	----------------------------	--

Figure 61: Example of staff login interface with correct username and password

2) Module add to cart and place order

Customer can add product into cart before they checkout. They can add how much that they want to order but the number cannot be exceed by the amount of product in stock display in the table. Test case below show how the cart working and what error handling applied on this module.

Table 6.5: Customer add to cart test description

Test case ID	Test case	Step to execute	Expected result
TC005_01	Check all the text and input	Check all the content in the page	Should not have any error appear on user interface
TC005_02	Check the input of product that customer can added into cart	Select product and click “add” button	The maximum quantity that the customer can add are similar or less with the quantity in stock
TC005_03	Check the price of product that being multiply with quantity in the cart	Click button “add” on the selected product	The total price must be correct with quantity of the product
TC005_04	Check the add button at the part of list of order	Click the “+” button	The quantity of the product should be added and the price should be updated accordingly
TC005_05	Check the minus button at the part of list of order	Click the “-” button	The quantity of the product should be subtract and the price should be updated accordingly
TC005_06	Check the clear button	Click the “clear” button	The all product that is in the list of order should be clear

	500Gram (Chocolate)	RM 25.00	961	Quantity <input type="text" value="1"/> <input type="button" value="ADD"/>
--	---------------------	----------	-----	---

LIST OF ORDER

[CLEAR](#)

Estimated Receipt				
	Item Name	Quantity		Price
Remove	500Gram (Chocolate)	<input type="text" value="100"/>	<input type="button" value="+"/> <input type="button" value="-"/>	RM 2500
Total				RM 2500

Figure 62: Example of add to cart for customer

Test case below show on how the customer place their order by providing their details before they can proceed to the checkout page. All the fields need to be filled with correct input. If any of the tables didn't filled with input, the field will be turn into red color, popup message will be displayed and they cannot redirect to the next page unless all the fields are already be filled. Table below will show on how the test case was conducted.

Table 6.6: Customer place order test description

Test case ID	Test case	Step to execute	Expected result
TC006_01	Check submission of empty form	1)Empty all the fields. 2)Submit the form by click on "Checkout" button	System will display "Please fill all the field"
TC006_02	Check by fill just one field	1)Fill only current field 2)Empty other fields	System will display "Please fill all the field"

		Click “checkout” button	
TC006_03	Check the format of postcode enter	Enter the postcode with different input from number	System will display “Please fill with correct format”
TC006_04	Check by enter the correct input of all fields.	1)Enter the correct input for all fields 2)Click “checkout” button	User will redirect to next page for payment

Provide Order Details

Provide required delivery address and payment details.

Details

Billing Address

Full Name
SITI BT AHMAD

Phone No
012392939202

Address
No 29 Taman Suria

District
Alor Gajah

State
Melaka

Postcode
76100

Back Checkout

Please fill out this field.

Figure 63: Example of form that the customer need to fill

3) Module request to be an agent and admin updates the status of the request

Customer who are wants to generate side income and interested to become and agent can submit their request by selecting which district that they want. Test case below show if the customer didn't select any option, popup message will be displayed and if the form are blank, popup message will be displayed to fill in the blank form. Table below will show on how the test case is conducted and what the expected result on each test case are.

Table 6.7: Customer request to become an agent test description

Test case ID	Test case	Step to execute	Expected result
TC007_01	Check all the spelling and input format	Check all the content	Should not have any error appear on user interface
TC007_02	Check submission on empty form	1)Empty all the fields Submit the form by click on "Submit Request"	System will display "Please fill out the fields"
TC007_03	Check by fill in one required field	1)Fill only one field 2)Empty the other fields Submit the form by click on "Request"	System will display "Please fill out this field"
TC007_04	Check by enter all the field with the correct data	1)Fill all the field correctly 2)Submit the form by click on "Submit Request"	User are successfully submit their request to become an agent

Figure 64: Example of form for the customer who interested to become an agent

Test case below show the test case for admin to update the requested from customer to become an agent. Admin can choose to accept or reject the customer's request by updating the status. If the status is succeed, the date of the request confirm will be updated. If the quota is full, there will be no date updated and the status of request will be reject. Table below show on how the test is conducted and the expected results are.

Table 6.8: Admin update status of request agent test description

Test case ID	Test case	Step to execute	Expected result
TC008_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC008_02	Check submission of empty form	1. Empty some of the fields	System will display "Please fill out this field"

		Update the status by click the “Updates” button	
TC008_03	Select the right option	1. Select the option Update the status by click the “Updates” button	The status will be updated successfully

Agent Request:

Name	Address	District	Postcode	State	Area Requested	Status	Date Registered as Agent	
FARIS B TAMRULAN	DT 292 Taman Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana	Durian Tunggal	76100	Melaka	Durian Tunggal	Succeed	2021-09-05	Updates: Updates
MOHD RUSLI	No 50 Taman Kenari	Durian Tunggal	76100	Melaka	Durian Tunggal	Succeed	2021-08-16	Updates: Updates
AHMAD AL-AMIN B AHMAD RAIS	DT 292 Lorong Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana	Durian Tunggal	76100	Melaka	Durian Tunggal	Succeed	2021-08-25	Updates: Updates

Figure 65: Example of agent request

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4) Give feedback


Test case below show how to test can customer just give rating only without giving any thoughts. Table below show how the test case is conducted and the expected result for the test case.

Table 6.9: Customer give feedback test description

Test case ID	Test case	Step to execute	Expected result
TC009_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC009_02	Check submission of empty form	1)Empty all the fields. 2)Submit the form by click on “Checkout” button	System will display “Please fill all the field”
TC009_03	Check by fill just one field	1)Fill only current field 2)Empty other fields Click “checkout” button	System will display “Please fill all the field”
TC009_04	Check by enter the correct input of all fields.	1)Enter the correct input for all fields Click “share” button	User will redirect to product feedback page

Product Feedback

[Back](#)



350Gram (Caramel)

Share your thought with us now!

★★★★★

0

[Share](#)

Customer Name	Your Thought	Rating	Date
AHMAD AL-AMIN B AHMAD RAIS	Sedap sangat sangat	5.00	2021-09-05
MIN B MOHD	sedapppp!	5.00	2021-08-13

Figure 66: Example of give feedback for customer

5) Module update quota agent and add new district

Test case below show that admin can add or decrease the quota amount in the agent area/district. If the admin want to add or decrease the quota amount, the input must be positive integer and cannot be negative integer. Table below will show on how the test case is conducted.

Table 6.10: Admin add/decrease quota amount test description

Test case ID	Test case	Step to execute	Expected result
TC010_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC010_02	Check submission of empty form	1)Empty some of the fields	System will display “Please fill out this field”

		2)Submit the form by click “Add/Decrease” button	
TC010_03	Check by enter all the field with the correct data	1)Fill all the fields correctly 2)Submit the form by click on “Add/Decrease” button	Product is successfully updated into the system

Agent Quota:

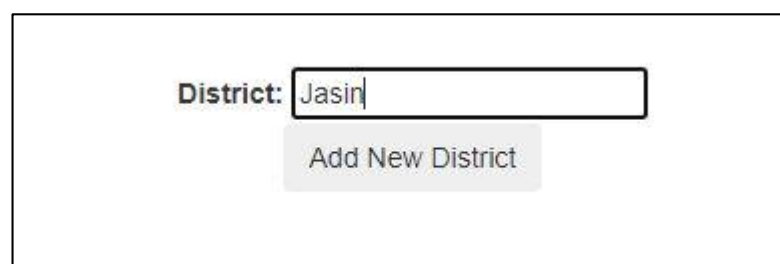
District	Current People	Quota Available	Total Quota Allowed	Add new quota
Pegoh	1 people	10 people	11 people	<input type="text"/> People Add Decrease
Lendu	2 people	8 people	10 people	<input type="text"/> People Add Decrease
Durian Tunggal	3 people	7 people	10 people	<input type="text"/> People Add Decrease
Alor Gajah	3 people	7 people	10 people	<input type="text"/> People Add Decrease

Figure 67: Example of admin to update the total quota in a district

Test case below is to show admin can add new district for the agent district. If the field is empty, there will be popup appear which need the admin to fill the field. Table below will show on how the test case is conducted in more details.

Table 6.11: Admin add new district for agent district test description

Test case ID	Test case	Step to execute	Expected result
TC011_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC011_02	Check submission of empty form	1. Empty some of the fields Submit the form by click “Add New District” button	System will display “Please fill out this field”
TC011_03	Check by enter all the field with the correct data	1. Fill all the fields correctly Submit the form by click on “Add New District” button	Product is successfully updated into the system



District:

Add New District

Figure 68: Example for admin to add new agent district

6) Staff completed orders

Module below is staff update the customer's order. Staff will update the status by selecting the option. If the status is order completed, there will be date updated or else there will be no date updated on the status. Table below will show on how the test case is conducted in more details.

Table 6.12: Staff completed customer's order test description

Test case ID	Test case	Step to execute	Expected result
TC012_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC012_02	Check submission of empty form	1)Empty some of the fields 2)Update the status by click the "Updates" button	System will display "Please fill out this field"
TC012_03	Select "Order Preparing" on the option and there no date updated	1)Select "Order Preparing" on the option 2)Update the order by click "Updates" button	System will display "Updated successfully"
TC012_04	Select "Order Shipped Out" on the option and there no date updated	1)Select "Order Shipped Out" on the option 2)Update the order by click "Updates" button	System will display "Updated successfully"

TC012_05	Select “Order Completed” on the option and there will be date updated	1)Select “Order Completed” on the option 2)Update the order by click “Updates” button	System will display “Updated successfully”
----------	---	--	--

Popcorn Orders						
Order Id #	Date Order	Name	Date Completed	Status	Details Orders	Staff Completed
257	2021-09-05	AHMAD AL-AMIN B AHMAD RAIS	2021-09-08	Order Completed	Update status: <input type="text"/> Updates	staff1
256	2021-09-05	AHMAD AL-AMIN B AHMAD RAIS	0000.00.00	Order Received	Update status: <input type="text"/> Updates	
255	2021-08-24	SITI BT AHMAD	0000.00.00	Order Received	Update status: <input type="text"/> Updates	

Figure 69: Example of staff update customer's order



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7) Add new stock raw materials, new stock popcorn

Test case below show to test how to add new stock raw materials. Staff need to add the amount the raw materials by insert the amount needed in the field. The number cannot be negative integer or else there will be popup said that “Error! Please try again”. Table below will explain more in details on how the test case was conducted.

Table 6.13: Staff add new stock raw materials test description

Test case ID	Test case	Step to execute	Expected result
TC013_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC013_02	Check submission of empty form	1)Empty some of the fields 2)Add the amount by click the “Add amount” button	System will display “Please fill out this field”
TC013_03	Check submission of negative number for input	1)Enter any negative number in the fields 2)Add the amount by click the “Add amount” button	System will not update or added the amount in the stock
TC013_04	Check the submission of correct input	1)Fill all the fields correctly	New stock is successfully updated into the system

		2)Submit the form by click on “Add Amount” button	
--	--	---	--



Stock Raw Materials			
Name Materials	Raw Materials	Balance In Stock	Add New Quantity
Jagung		34250 Gram	<input type="text" value="10"/> KG Add Amount Note: the amount will be convert into Gram
Minyak Masak		51760 Gram	<input type="text"/> KG Add Amount Note: the amount will be convert into Gram

Figure 70: Example of staff add new stock raw material

Test case below show about staff can add new stock popcorn and the system will update the stock. In this module, the amount will be updated based on the amount raw materials. If the raw materials is enough to produce the stock inserted, the amount will be added and updated or else there will be popup error said “Raw materials is not enough”. Table below will explain more in details on how the test case is conducted.

Table 6.14: Staff add new stock popcorn test description

Test case ID	Test case	Step to execute	Expected result
TC014_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface

TC014_02	Check submission of empty form	<p>1)Empty some of the fields</p> <p>2)Add the amount by click the “Add amount” button</p>	System will display “Please fill out this field”
TC014_03	Check if the amount of raw materials is sufficient to add and update new stock	<p>1)Add high value such as 1000 pieces in the input</p> <p>2)Add the amount by click the “Add amount” button</p>	System will display “Raw Materials Not Enough”
TC014_04	Check by enter all the field with the correct data	<p>1)Add suitable value such as 10 pieces in the input</p> <p>2)Add the amount by click the “Add amount” button</p>	System will display “New stock successfully updated”


Current Stock Popcorn			
Product	Product Details	Current Stock	Add Stock
	350Gram (Caramel)	1384 pcs	<input type="text" value="100"/> pcs <input type="button" value="Add Amount"/>

Figure 71: Example of add new stock of popcorn

8) Module customer and admin updates

This is module for customer to update their details. Customer can update their profile by updating their phone number and address. Test case below is to test can customer submit empty form. Table below will show how the test case is conducted in more details.

Table 6.15: Customer update profile test description

Test case ID	Test case	Step to execute	Expected result
TC015_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC015_02	Check by empty all the fields	1)Blank all the field 2)Click the “submit button”	System will display the message “Please fill up the field”
TC015_03	Check by fill in one required field	1)Fill only one field 2)Empty the other fields 3)Submit the form by click on “Submit” button	System will display the message “Please fill up the field”
TC015_04	Check by enter all the field with the correct data	1)Fill all the fields correctly 2)Submit the form by click on “Submit: button	User are successfully updated their info into the system

Update Profile

Name:

IC Number:

Phone No:

Address:

Postcode:

District:

State:

Figure 72: Example of form for customer to update their profile

Module below is admin can update the details of a product. Admin can update the picture of product or update the price. Test case below is to show can admin update with empty any of the field. Table below will explain more in details.

Table 6.16: Admin update product details test description

Test case ID	Test case	Step to execute	Expected result
TC016_01	Check all the spelling and the input format	Check all the content	Should not have any error appear on user interface
TC016_02	Check submission of empty form	1) Empty some of the fields 2) Submit the form by click "Update" button	System will display "Please fill out this field"

TC016_03	Check by fill in one required filed	<p>1)Upload image for product image</p> <p>2)Empty the other fields</p> <p>Submit the form by click “Update” button</p>	System will display “Please fill out this field”
TC016_04	Check by enter all the field with the correct data	<p>1)Fill all the fields correctly</p> <p>2)Submit the form by click on “Update” button</p>	Product is successfully updated into the system



Update Product Details

Upload image:

Choose File No file chosen



Price (RM)

UPDATE BACK

Figure 73: Example admin to update the product details

6.7 Test data

Test data are used to get expected output based on test design of this system. This test data is performed by validating, testing and verifying the software behavior using the real data from user.

1) Module login and registration

Test case ID	Attribute	Test Data	Description of test result
TC001_01	Identification number	Nil	There are no errors appear on the page. To check if there any coding error appear
	Full name	Nil	There are no errors appear on the page. To check if there any coding error appear
	Phone No	Nil	There are no errors appear on the page. To check if there any coding error appear
	Password	Nil	There are no errors appear on the page. To check if there any coding error appear
TC001_02	Password	Blank form/ no input	Popup message will display "Please fill out this field"
	Full name	Blank form/ no input	Popup message will display "Please fill out this field"
	Phone No	Blank form/ no input	Popup message will display "Please fill out this field"

	Password	Blank form/ no input	Popup message will display "Please fill out this field"
TC001_03	Identification number	990602045156	No error appear.
	Full name	Blank form/ no input	Popup message will display "Please fill out this field"
	Phone No	Blank form/ no input	Popup message will display "Please fill out this field"
	Password	Blank form/ no input	Popup message will display "Please fill out this field"
TC001_04	Identification number	Abcdefg	Popup message will display "Please fill out with correct format"
	Full name	Abu B Ahmad	No error appear.
	Phone No	0123456789	No error appear.
	Password	12345678	No error appear.
TC001_05	Identification number	990602045156	Popup message will display "User already registered in the system"
	Full name	Abu B Ahmad	No error appear.
	Phone No	0123456789	No error appear.
	Password	12345678	No error appear.
TC001_06	Identification number	990602045157	No error appear.
	Full name	Ahmad Al-Amin B Ahmad Rais	No error appear.
	Phone No	0134825723	No error appear.

	Password	1234	No error appear.
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Test case ID	Attribute	Data	Description of test result
TC002_01	Identification Number	Nil	There are no errors appear on the page. To check if there any coding error appear
	Password	Nil	There are no errors appear on the page. To check if there any coding error appear
TC002_02	Identification Number	Abcdefgh	Popup message will display "Please fill out with correct format"
	Password	12345678	No error appear.
TC002_03	Identification Number	990602045156	Popup message will display "Error! Please try again"
	Password	12345	Popup message will display "Error! Please try again"
TC002_04	Identification Number	Blank form/ no input	Popup message will display "Please fill out this field"
	Password	12345678	Popup message will display "Please fill out this field"

TC002_05	Identification Number	Blank form/ no input	Popup message will display “Please fill out this field”
	Password	Blank form/ no input	No error appear.
TC002_06	Identification Number	990602045157	Popup message will display “Login success! Welcome!” User can login into the system
	Password	12345678	Popup message will display “Login success! Welcome!” User can login into the system

Test case ID	Attribute	Data	Description of test result
TC003_01	Username	Nil	There are no errors appear on the page. To check if there any coding error appear
	Password	Nil	There are no errors appear on the page. To check if there any coding error appear
TC003_02	Username	admin_123	Popup message will display “Error! Please try again”. Wrong username entered.
	Password	12345678	Popup message will display “Error! Please try again”. Correct password entered

TC003_03	Username	Admin_123	Popup message will display "Error! Please try again". Wrong username entered.
	Password	abcdefg	Popup message will display "Error! Please try again". Wrong password entered.
TC003_04	Username	Blank form/ no input	Popup message will display "Error! Please try again". No username entered.
	Password	12345678	Popup message will display "Error! Please try again" because no username entered.
TC003_05	Username	Blank form/ no input	Popup message will display "Error! Please try again". No username entered.
	Password	Blank form/ no input	Popup message will display "Error! Please try again". No password entered.
TC003_06	Username	admin1	Popup message will display "Login success! Welcome!" User can login into the system
	Password	12345678	Popup message will display "Login success! Welcome!" User can login into the system

Test case ID	Attribute	Data	Description of test result
TC004_01	Username	Nil	There are no errors appear on the page. To check if there any coding error appear
	Password	Nil	There are no errors appear on the page. To check if there any coding error appear
TC004_02	Username	990602045157	Popup message will display "Error! Please try again". Wrong username entered.
	Password	12345678	Popup message will display "Error! Please try again". Correct password entered
TC004_03	Username	990602045157	Popup message will display "Error! Please try again". Wrong username entered.
	Password	abcdefg	Popup message will display "Error! Please try again". Wrong password entered.
TC004_04	Username	Blank form/ no input	Popup message will display "Error! Please try again". No username entered.
	Password	12345678	Popup message will display "Error! Please try again" because no username entered.

TC004_05	Username	Blank form/ no input	Popup message will display "Error! Please try again". No username entered.
	Password	Blank form/ no input	Popup message will display "Error! Please try again". No password entered.
TC004_06	Username	staff1	Popup message will display "Login success! Welcome!" User can login into the system
	Password	12345678	Popup message will display "Login success! Welcome!" User can login into the system

Test case ID	Attribute	Data	Description of test result
TC005_01	Item Name	Nil	There are no errors appear on the page. To check if there any coding error appear
	Quantity	Nil	There are no errors appear on the page. To check if there any coding error appear
	Price (price x quantity)	Nil	There are no errors appear on the page. To check if there any coding error appear

	Total price	Nil	There are no errors appear on the page. To check if there any coding error appear
TC005_02	Item Name	500Gram (Chocolate)	No error appear.
	Quantity	5 pieces	No error appear.
	Price (price x quantity)	RM 25 x 5 = RM125	No error appear.
	Total price	RM 125	No error appear.
TC005_03	Item Name	500Gram (Chocolate)	No error appear.
	Quantity	6 pieces	No error appear.
	Price (price x quantity)	RM 25 x 6 = RM150	No error appear.
	Total price	RM 150	No error appear.
TC005_04	Item Name	500Gram (Chocolate)	No error appear.
	Quantity	4 pieces	No error appear.
	Price (price x quantity)	RM 100	No error appear.
	Total price	RM 100	No error appear.
TC005_05	Item Name	500Gram (Chocolate)	No error appear.
	Quantity	5 pieces	No error appear.
	Price (price x quantity)	RM 125	No error appear.

	Total price	RM 125	No error appear.
TC005_06	Item Name	Click clear button	No error appear.
	Quantity	Click clear button	No error appear.
	Price (price x quantity)	Click clear button	No error appear.
	Total price	Click clear button	No error appear.

Test case ID	Attribute	Data	Description of test result
TC006_01	Full name	Nil	There are no errors appear on the page. To check if there any coding error appear
	Phone no	Nil	There are no errors appear on the page. To check if there any coding error appear
	Address	Nil	There are no errors appear on the page. To check if there any coding error appear
	District	Nil	There are no errors appear on the page. To check if there any coding error appear

	State	Nil	There are no errors appear on the page. To check if there any coding error appear
	Postcode	Nil	There are no errors appear on the page. To check if there any coding error appear
TC006_02	Full name	Faris B Tanrulan	No error appear
	Phone no	Blank form/ no input	Popup message will display "Please fill out this field"
	Address	Blank form/ no input	Popup message will display "Please fill out this field"
	District	Blank form/ no input	Popup message will display "Please fill out this field"
	State	Blank form/ no input	Popup message will display "Please fill out this field"
	Postcode	Blank form/ no input	Popup message will display "Please fill out this field"
TC006_03	Full name	Faris B Tamrulan	No error appear
	Phone no	013232323121	No error appear
	Address	DT 292 Taman Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana	No error appear
	District	Durian Tunggal	No error appear

	State	Melaka	No error appear
	Postcode	abcdefg	Popup message will display “Please fill correct format”
TC006_04	Full name	Faris B Tamrulan	No error appear
	Phone no	013232323121	No error appear
	Address	DT 292 Taman Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana	No error appear
	District	Durian Tunggal	No error appear
	State	Melaka	No error appear
	Postcode	76100	No error appear

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Test case ID	Attribute	Data	Description of test result
TC007_01	IC number	Nil	There are no errors appear on the page. To check if there any coding error appear
	Address	Nil	There are no errors appear on the page. To check if there any coding error appear

	District	Nil	There are no errors appear on the page. To check if there any coding error appear
	Postcode	Nil	There are no errors appear on the page. To check if there any coding error appear
	State	Nil	There are no errors appear on the page. To check if there any coding error appear
	Requested District	Nil	There are no errors appear on the page. To check if there any coding error appear
TC007_02	IC number	Blank form / no input	Popup message will display "Please fill out this field"
	Address	Blank form / no input	Popup message will display "Please fill out this field"
	District	Blank form / no input	Popup message will display "Please fill out this field"
	Postcode	Blank form / no input	Popup message will display "Please fill out this field"
	State	Blank form / no input	Popup message will display "Please fill out this field"
	Requested District	Blank form / no input	Popup message will display "Please fill out this field"

TC007_03	IC number	990602045157	No error appear
	Address	Blank form / no input	Popup message will display "Please fill out this field"
	District	Blank form / no input	Popup message will display "Please fill out this field"
	Postcode	Blank form / no input	Popup message will display "Please fill out this field"
	State	Blank form / no input	Popup message will display "Please fill out this field"
	Requested District	Blank form / no input	Popup message will display "Please fill out this field"
TC007_04	IC number	990602045157	No error appear
	Address	DT 292 Lorong Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana	No error appear
	District	Durian Tunggal	No error appear
	Postcode	76100	No error appear
	State	Melaka	No error appear
	Requested District	Ayer Keroh	No error appear

Test case ID	Attribute	Data	Description of test result
TC008_01	Name	Nil	There are no errors appear on the page. To check if there any coding error appear
	Updates	Nil	There are no errors appear on the page. To check if there any coding error appear
	Date registered as agent	Nil	There are no errors appear on the page. To check if there any coding error appear
TC008_02	Name	Faris B Tamrulan	No error appear
	Updates	Blank form / no input	Popup message will display "Please fill out this field"
	Date registered as agent	Blank form / no input	Popup message will display "Please fill out this field"
TC008_03	Name	Faris B Tamrulan	No error appear
	Updates	Succeed	No error appear
	Date registered as agent	8/8/2021	No error appear

Test case ID	Attribute	Data	Description of test result
TC009_01	Thoughts	Nil	There are no errors appear on the page. To check if there any coding error appear
	Rating	Nil	There are no errors appear on the page. To check if there any coding error appear
TC009_02	Thoughts	Blank form / no input	Popup message will display "Please fill out this field"
	Rating	Blank form / no input	Popup message will display "Please fill out this field"
TC009_03	Thoughts	Blank form / no input	Popup message will display "Please fill out this field"
	Rating	5	No error appear
TC009_04	Thoughts	Sedap sangat-sangat	No error appear
	Rating	5	No error appear

Test case ID	Attribute	Data	Description of test result
TC010_01	Add new quota	Nil	There are no errors appear on the page. To check if there any coding error appear

	Decrease quota	Nil	There are no errors appear on the page. To check if there any coding error appear
TC010_02	Add new quota	5	No error appear
	Decrease quota	Blank form / no input / not applicable	No need to insert input
TC010_03	Add new quota	Blank form / no input / not applicable	No need to insert input
	Decrease quota	5	No error appear

Test case ID	Attribute	Data	Description of test result
TC011_01	District	Nil	There are no errors appear on the page. To check if there any coding error appear
TC011_02	District	Blank form / no input	Popup message will display "Please fill out this field"
TC011_03	District	Durian Tunggal	No error appear

Test case ID	Attribute	Data	Description of test result
TC012_01	Update status	Nil	There are no errors appear on the page. To check if there any coding error appear
TC012_02	Update status	Blank form / no input	Popup message will display "Please fill out this field"
TC012_03	Update status	Select option "Order Preparing"	No error appear
TC012_04	Update status	Select option "Order Shipped Out"	No error appear
TC012_05	Update status	Select option "Order Completed"	No error appear. Date will be updated with current date timestamp

Test case ID	Attribute	Data	Description of test result
TC013_01	Add new quantity	Nil	There are no errors appear on the page. To check if there any coding error appear
TC013_02	Add new quantity	Blank form / no input	Popup message will display "Please fill out this field"
TC013_03	Add new quantity	-10	Popup message will display "Error! Please try again"

TC013_04	Add new quantity	10	No error appear
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Test case ID	Attribute	Data	Description of test result
TC014_01	Add stock	Nil	There are no errors appear on the page. To check if there any coding error appear
TC014_02	Add stock	Blank form / no input	Popup message will display "Please fill out this field"
TC014_03	Add stock	1000 pcs	System will display "Raw Materials Not Enough"
TC014_04	Add stock	10 pcs	System will display "New stock successfully updated"

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Test case ID	Attribute	Data	Description of test result
TC015_01	Customer Name	Nil	There are no errors appear on the page. To check if there any coding error appear
	IC number	Nil	There are no errors appear on the page. To check if there any coding error appear

	Phone number	Nil	There are no errors appear on the page. To check if there any coding error appear
	Address	Nil	There are no errors appear on the page. To check if there any coding error appear
	Postcode	Nil	There are no errors appear on the page. To check if there any coding error appear
	District	Nil	There are no errors appear on the page. To check if there any coding error appear
	State	Nil	There are no errors appear on the page. To check if there any coding error appear
TC015_02	Customer Name	Blank form / no input	Popup message will display "Please fill out this field"
	IC number	Blank form / no input	Popup message will display "Please fill out this field"
	Phone number	Blank form / no input	Popup message will display "Please fill out this field"
	Address	Blank form / no input	Popup message will display "Please fill out this field"

	Postcode	Blank form / no input	Popup message will display “Please fill out this field”
	District	Blank form / no input	Popup message will display “Please fill out this field”
	State	Blank form / no input	Popup message will display “Please fill out this field”
TC015_03	Customer Name	Ahmad Al-Amin B Ahmad Rais	No error appear
	IC number	Blank form / no input	Popup message will display “Please fill out this field”
	Phone number	Blank form / no input	Popup message will display “Please fill out this field”
	Address	Blank form / no input	Popup message will display “Please fill out this field”
	Postcode	Blank form / no input	Popup message will display “Please fill out this field”
	District	Blank form / no input	Popup message will display “Please fill out this field”
	State	Blank form / no input	Popup message will display “Please fill out this field”
	Customer Name	Ahmad Al-Amin B Ahmad Rais	No error appear
	IC number	990602045157	No error appear

TC015_04	Phone number	0134825723	No error appear
	Address	DT 292 Lorong Bukit Tambun Perdana 5, Taman Bukit Tambun Perdana	No error appear
	Postcode	76100	No error appear
	District	Durian Tunggal	No error appear
	State	Melaka	No error appear

Test case ID	Attribute	Data	Description of test result
TC016_01	Product image	Nil	There are no errors appear on the page. To check if there any coding error appear
	Price	Nil	There are no errors appear on the page. To check if there any coding error appear
TC016_02	Product image	Blank form / no input	Popup message will display "Please fill out this field"
	Price	Blank form / no input	Popup message will display "Please fill out this field"
TC016_03	Product image	Uploaded	No error appear

	Price	Blank form / no input	Popup message will display “Please fill out this field”
TC016_04	Product image	Uploaded	No error appear
	Price	RM 18.00	No error appear

6.8 Test result and analysis

For the test result, it clarifies the result of testing that followed using test data from user. This part will explain each modules test case results which consists of the success or failure. All test case will be tested and the result will be shown on the table below.

1) Module login and registration

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC001_01	Check if there any error in spelling and input format	√	
TC001_02	Empty all the field	√	
TC001_03	Fill only one fill and empty other fields	√	
TC001_04	Fill all field correctly except identification field	√	
TC001_05	Fill with existing identification number	√	

TC001_06	All fields were fill up correctly	√	
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Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC002_01	Check if there any error in spelling and input format	√	
TC002_02	Fill incorrect identification number and correct password	√	
TC002_03	Enter incorrect identification number and password	√	
TC002_04	Blank the identification number and enter password correctly	√	
TC002_05	Blank all the fields	√	
TC002_06	All fields were fill up correctly	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC003_01	Check if there any error in spelling and input format	√	
TC003_02	Fill incorrect username and correct password	√	
TC003_03	Enter incorrect username and password	√	
TC003_04	Blank the identification number and enter password correctly	√	
TC003_05	Blank all the fields	√	
TC003_06	All fields were fill up correctly	√	

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Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC004_01	Check if there any error in spelling and input format	√	
TC004_02	Fill incorrect username and correct password	√	

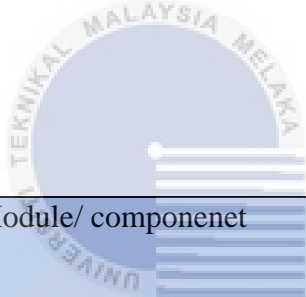
TC004_03	Enter incorrect username and password	√	
TC004_04	Blank the identification number and enter password correctly	√	
TC004_05	Blank all the fields	√	
TC004_06	All fields were fill up correctly	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC005_01	Check if there any error in spelling and input format	√	
TC005_02	Fill incorrect username and correct password	√	
TC005_03	Enter incorrect username and password	√	
TC005_04	Blank the identification number and enter password correctly	√	
TC005_05	Blank all the fields	√	
TC005_06	All fields were fill up correctly	√	

Module/ component		Result	
Test Case Id	Description	Success	Fail
TC006_01	Blank all the fields	√	
TC006_02	Only fill up one field and blank the others	√	
TC006_03	Check the format of postcode which cannot insert input other than numeric	√	
TC006_04	Insert all the fields correctly	√	

Module/ component		Result	
Test Case Id	Description	Success	Fail
TC007_01	Check if there any error in spelling and input format	√	
TC007_02	Blank all the fields	√	
TC007_03	Only fill up one field and blank the others	√	
TC007_04	Insert all the fields correctly	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC008_01	Check if there any error in spelling and input format	√	
TC008_02	Blank all the fields and click “Updates” button	√	
TC008_03	Select the right option and click “Updates” button	√	



Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC009_01	Check if there any error in spelling and input format	√	
TC009_02	Blank all the fields and click “Updates” button	√	
TC009_03	Select the right option and click “Updates” button	√	
TC009_04	Enter all the fields correctly	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC010_01	Check if there any error in spelling and input format	√	
TC010_02	Blank all the fields and click “Add/Decrease” button	√	
TC010_03	Enter all the fields correctly	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC011_01	Check if there any error in spelling and input format	√	
TC011_02	Blank the field	√	
TC011_03	Fill the fields with correct data	√	

Module/ component		Result	
Test Case Id	Description	Success	Fail
TC012_01	Check if there any error in spelling and input format	√	
TC012_02	Blank the fields	√	
TC012_03	Select “Order Preparing” option and no date updated	√	
TC012_04	Select “Order Shipped Out” option and no date updated	√	
TC012_05	Select “Order Completed” option and no date updated	√	

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Module/ component		Result	
Test Case Id	Description	Success	Fail
TC013_01	Check if there any error in spelling and input format	√	
TC013_02	Blank the fields	√	
TC013_03	Insert negative integers in the field	√	
TC013_04	Fill the fields with correct data	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC014_01	Check if there any error in spelling and input format	√	
TC014_02	Blank the fields	√	
TC014_03	Insert large input such as 100000 in the input field and popup will display “Not enough raw materials”	√	
TC014_04	Insert input such as 10 in the input field and popup will display “New stock successfully updated”	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC015_01	Check if there any error in spelling and input format	√	
TC015_02	Blank the fields	√	
TC015_03	Fill one field and blank other fields	√	
TC015_04	Fill the fields with correct data	√	

Module/ componenet		Result	
Test Case Id	Description	Success	Fail
TC016_01	Check if there any error in spelling and input format	√	
TC016_02	Blank the fields	√	
TC016_03	Fill one field and blank other fields	√	
TC016_04	Fill the fields with correct data	√	

6.8.1 Summary

- **Goals**

The major goal of testing is to detect and discover any errors in the system. Second is to help get confidence that system will be able to perform without any error, so in this testing, Sweekiz Popcorn Management System will be able to achieve the goal. Almost all of the test data is success after testing on test description. After all the testing has been done this system is succeeded in achieving the objectives.

- **Problems**

The problem of this phase is have poor planning of the testing effort. Because of the rushing the testing doesn't have good planning to perform this testing.

6.9 Conclusion

Software testing is necessary because the system that we have made is not that perfect and it needs to be tested so that we can fix the bugs or errors that occur. We always take it easy when we see a small mistake, but we do not know that a small mistake can lead to bigger problems in the future. That is why we need to test the system so that we can detect the errors or bugs. The person who will test the system that the developer has developed is called a tester.

Software testing is an important phase because we need to know the defects and errors that were made during the development phase. It is important to test and make the system run efficiently because we must meet client satisfaction when they use the system. It is also important to ensure the quality of the system at the highest quality so that we can gain the customer's trust. Besides that, testing is also important to maintain or lower the maintenance cost.

Chapter 7 will explain about the conclusion of the project. The chapter will be explained by pointing out the strengths and weaknesses of Sweekiz Popcorn Management System through observation for any further improvement in the future.

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CHAPTER 7: PROJECT CONCLUSION

7.1 Introduction

To conclude this project, this chapter will explain the weakness and strengths of this system. In this chapter also explain about the proposition for improvement on Sweekiz Popcorn Management System which are any suggestion that can make this system better for the user. All the strength and weakness of this system are based on a module that developed in this system. Lastly, in this chapter also explains about project contribution such as to university, faculty, company or individual that relate to this project.

7.2 Observation on weakness and strengths

Every system that developed always have their strength and weakness. By listing the strengths and weakness in this system (Sweekiz Popcorn Management System), we can refer to this so that we can make any improvement if necessary in the future. Below are a list of the strength and weakness of Sweekiz Popcorn Management System.

- Strengths

- 1) It is developed in a web-based environment which is convenience for the admin and staff to keep track their orders, popcorn in stock and balance of raw materials in stock. It also makes admin can access the system easily at anywhere and whenever needed.

- 2) All the data of orders can easily store in the database and the admin does not need to search the data of the product manually.
 - 3) Since this system have 3 types of user which are admin, staff and customers, it is built with different level of user access. As for admin, admin will control the whole system while the staff can only updated the orders and keep track the balance of raw materials in stock.
- Weakness
 - 1) In this system, there is no backup and recovery module. So, if there any attack of malware or data corrupt, the whole data will be lost.
 - 2) There is also no high level security and password encryption that can secure the system so the system can easily can be hack.
 - 3) There is no limit when user enter wrong password and this system does not have forgot password for customers to reset their password.

7.3 Proposition and improvement

After analyzing the strength and weaknesses that stated above, there are several ideas for improvements that can be implement and help in future use. Sweekiz Popcorn Management System will be better the implementation of backup and recovery procedure in the database to ensure the data safely store if there have something happen to the system or database such as misbehave, corruption, malware attack and database problem. Backup and recovery procedures can be implemented by developer for this system in many ways such as daily, weekly or monthly backup either using full or incremental backup.

Generally, this system is not secure on user account because this system does not implement password encryption. For preventing user account from any hacker or something bad happen, this system should implement password

encryption to secure the users account from unauthorized person login into the system.

Finally, forgot password also very important in case the users forgot their password. Users can reset their password with high measures of security to avoid the users from losing their account or avoid from being hack. All of this features can improved and implement in the future so that this system can run more efficiently and secure.

7.4 Project contribution

Project contribution for this project are divided into the university, company and individual. For the first is the university which this project is belonging to the university of Universiti Teknikal Malaysia Melaka (UTeM). This project also can be the source of ideas, finding and information to other university students in developing management system, especially for popcorn management system or any project that have similar process with Sweekiz Popcorn Management System.

Furthermore, for company contribution, the company can manage its system and process to handle their customer's orders easily and more efficiently. The data of orders or any information will store in the database and can ease management to keep track and manage the orders that the company receive and the stock of raw materials that comes in and out.

Finally, for individual contribution is during project documentation to get any knowledge or information and ideas to develop and implement another system or make any improvement of their system.

I also would like to express my gratitude to my supervisor, Ts Mr Abdul Razak B Hussain for guiding me during developing this project for Projek Sarjana Muda (PSM) and give ideas for me to improve during developing this system. I would not be able to achieve and complete this project without him. Thank you.

7.5 Conclusion

In conclusion, this system has met all of its objectives. The objective of this system is to enable a single view of orders so that the orders initiated by the customer and the updates made by the staff are consistently recorded. Secondly, to able the staff to facilitate the monitoring of raw materials so that whenever it reaches a minimum threshold level, the staff will be alerted to re-order them. Lastly, to provide recommendation to the management in appointing agents in a particular area based on certain criteria.

This project is built using waterfall model approach. It has completed all the stage that are requirement gathering and analysis, system design, implementation, integration and testing, deployment of system and maintenance. After this system have complete, a conclusion has been made which that this system has successfully developed and meet all of its requirement. However, there are still weaknesses that need to improve so that the system can run more efficiently.

Nevertheless, if this system has met all the objective and requirement, it mean that this system has success and will be useful to the user. As for the weakness, the developer can improve more in the future so that the system will run more efficiently and secure.

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