



Faculty of Computer Science and Information Technology

A Web-Based Satay Sales Management System

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ABSTRACT

Mie Satay Sdn. Bhd. is a well-known halal satay food production business in Malaysia. Mie Satay focus on market strategy to emphasize the quality of their food and services. Currently, Mie Satay encounter difficulty using online marketing to promote their product and also to increase the derivative sales. A web-based system will be developed and implemented for Mie Satay to produce an information accurately, efficiently, on-time, and relevant. The web-based systems allow Mie Satay businesses to serve their customers through a website and doing so will eliminates many problems faced by traditional call-in orders. The web-based development system are designed through an organized method which include of analysis the data, designing, implement, testing and maintenance the system. The proposed web-based system are created based on the requirement and the satisfaction of the user. The system design such as context diagram, DFD and system interface design are discussed further.

ABSTRAK

Mie Satay Sdn. Bhd. ialah perniagaan pengeluaran makanan sate halal yang terkenal di Malaysia. Mie Satay memberi tumpuan kepada strategi pasaran untuk menekankan kualiti makanan dan perkhidmatan mereka. Pada masa ini, Mie Satay menghadapi kesukaran menggunakan pemasaran dalam talian untuk mempromosikan produk mereka dan juga untuk meningkatkan jualan derivatif. Sistem maklumat ringkas berasaskan web akan dibangunkan dan dilaksanakan untuk Mie Satay menghasilkan maklumat dengan tepat, cekap, tepat masa dan relevan. Sistem berasaskan web membolehkan perniagaan Mie Satay melayani pelanggan mereka melalui laman web dan berbuat demikian akan menghapuskan banyak masalah yang dihadapi oleh pesanan menggunakan cara tradisional. Sistem pembangunan berasaskan web direka bentuk melalui kaedah yang teratur yang merangkumi analisis data, mereka bentuk, melaksana, menguji dan menyelenggara sistem. Sistem berasaskan web yang dicadangkan dibuat berdasarkan keperluan dan kepuasan pengguna. Reka bentuk sistem seperti rajah konteks, DFD, ERD, dan reka bentuk sistem dibincangkan dengan lebih lanjut.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Mie Satay Sdn. Bhd. is a well-known halal satay food production business that provides various types of authentic satays which includes chicken, beef, lamb and rabbit. Mie Satay were a family business based on generation to generation and was established on 1963 and located at Jalan Post Office Lama, Kota Bharu, Kelantan. The business has been in the market for nearly 59 years. Nowadays, Mie Satay become one of the famous Kelantanese street stall that serves one of the Malaysian's best satay versions.

Mie Satay focus on market strategy to emphasize the quality of their food and services. Thus, several marketing strategies are developed over the years purposely for maintaining the stability of the family business. For instance, Mie Satay offer an affordable price for each satay food to ensure the customer perception about the price is in line with the perceived value. They also printed-out banner and displayed in front the stall in order to ensure the neighbourhood community are aware with their existence of food family business. However, the mentioned effort seems inadequate and not reliable for the growing of the business in the future.

It is believed that most of their customers are unaware of the varieties of satay food provided as the Mie Satay stall have no online marketing strategies for promoting their food. Mie Satay owner also used a traditional kind of business system where set of order are written and calculated on a piece of paper, instead of using a technology for revise each order. As a result, the stall are missed with some of customers' orders, especially during the seasonal festivals as they received an overwhelmed order during the time.

These difficulties have been seen as an opportunity and lead to an idea to create a web-based information systems design to assist of marketing systems for Mie Satay. The system aims to help the owner of Mie Satay to manage order and derivatives sales respectively. With the help of real-time location intelligence, incorporated in food ordering systems, Mie Satay as the user are able to key-in data into the system and also view the ordering system. The user also can be redirected to cart page where the subtotal and total price shown.

The method for developing the system begins with an interview session with Mie Satay's owner with purpose to collect data that been used in developing web-based systems. The collection data consist of problem that owner had in their business, sell items, criteria's customer that come to their stall and more. From the collection of data the website was drafted. A function of the web-based development where sellers pay attention to a good strategy to market its products so that there will be good feedbacks from customers. For designing the website, a programming and coding with bootstrap must be used. Bootstrap is the most popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website. It is absolutely free to download and use. It is a front-end framework used for easier and faster web development. Flowchart is used in these project to help see a series of programs as a whole, process steps in detail, and complete with activities that occur.

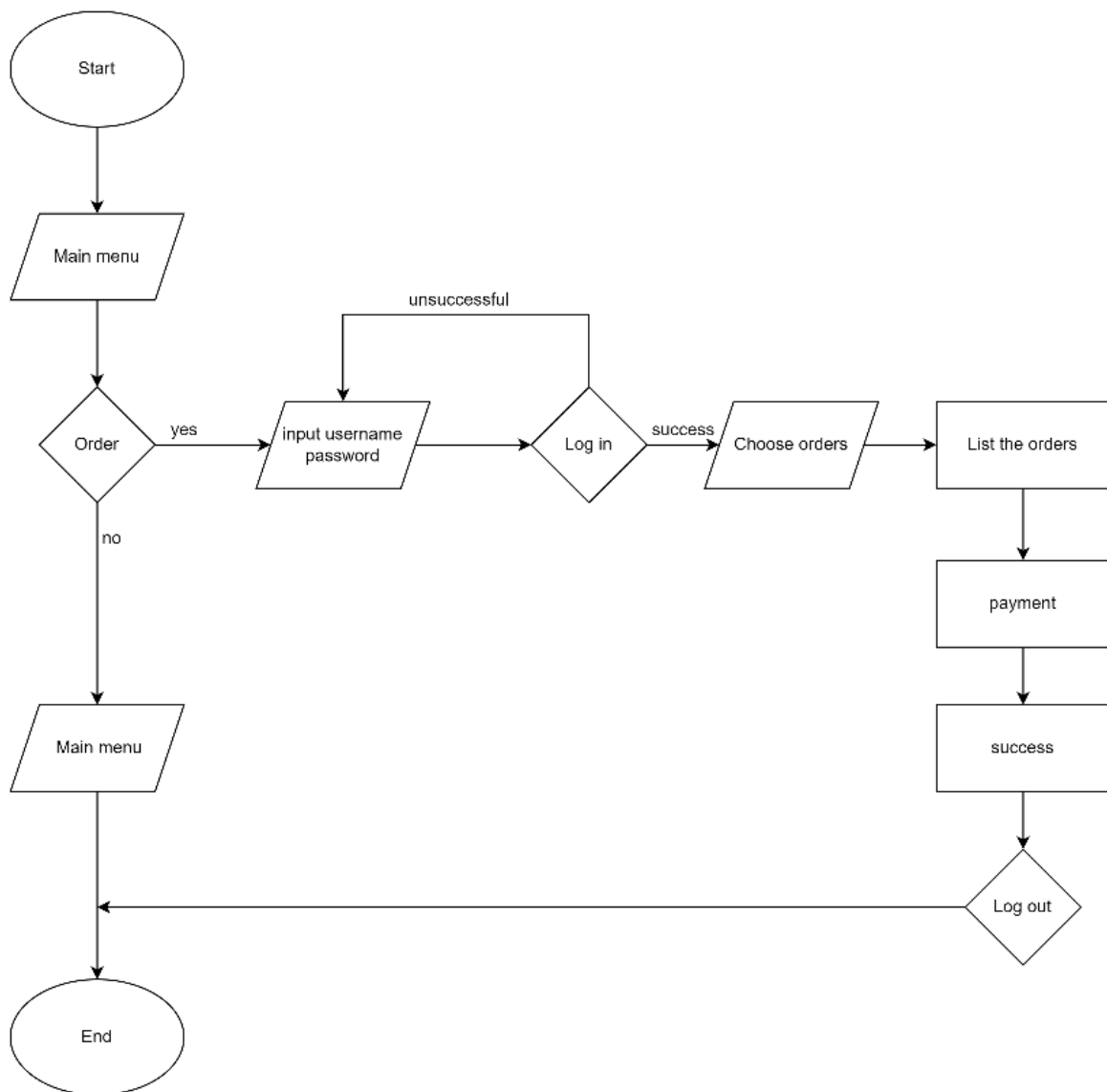


Figure 1 Flowchart of Proposed System

Besides, Use case diagrams (UCD) also can be used to describe the system to be made. Use case diagrams is a model to describe the high-level functions and scope of a system. Thus, such web-based sales management systems are necessary to be implemented as it provides a flawless service by streamlining order management workflow. It also helps to record customer information and order patterns for every transaction which in turn boosts repetitive sales.

1.2 Problem Statement

The general business problem was the owner of Mie Satay encounter difficulty using online marketing to increase the quality of communication with customers and also to increase the derivative sales. The owner's stall was lacking of motivation for online food ordering system which is to provide customers for a way to place an order at a store over the internet.

Additionally, this store was using a traditional manual system in ordering and calculating orders. The set of order are written and calculated manually on a piece of paper. These manual processes are inaccurate, slow, and unreliable. As a result, it is impossible for owner to know whether it is can rely on the accuracy of the numbers or know whether the data they are looking at is current. Manual work also is extremely time-consuming, and it usually entails that more employees are becoming involved in the process and eventually required an excessive additional cost into the business.

1.3 Scope

A brief information web-based system will be developed and implemented for Mie Satay to produce an information accurately, efficiently, on-time, and relevant. It can also be linked between admin and finance to improve in each area performance. The design of this information web-based system is expected to be able to promote food business via the internet and administrators can process data on purchases and sales so that the data reporting system can be found easily, quickly, and accurately. Other than, the project deliverables are expected allowing for full monitoring by admin or owner and develop ordering system for ease customer to make order satay product on website. For the project acceptance criteria, the owners of Mie Satay will test and review the website against the product guidelines before approval for publishing. This project will be constraint at time in which to develop and design a website will acquire some time to attract the customers' attention. If delivery time is cut or rushed, project costs may rise and quality will very likely decline.

1.4 Objectives

1. To create a web-based information systems design to assist marketing systems for Mie Satay.
2. To design and developed an online food ordering systems for meeting owners' satisfaction.
3. To generate a sales report data consists of sales report statistic and list of sales orders.

1.5 Methodology

A web-based development system will be designed through an organized method which include of analysis the data, designing, implement, testing and maintenance the system.

1. Methods in collecting data:

a. Interview

Arranged an interview with the owner of Mie Satay for collecting data needed for designing the website.

2. Designing the website:

b. Flowchart

- Create a flowchart that shows the process of using the website. This method used to describe several aspects of an information system in a clear, concise, and logged manner.

c. DFD (Data Flow Diagram)

- DFD is a step or method to create a system design that is oriented to the flow of data that moves to another system.

d. DBMS (Database management system)

e. Coding using a few languages.

- The language used in PHP, java and c++.

1.6 Significance of Project

The web-based systems allow Mie Satay businesses to serve their customers through a website and doing so will eliminates many problems faced by traditional call-in orders. A well-designed and integrated web-based management system can deliver a number of benefits, including revenue growth, cost reduction, and menu management. It can also support additional outlets and payment solutions, as well as channels for customer engagement.

1.7 Project Schedule

SCHEDULE		WEEK													
		17 Oct 2022	14 Nov 2022	9 Dec 2022	25 Jan 2023	19 Feb 2023	30 Mar 2023	7 April 2023	15 May 2023	29 May 2023	10 June 2023	24 June 2023	29 June 2023	24 July 2023	30 July 2023
1	Briefing for FYP 1														
2	1 st Meeting with Supervisor														
3	Brief Project Description Submission														
4	Preparation and Submission of Full Proposal														
6	2 nd Meeting with Supervisor														
7	Introduction														
8	3 rd Meeting with Supervisor														
9	Background Study and Literature Review														
10	Methodology and Requirement Analysis & Design														
11	Final Report Submission														
12	Briefing for FYP 2														
13	Submission of proposed/revised structure of FYP report														
14	Submission of First Draft for Chapter 4														
15	Submission of First Draft for Chapter 5, 6 & Abstract for paper														
16	Submission of First Draft for FYP 2 Full Report & Paper														
17	Submission of Final Report														

Table 1. Project Schedule

1.8 Expected Outcome

The expected result of this project is a web-based system that help the owner of Mie Satay to manage order and derivatives sales respectively. This project aims to carried out research, analyze, design and develop a website that supports the marketing as well as the growing sales of Mie Satay business.

CHAPTER 2: BACKGROUND OF STUDY

2.1 Introduction

This chapter provide details on the review of similar systems that are related to this project Web-Based Satay Sales Management System. Currently, Mie Satay encounter difficulty using online marketing to increase the quality of communication with customers and also to increase the derivative sales. Most of their customers are unaware of the varieties of satay food provided as the Mie Satay stall have no online marketing strategies for promoting their food. Mie Satay owner also used a traditional kind of business system where set of order are written and calculated on a piece of paper, instead of using a technology for revise each order. The idea of this project comes from the problem faced by the owner of Mie Satay when the stall were missed with some of customers' orders, especially during the seasonal festivals as they received an overwhelmed order during the time. This store was using a traditional manual system in ordering and calculating orders. These manual processes are inaccurate, slow, and unreliable thus resulting an unmanageable sale for the owner. This chapter will elaborate more on the existing works and tools that make the sales management system works for them.

2.2 Review of The Existing Web System

2.2.1 MenuDrive

MenuDrive is a fully featured restaurant software designed to serve enterprises, and startups. MenuDrive provides end-to-end solutions designed for Windows. This online restaurant system offers menu management, point of sale (POS), reporting/analytics at one place. MenuDrive empowers restaurants and caterers to provide their own branded online and mobile food ordering systems. The cutting-edge technology allows restaurant operators to seamlessly add e-commerce to their businesses, so that customers can order remotely, and driving the sales. This system enables restaurant owners to turn their menus into interactive websites that allow customers to customize their orders. MenuDrive gives owner full control to make changes to their menu, store hours, and promotions from any device with an internet connection. The software use by this system is Java, MySQL database and Html coding in order to create their web-based system.



Figure 2.1 Log in Page

User can view log in page and also can sign up for an account to do ordering.

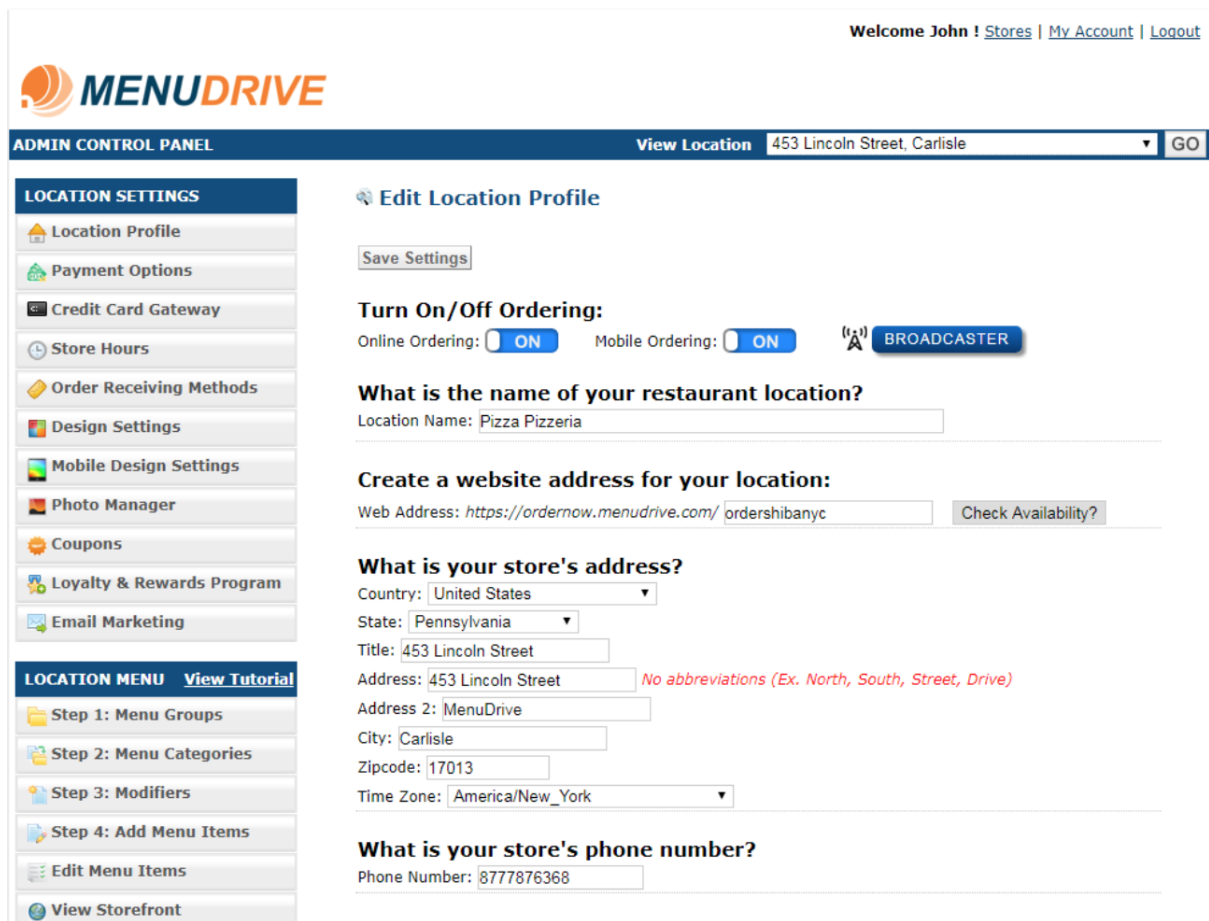


Figure 2.2 Homepage Dashboard

User can view home page with a few of navigation. For ordering, user can fill the required information that ease owner to prepare the order.

2.2.2 UsahaOne

Usahaone is a complete POS System with Accounting Software. It also has manufacturing features for businesses that produce their own products. With this the business owner can calculate the cost of manufacturing and production. Owner can also control the raw material or manufacturing stock. This feature is suitable for businesses such as eateries, cafes, product factories, and other types of manufacturing businesses. There are several further steps such as cost calculation, waste calculation, and allocation of lot number and expiration date for the product released. UsahaOne is ideal for businesses that run businesses such as restaurants and cafes. This POS System has the following features like product management and reports. For instance, product management can manage the stock, categories, unit, discount, taxes and labels. Meanwhile for report feature, UsahaOne can provide report as sophisticated reports with

filter and chart, purchase and sales reports, stock report and many more. POS System UsahaOne also have additional features for example take order by table which is means owner can specify their customer order according to the customer's desk number sitting. This web-based system is easy to use regardless it is user friendly. The programming language used in this system is Java, C#, and SQL language that allows the applications to be created.

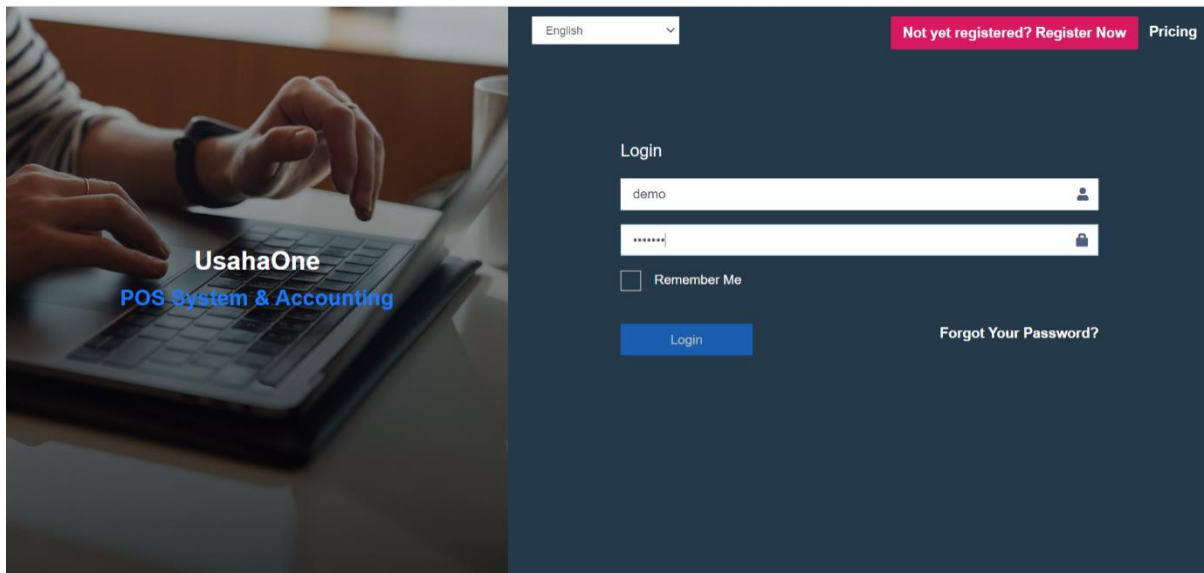


Figure 2.3 Log in Screen

The admin will need to enter the email and password before logging into the application. Only the admin of the company will need to log in before using the application.

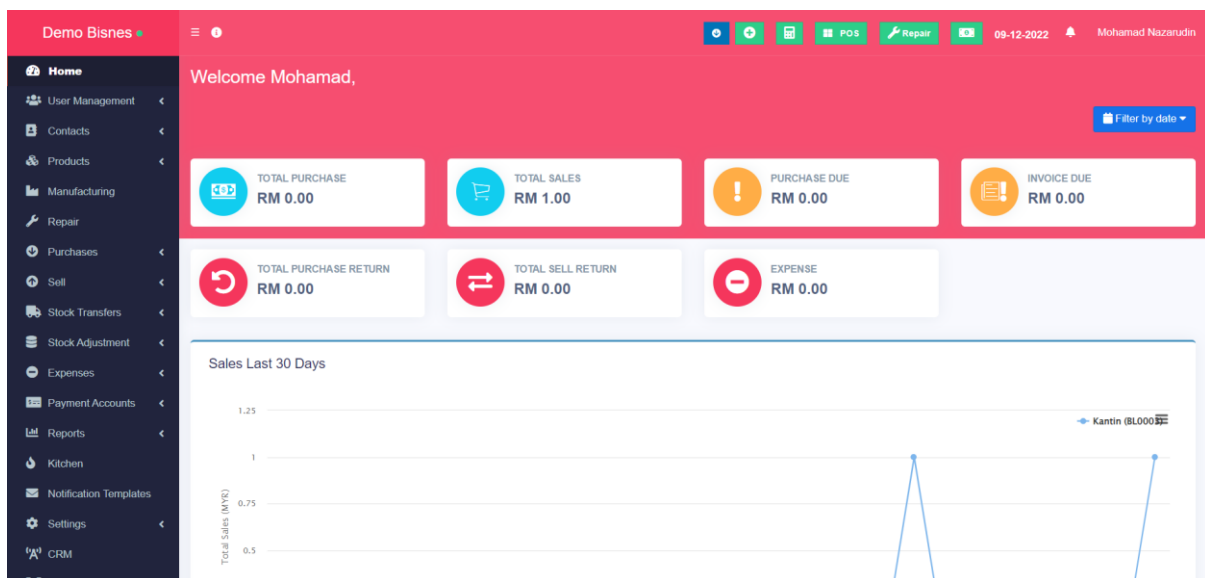


Figure 2.4 Homepage Dashboard

The dashboard provide all the features to be experienced by user throughout the system. Administrator can view sales report, take order, add product and many other menu in this system.

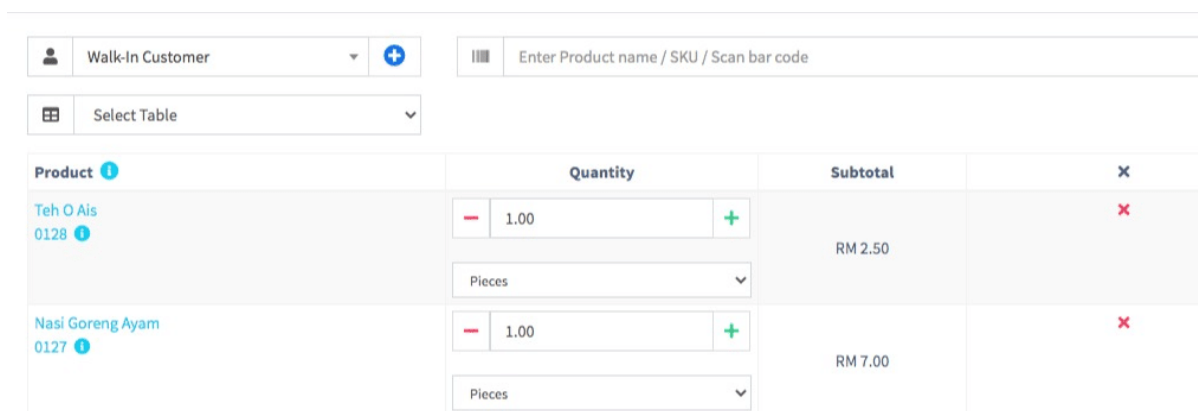


Figure 2.5 Order by Table Page

The owner can take order by table to ease ordering system. They also can get amount after submit the order.

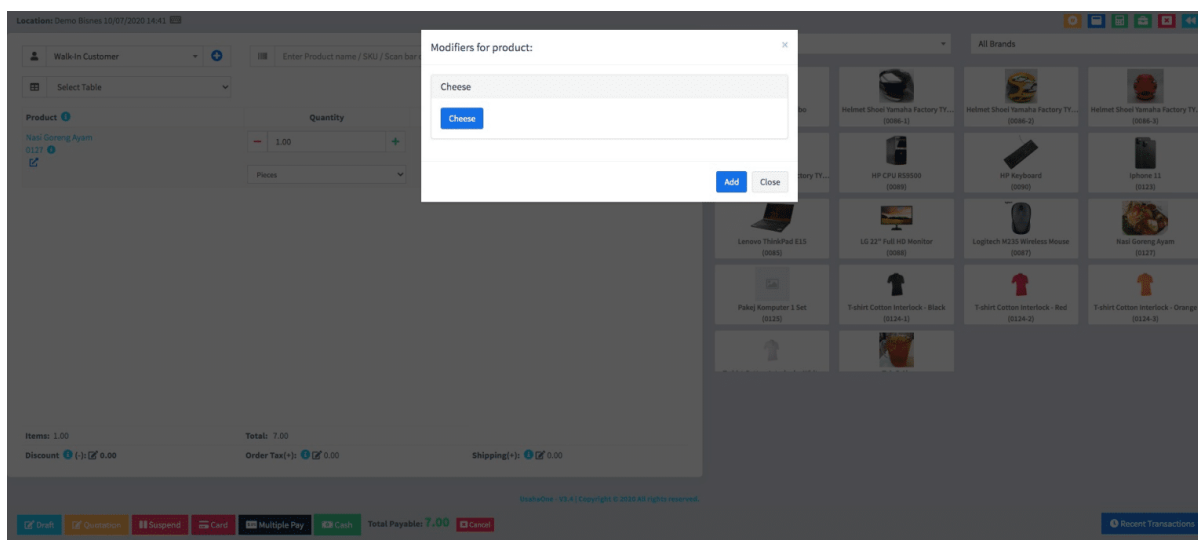


Figure 2.6 Extra Charges Page

Admin can charge extra for each of the meals such as for example selling burgers for extra cheese that charge an additional RM1.

Action	Date	Invoice No.	Customer name	Contact Number	Location	Payment status	Payment Method	Total amount	Total paid	Sell Due	Sell Return Due	Shipping Status	Total Items	Types of service	Custom Field 1	Added By	Sell note	Staff note	Shij Dets
Actions	09-12-2022 01:41 PM	0667	Walk-in Customer		Kantin	Paid	Cash	RM 1.00	RM 1.00	RM 0.00			1.00			Naz Mohamad Nazarudin			
Actions	01-12-2022 03:15 PM	0666	Walk-in Customer		Kantin	Paid	Cash	RM 1.00	RM 1.00	RM 0.00			1.00			Naz Mohamad Nazarudin			
Total:								Paid - 2	Cash - 2	RM 2.00	RM 2.00	RM 0.00	RM 0.00						

Figure 2.7 Sales Report Page

Admin also can view their sales record and total sales by filter in this system.

2.2.3 Oracle GloriaFood

Oracle GloriaFood is an online ordering and food delivery platform that helps restaurant owners manage orders and streamline point-of-sale operations. It comes with an administration panel, which enables professionals to select multiple locations for deliveries, define minimum order amount and set zone-based delivery fees. It takes online orders for pickup, delivery, and tableside service from a simple, elegant mobile app. Update menus and pricing, and automate orders to the kitchen in Symphony Essentials POS. It's all made easy with our all-in-one online ordering and restaurant management platform. The exciting integration of Oracle GloriaFood and Symphony Essentials POS provides a small business POS system with a complete digital restaurant management platform to increase online order sales, eliminate the need for restaurant staff to manually key orders into Symphony point of sale, and automate order data flow to the kitchen. The features that Oracle GloriaFood provide was user can create their own menu in the website and also accept orders and notify the customers of delivery or pickup times at the touch of a button. Besides, this web system offer scheduled pickup, delivery, table reservations and more like give owner curb side pickup and delivery customers flexible ordering options during checkout.

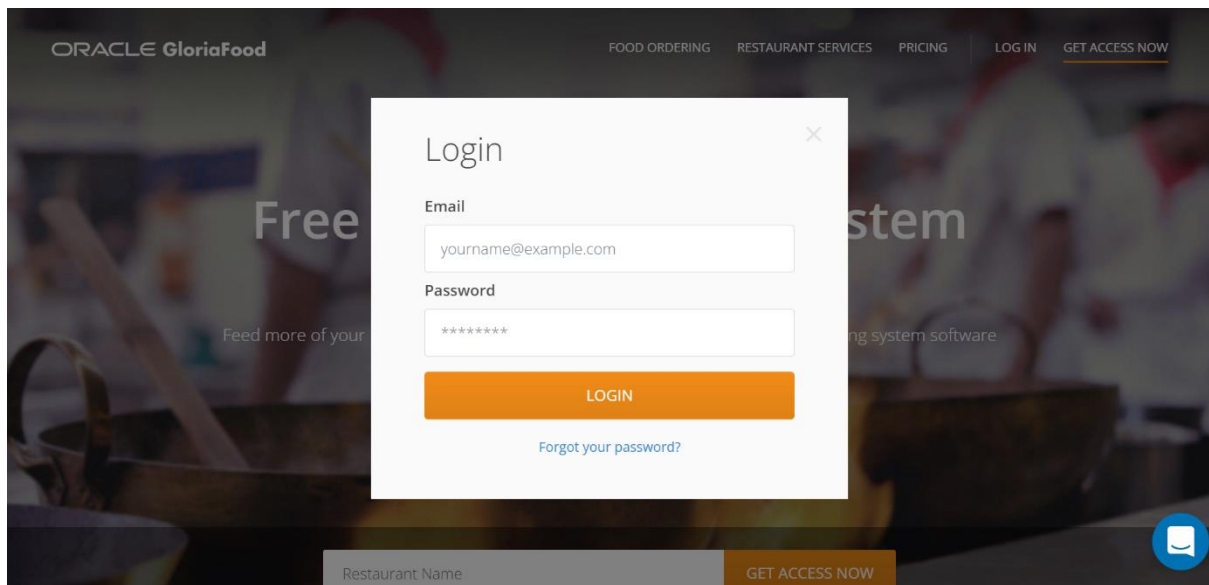


Figure 2.8 GloriaFood Log in Page

User need to log in the web system to view their data.

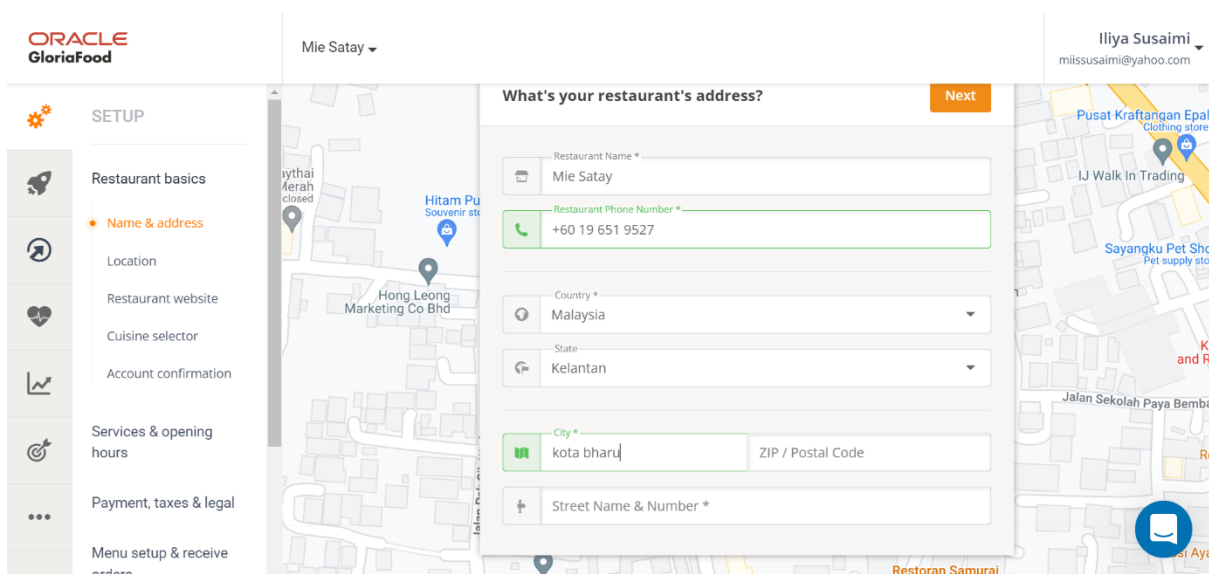


Figure 2.9 Create Location Page

User need to key in the location for their restaurant.

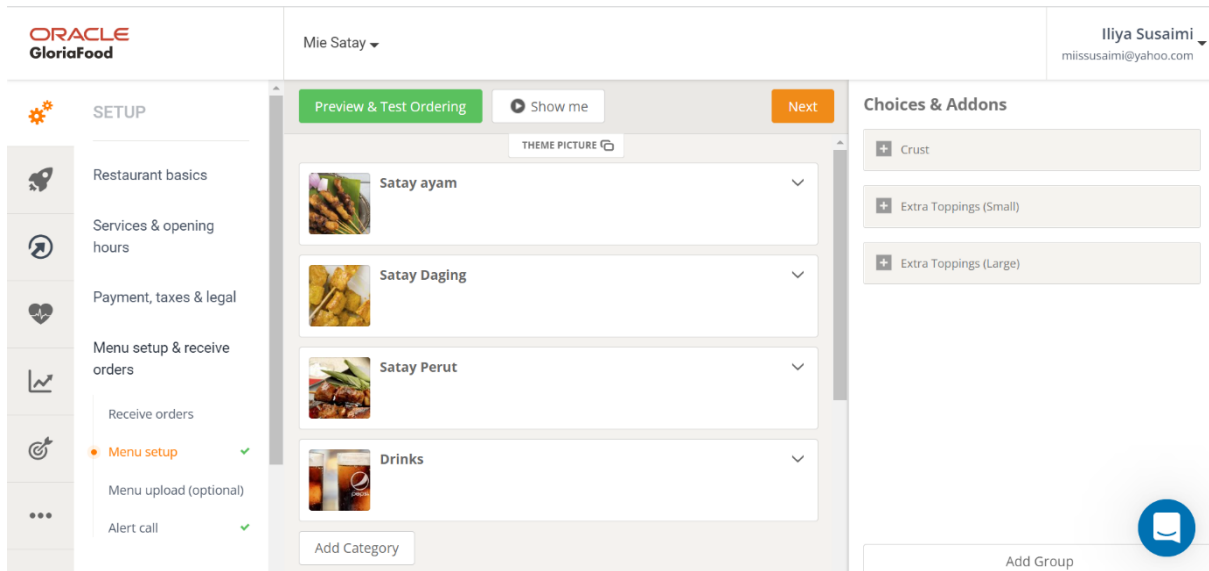


Figure 2.10 Create Menu Page

User can create their products with variety group like food, beverages and more. User also can put in the price for any products.

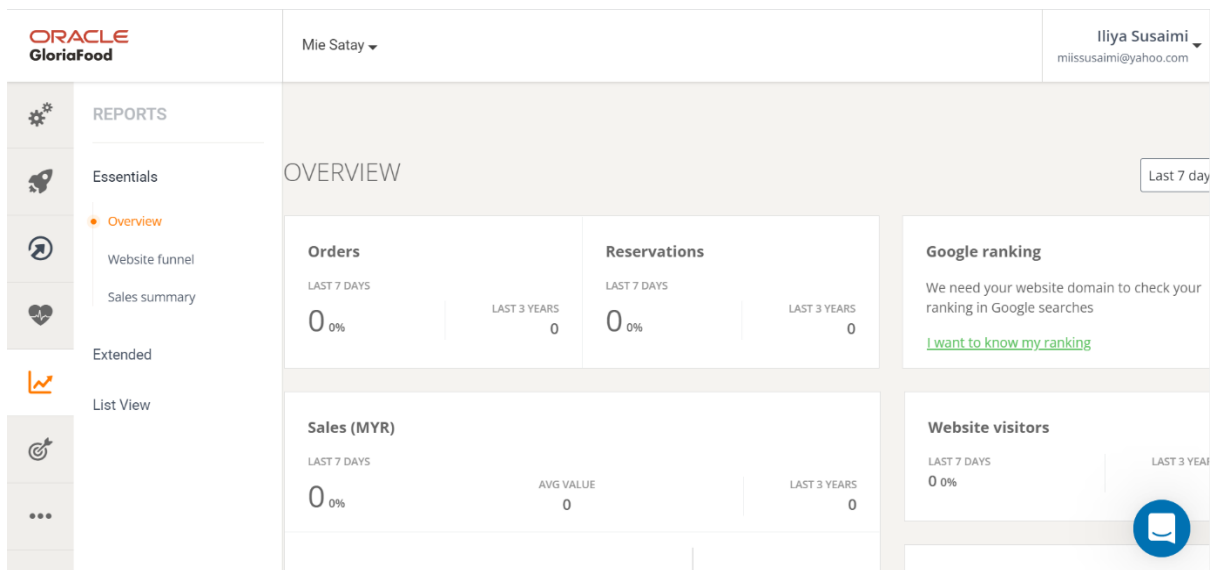


Figure 2.11 Report Page

User can view their report for sales.

2.3 Comparison of Existing Web-System and Proposed System

System	Existing System			Proposed System
Features	MenuDrive	UsahaOne	Oracle GloriaFood	Web-based Satay Sales Management System
User Log in	Yes	Yes	Yes	Yes
Ordering System	Yes	Yes	Yes	Yes
QR Codes	No	No	No	Yes
Generate Online Receipt	No	Yes	No	Yes
Database Management	Yes	Yes	Yes	Yes
Generate Report	Yes	Yes	Yes	Yes
User feedback	No	No	Yes	Yes
Easy and User friendly	No	No	Yes	Yes

Table 2. The Comparison of Existing Web-System and Proposed System

The features selected for the proposed system are as in the Table 2 above. The chosen features are to ensure the proposed system is align with its objectives. The user login element is for user to login into the system. By login into the system, users are able to view their profile. The users also should be able to explore and discover what they need effectively. The food ordering system which comprises user interface (UI) design are then implemented. It is considered as a significant component of the web-based sales system for its progress. It must load with all the elements features for a great user experience with better system engagement and conversion rate. QR code can be a valuable addition to the online food-ordering system. With the QR code feature, customers can view the menu whenever they visit the stall by scanning the designed QR code. This solution is very high in demand as even customers prefer contactless ordering systems. Meanwhile, online receipt management solutions provide greater insight into the entire process. It is designed to eliminate or avoid issues or limitations of the traditional paper/spreadsheet-based approach. The receipts are then uploaded to the cloud, solving the problem of losing them. The database management provided is to record, store, and manage each data information for the owner. With this database system, the owner will able to secure and monitoring of the food ordering management and status and customers' transactions. These features will be eventually converted into reports, which served as a record of all the transactions that had happened in the system. Conducting user feedback is also important for improving the web system. User feedback is directly collected from real-world users about their interaction with website experience. The feedback can help the owner to build brand loyalty and could also be seen as a chance to improve the product. Last but not least, this system is created for user friendly that make the user easy to understand each part of the system and the function of it.

2.4 Summary

The process of developing the system is carried out by reviewing some of the similar existing web system. This process works by comparing the difference between the review systems with the proposed system. The work is done for analyzed and finalize either those features are suitable or not to put in the proposed system. This comparison to make sure that the proposed system has greater usability other than the existing system. Then the system will be created based on the requirement and the satisfaction of the user.

CHAPTER 3: REQUIREMENT ANALYSIS AND DESIGN

3.1 Introduction

This chapter will present about plan and process of the proposed system for Mie Satay stall. A system development methodology is a framework that is used to structure, plan, and control the processes of developing information systems (Khan, 2016). The requirement of the proposed systems are obtained and will be discussed in this chapter. In order to develop the system, there are plenty of ways and steps needed to go through. Besides, the design of the system and the interface for the proposed system also will also be discussed in this chapter. Waterfall Model had been chosen to be the method of develop the system because the progression of this project will become easier to measure and does not contain a lot of method that need to be done when developing the system. Waterfall Model include the process of requirement system analysis, system design, implementation, testing, deployment and maintenance the proposed system. Waterfall is the most traditional software development method. In fact, the plan-driven approach has made it one of the most popular approaches to web development projects for decades. The benefits of the waterfall method are attractive to developers. With clear deadlines, costs and development time can be easily predicted. Finally, the waterfall method is primarily used for web development projects that have a clear, defined scope, fixed project completion timeframes, and little iteration or revision for this project.

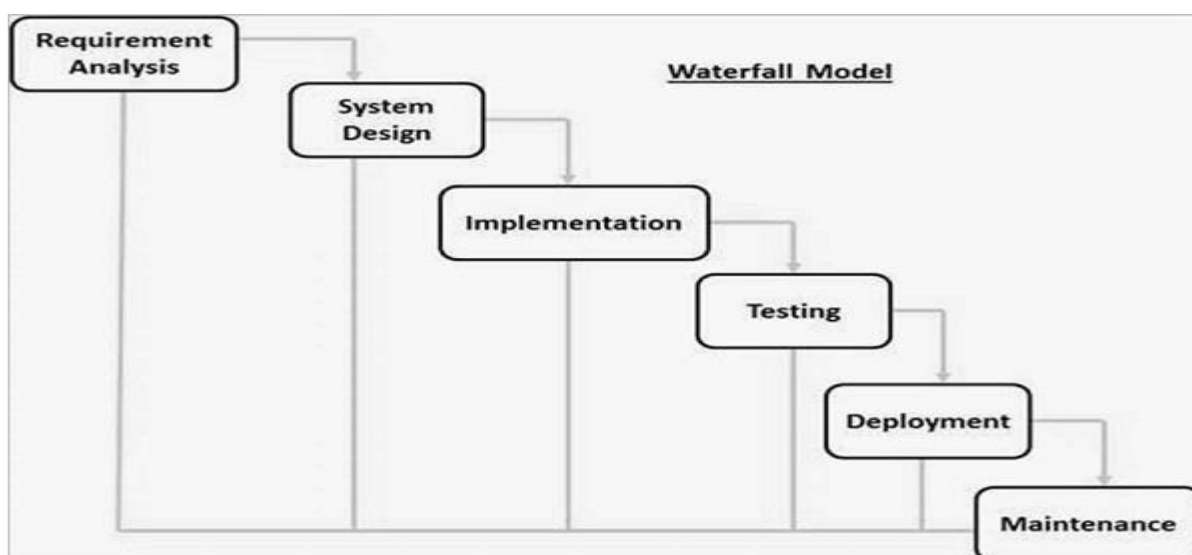


Figure 3.1 Waterfall model

3.2 Requirement Analysis

Requirement analysis is the first phase in the waterfall model. An analysis was conducted to test existing approaches and proposed systems. The process of gathering user requirements is done through an online survey asking the target users to share their thoughts on the proposed system. Total of 30 respondents are involved in the survey. The following question are as:

1. Gender

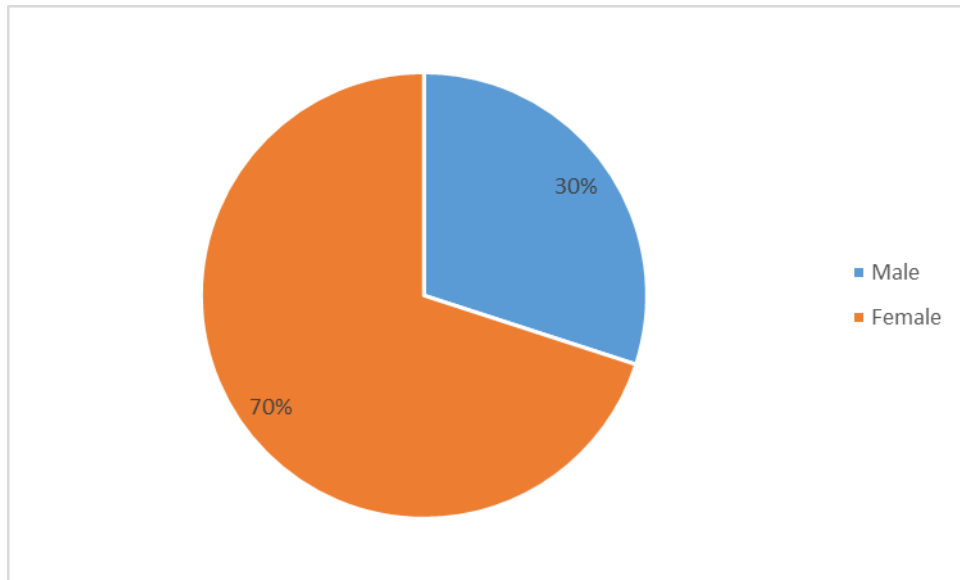


Figure 3.2.1 Gender of users

2. Age

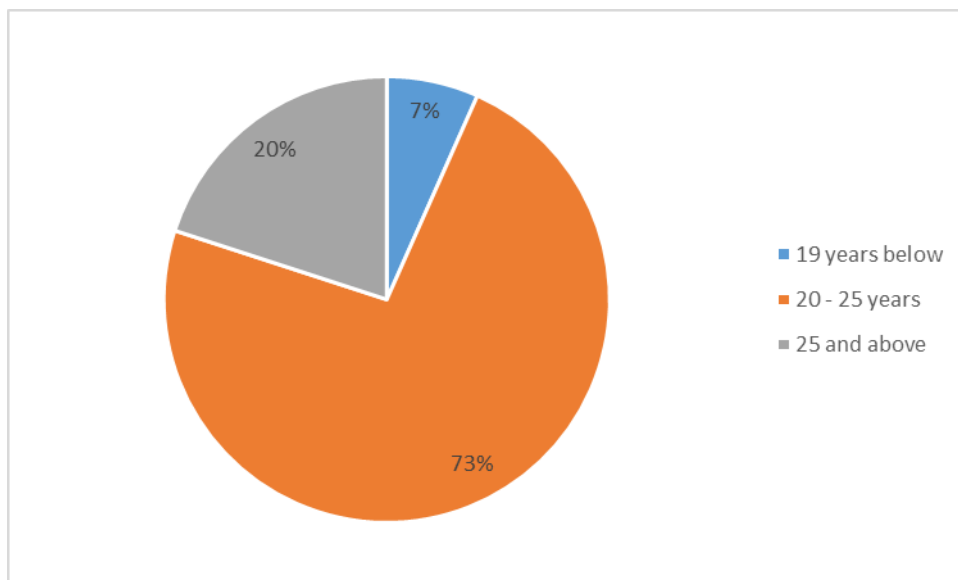


Figure 3.2.2 Age of users

3. Have you ever heard of the online ordering system?

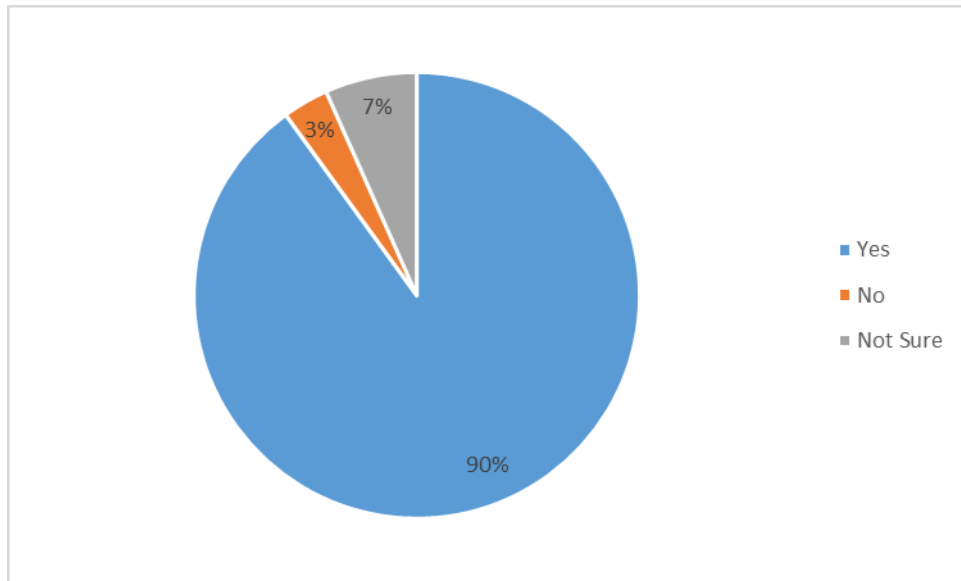


Figure 3.2.3 Analysis of users awareness to the existing online ordering system

From Figure 3.2.3, 90% of the users are aware with the existing online ordering system followed with 3% and 7% of them not and not sure about it.

4. How often you used such an online ordering system in a month?

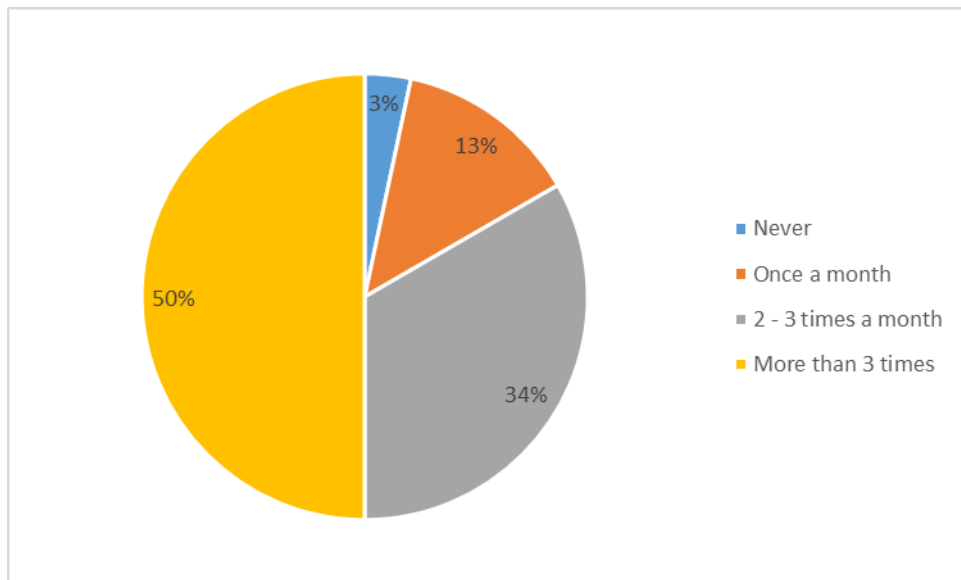


Figure 3.2.4 Analysis of how frequently the respondents used an online ordering system in a month

Figure 3.2.4 shows 50% of users had used online ordering system more than 3 times per month. The others of 34% users had used for 2-3 times a month, followed with 13% of users which only use once per month. Another 3% of them are never using of it.

5. What type of business that you are often ordered through an online system?

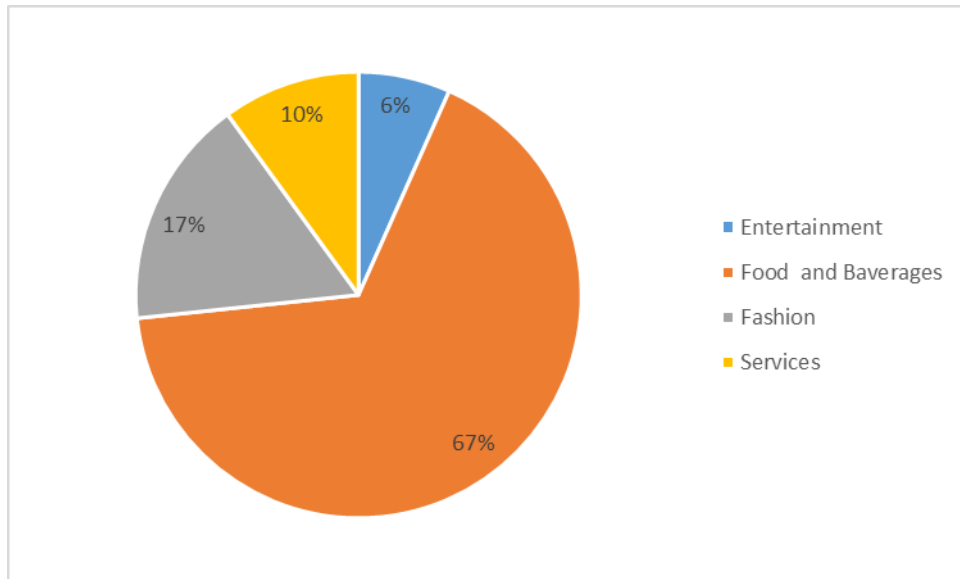


Figure 3.2.5 Analysis of the type of business the users are often ordered through an online system

From Figure 3.2.5, 67% of the users had answered that they are spending their money and ordered it through online in Food and Beverages business rather than spending on for other types of business in a month. The rest of business such as Fashion, Services and Entertainment with the percentage of 17%, 10% and 6% are seemly not being prioritize by the users.

6. Have you encountered any problem when using such online ordering system?

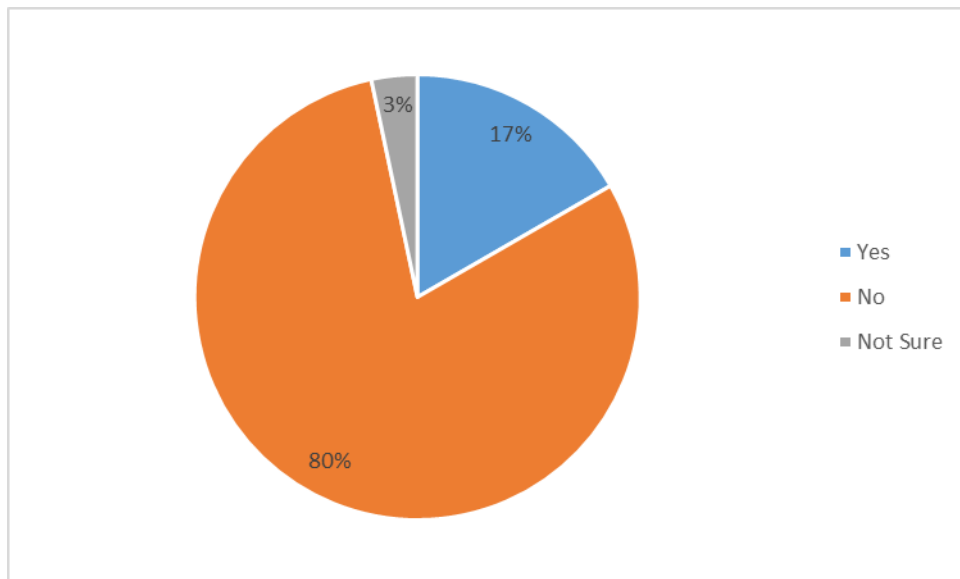


Figure 3.2.6 Analysis of if the users had encountered any problem when using online ordering system

Figure 3.2.6 shows 80% of the users seemly not facing any problem when they are using the existing online ordering system. Followed with small percentage of 17% and 3% of the users which answered 'Yes' and "Not sure" when they are using the system.

7. Do you find such existing online ordering system are useful in your life?

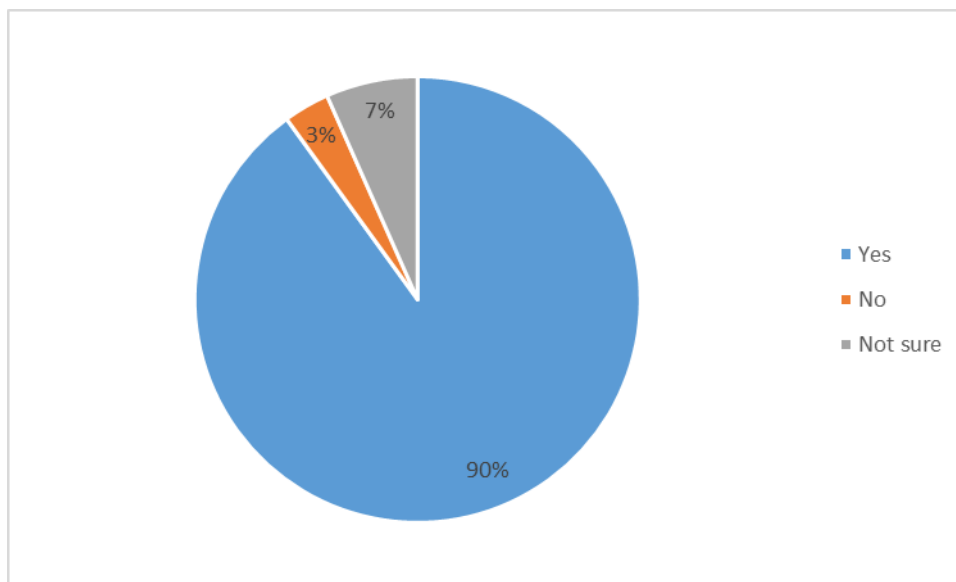


Figure 3.2.7 Analysis of the users finding of the existing online ordering system are useful in their life

From Figure 3.2.7, majority of the users with 90% of them are agreed such online ordering system are necessary in their life. The rest of 7% and 3% of the users however are not into and not sure about the necessary of the system.

8. Do you encourage every business have to established such an online ordering platform to expand their business?

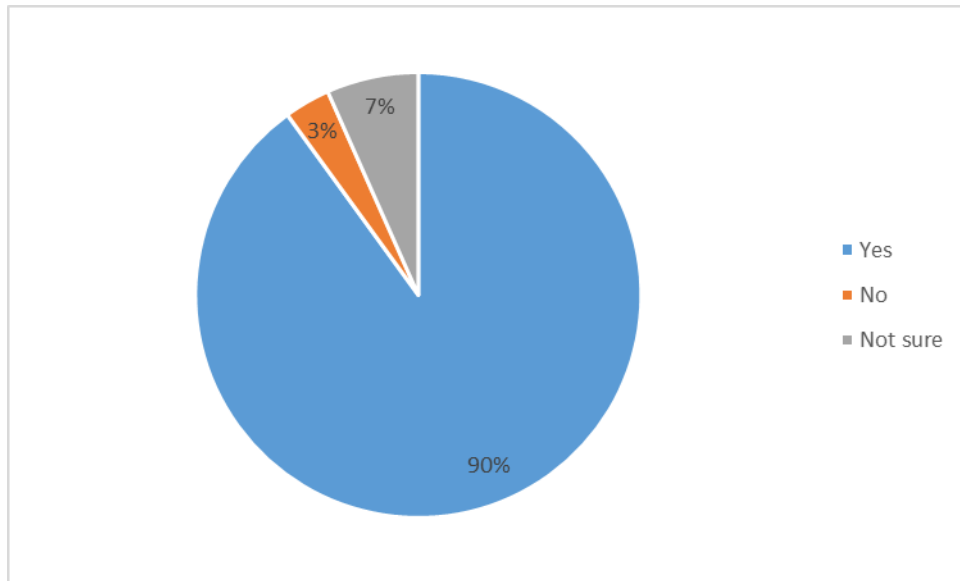


Figure 3.2.8 Analysis of the users opinion on every business have to established an online ordering platform

Figure 3.28 shows that majority of the users with 90% of them are agreed and encourage every business have to established an online ordering platform to expand their business in future. The rest of 7% and 3% of the users however are not sure and saying 'No' to the necessary of the system to be established.

3.3 Hardware and Software Requirement

3.3.1 Client and Server

The client-server model is a distributed application structure that partitions tasks or workloads between the providers of a resource or service, called servers, and service requesters, called clients. In computer science, client-server is a software architecture model that consists of two parts, a client system and a server system, both communicating on a computer network or on the same computer. Every web-based system required the client-server to running the system, without the client-server the system is useless and cannot be used.

3.3.2 Tools

3.3.2.1 Web server

A web server is software and hardware that responds to client requests made over the World Wide Web using Hypertext Transfer Protocol (HTTP) and other protocols. A web server must be connected to the internet before it can be used. A web server is used for web hosting or hosting data for websites and web-based applications.

3.3.2.2 MySQL

MySQL is an open source relational database management system. It can store user information data and store it into tables in database. MySQL is the most popular Open Source Relational SQL Database Management System and one of the best RDBMS being used for developing various web-based software applications. Most of the Web Server uses MySQL to store their data.

3.3.2.3 Database

A database is an organized collection of data, usually stored and retrieved electronically by a computer system. More complex databases are often developed using formal design and modeling techniques. It is used to store data in a database management system that interacts with users to collect and analyze data.

3.3.2.4 HyperText Preprocessor (PHP)

Hypertext Preprocessor (PHP) is a server scripting language and a powerful tool for creating interactive web pages. PHP scripts are executed on the server. PHP is free to download and use. The goal of the language is to allow web developers to write dynamically generated pages quickly. PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.

3.3.2.5 Scripting language

A scripting language is a programming language that is interpreted, meaning it is translated into machine code when the code is run, rather than beforehand. It is a programming language for a special run-time environment that automates the execution of tasks, alternatively allowing human operators to perform individual tasks. Scripting languages are often used for short scripts over full computer programs. CSS, JavaScript, Python, and Ruby are all examples of scripting languages.

3.3.3 Web Browser

3.3.3.1 Google Chrome

Google Chrome is a cross-platform web browser developed by Google. It was first released in 2008 for Microsoft Windows and was later ported to Linux, macOS, iOS, and Android where it is the default browser built into the OS. It had been choosing to be the browser to use the web system development for Mie Satay store.

3.3.4 Hardware Requirement

Component	Minimum
Processor	1.9 gigahertz (GHz) x86- or x64-bit dual-core processor with SSE2 instruction set
Memory	2-GB RAM
Display	Super VGA with a resolution of 1024 x 768
External Hard Drive	Backup any important data when developing the system
Network	-Networking card (10/100 Ethernet LAN) - Bandwidth greater than 50kbps (400kbps)

Table 3. Hardware Requirement

3.4 Proposed system

3.4.1 Flowchart

Flowcharts can help see a series of programs as a whole, process steps in detail, and complete with activities that occur.

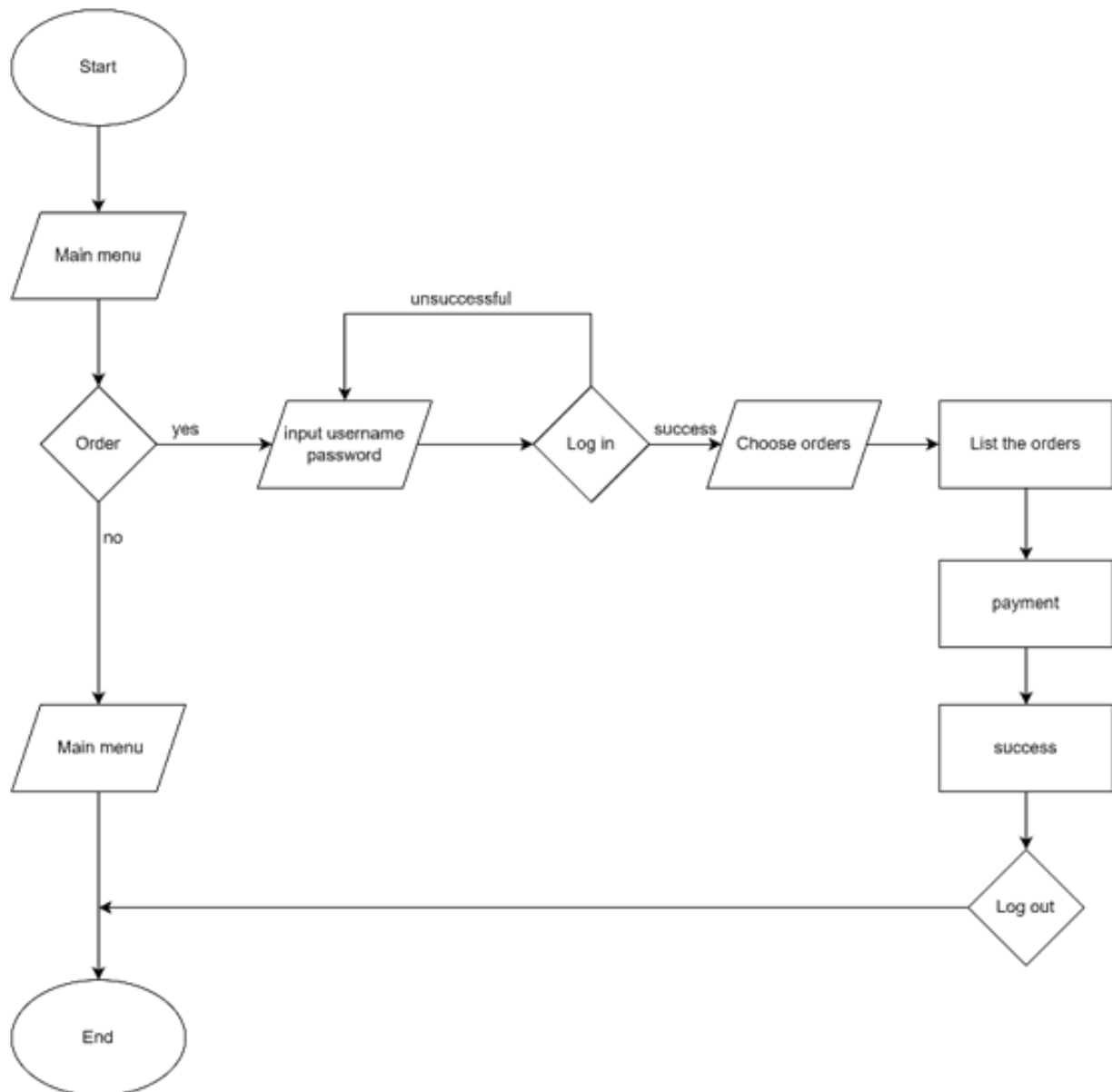


Figure 3.4.1 Flowchart

3.4.2 Context diagram

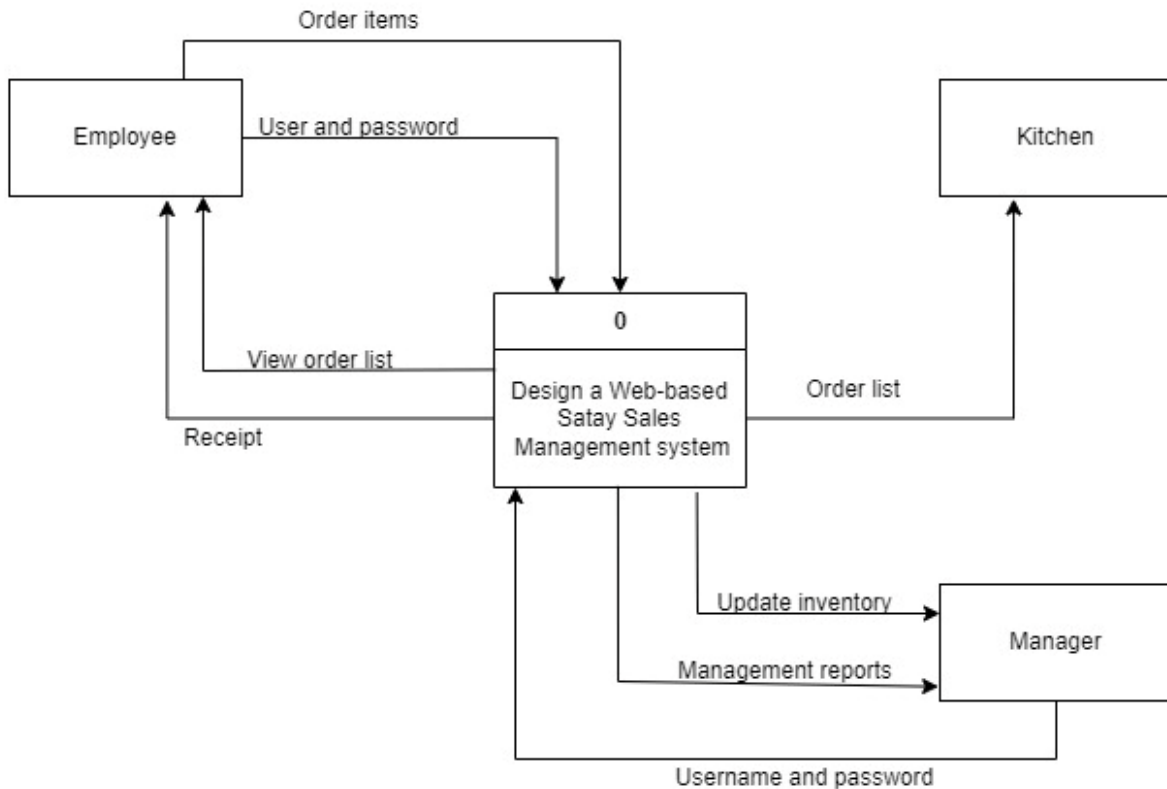


Figure 3.4.2 DFD level 0

DFD level 0 is the context diagram explosion. This is the explosion of the context diagram and included all external entities and data flow of the systems. Figure 3.5.2 show the DFD level 0 for the entity of Employee, Kitchen and Manager.

Refer to Figure 3.5.2, also the context diagram is chosen to illustrate the flow of Web-Based Satay Sales Management System process. Any task from the system is shown inside the context diagram. The arrow indicates the flow and process of their task that is executed.

The first interface is to enter username and password for log in. The process need input from user either employee or manager. The input include username and password and they will verify by the system. If the log in information is valid, user will redirect to homepage.

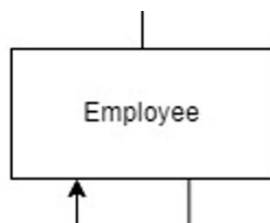
Next, for order items, user choose the items what they want like food and beverages. After that, user need to do payment then order list and receipt will be shown. The order list will be sent to the kitchen to prepare the dishes.

After ordering and payment system had done, the system will process the data to update inventory and generate a report the store. Manager can log in and view the report sales. Manager also can view ordering system, inventory store data and report sales.

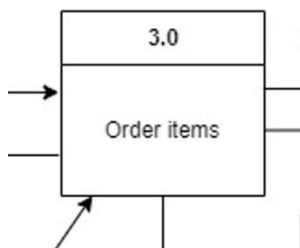
3.4.3 Data Flow Diagram (DFD)

A data-flow diagram is a way of representing a flow of data through a process or a system which includes input and output. There are few ways viewing the annotation and symbol that used in DFD diagram which is:

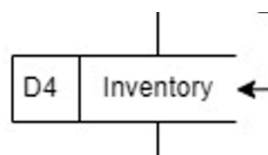
1. Entity.



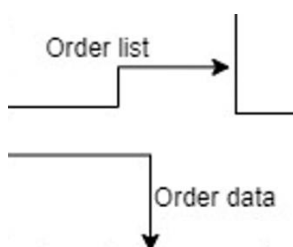
2. Process.



3. Data Store.



4. Data Flow.



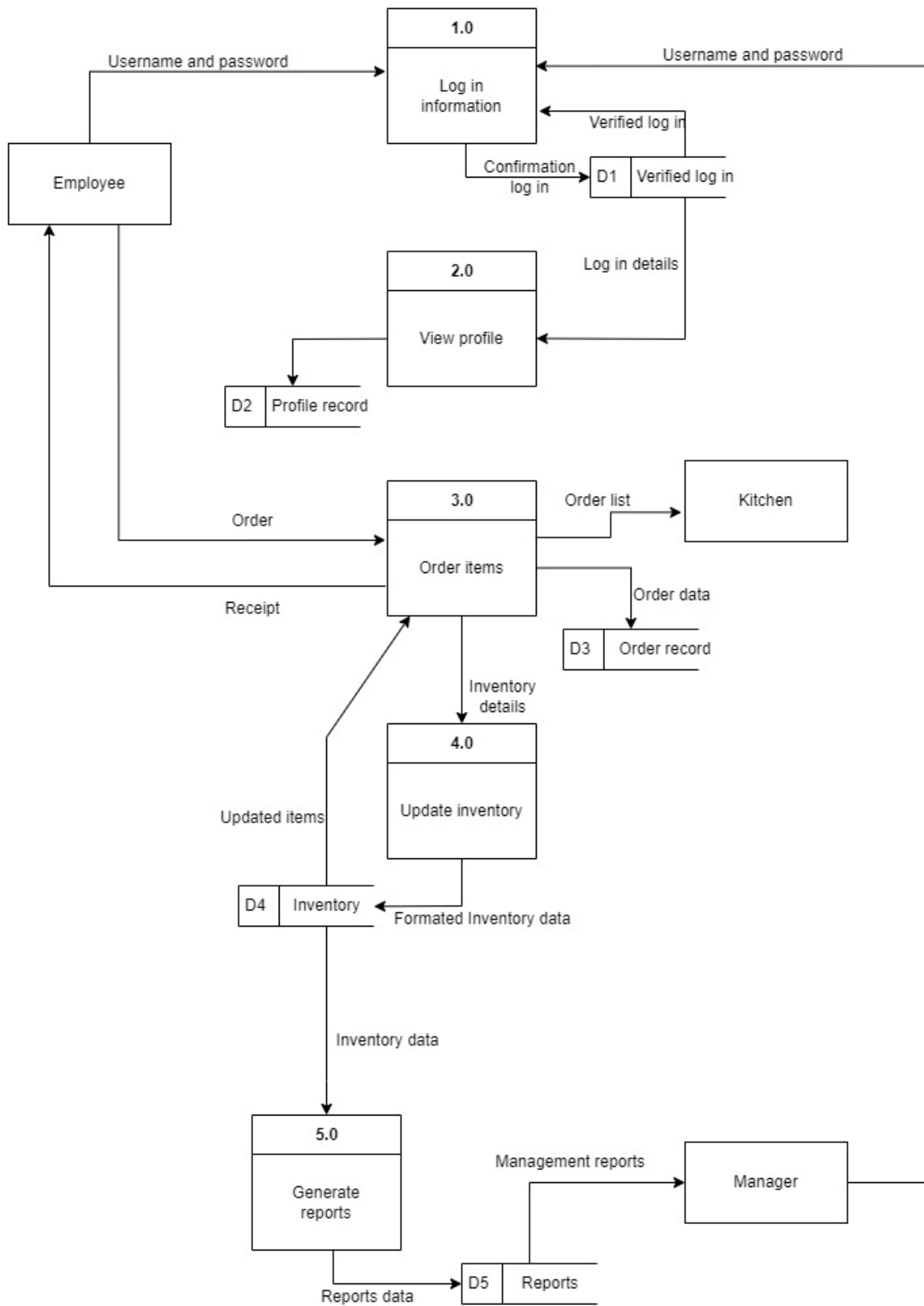


Figure 3.4.3.1 Data Flow Diagram (DFD)

Figure 3.4.3.1 shown the data flow diagram (DFD) of the proposed system. There are three entity, five process and five data store. The figure 3.4.3.1 consist of data flow of the proposed system. First, user which is employee and manager need to key in their log in information into the system. After success to log in, user can view their profile and can edit the information. The customer's order serves as the input for the order items process, then the order data is sent to the kitchen and kept in an order record. Each item's progress will be updated and stored in the inventory as part of the update inventory process. The proposed systems allow managers to access sales reports, which means that the systems will produce the reports and store the data which is shown in figure 3.4.3.1. Thus, it also can generate monthly report on number of customer and monthly income based on type of food.

DFD Level 1 (Verify Log in Information)

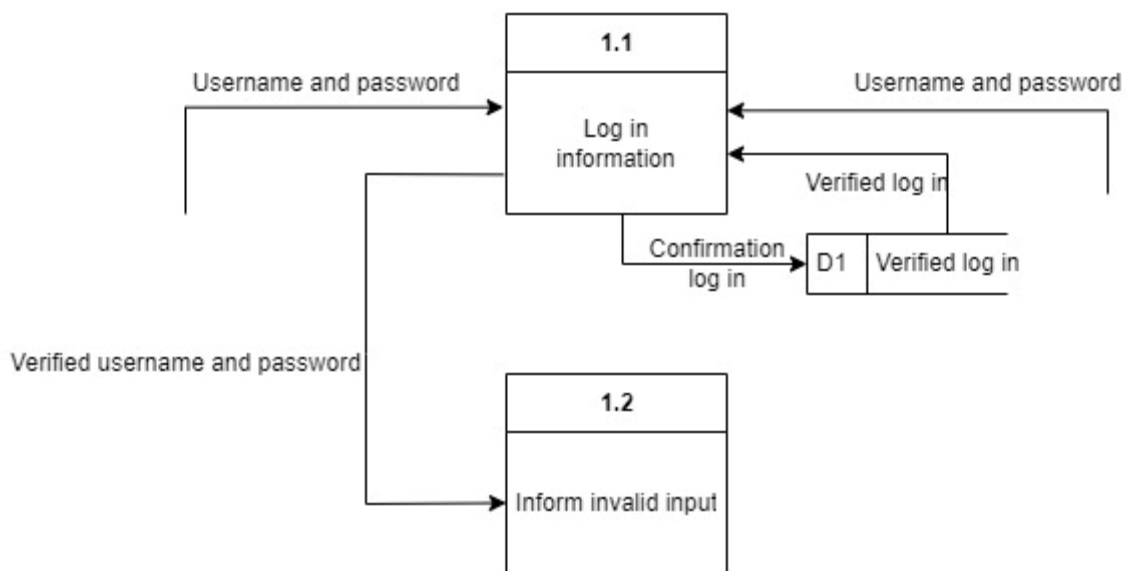


Figure 3.4.3.2 DFD level 1 process of log in

In figure 3.4.3.2 is data flow diagram level 1 of log in process, which mean user need to key in log in information. The information is username and password as input then the system will verify it. The system will process the login data from the verified log in data store for confirmation. After that, they will be redirected to the profile and homepage. If username and password are not match or not in the data store the system inform invalid input and user need to re-key in.

DFD Level 1 (View profile)

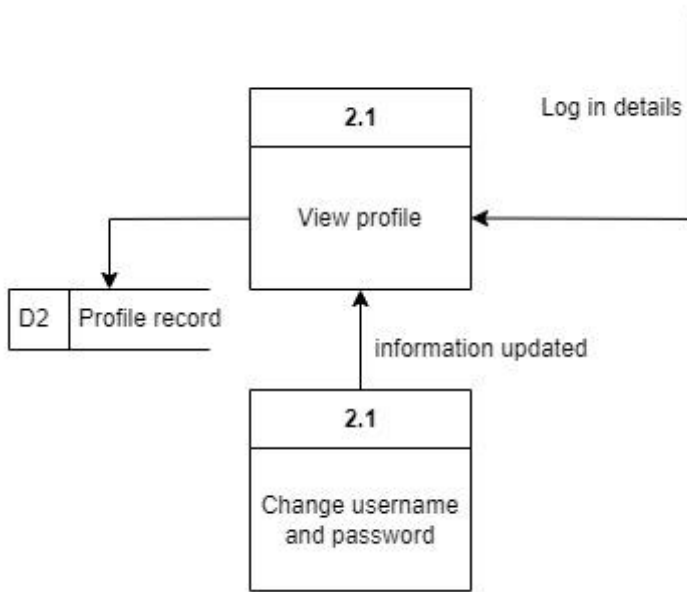


Figure 3.4.3.3 DFD level 1 view profile of user process

In the figure 3.4.3.3 employee and manager can view their information detail at the profile. User can change their username and password and save it. After user saved, the data will update and store in profile record.

DFD Level 1 (Order items)

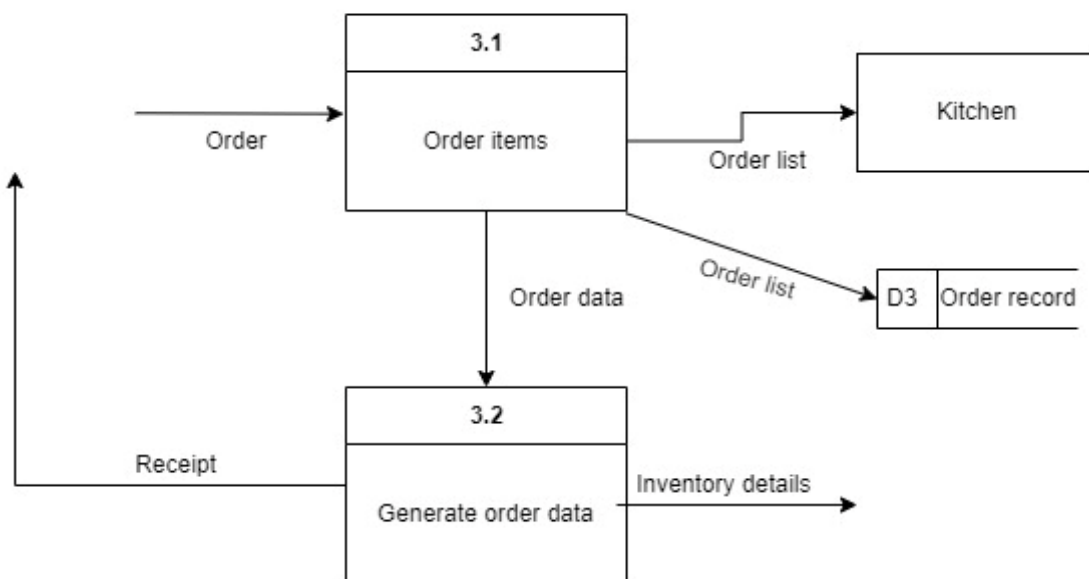


Figure 3.4.3.4 DFD level 1 process of order items

Based on figure 3.4.3.4, employee can place an order. The order items process receives the order and forwards it to the kitchen also store it in the order record store. Then, the order data will be generate and sent the inventory details to update. The process also delivers a receipt to the employee.

DFD level 1 (Inventory)

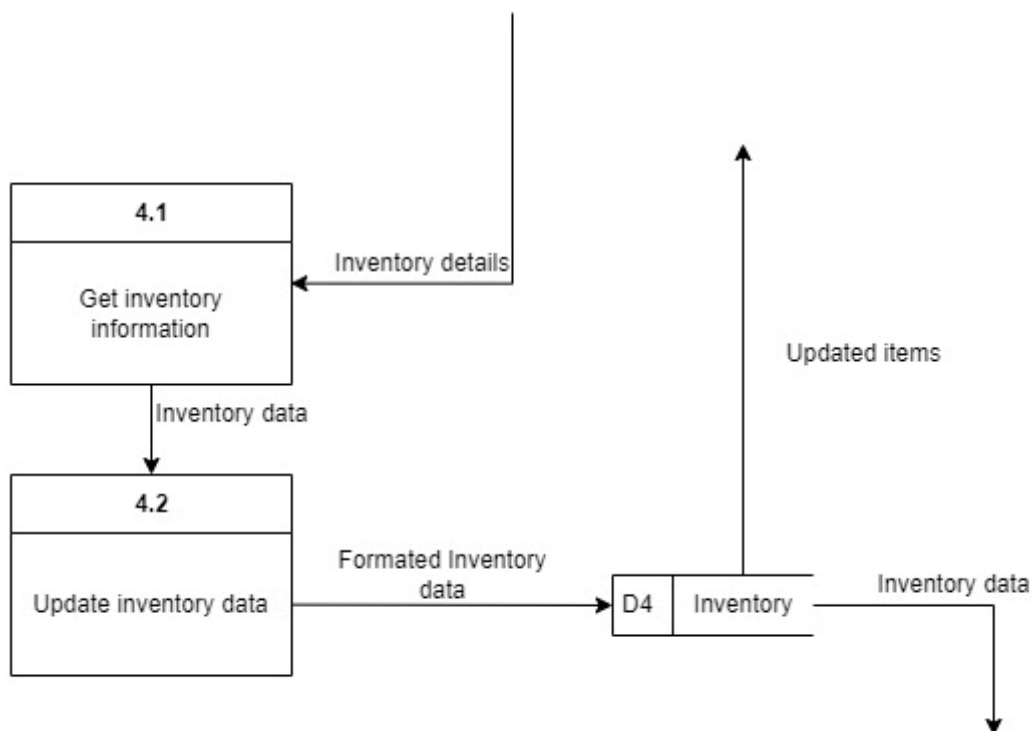


Figure 3.4.3.5 DFD level 1 process of inventory storing

In inventory process, inventory will updated the data which is get from order process. After updated, the formatted inventory data will kept in inventory data store. From this process, the item will update their quantity as shows in figure 3.4.3.5.

DFD Level 1 (Generate Reports)

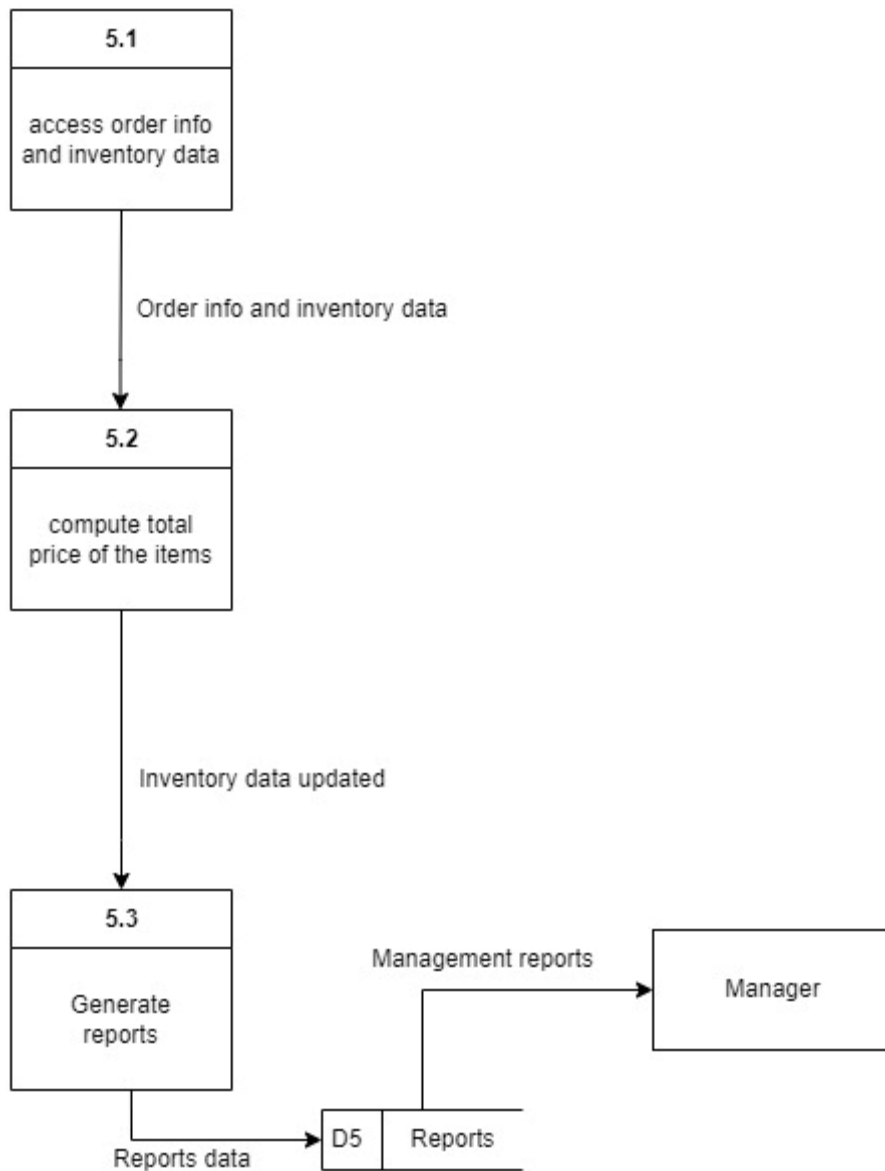


Figure 3.4.3.6 DFD level process of generate reports

In the figure 3.4.3.6, the process will access order info and inventory data and compute total price of the items then data sent to generate report process. The manager can receive reports through the generate reports process, which takes inventory details and orders as input from the inventory and order record data store respectively. The data reports will store in reports data store.

3.5 User Interface (UI) Design

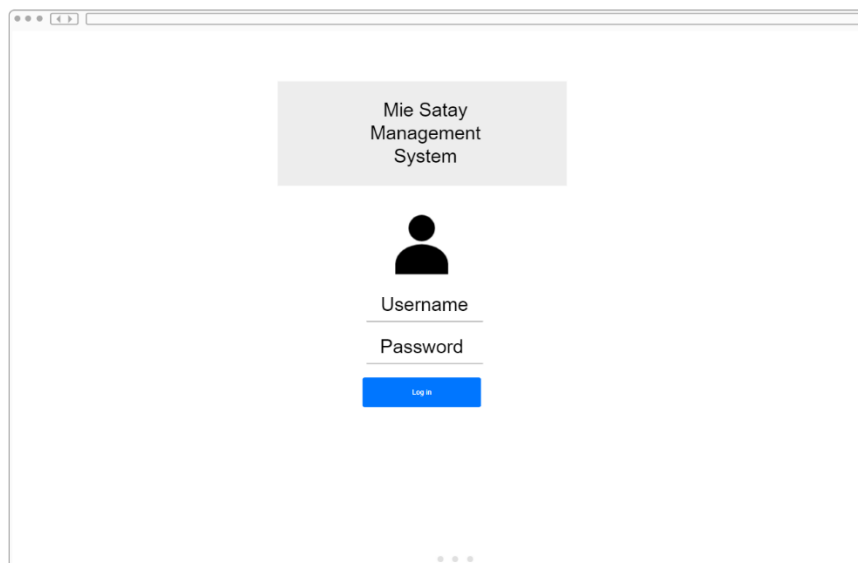


Figure 3.5.1 Log in page

User need to key in their username and password to log in. After user key in the information, user need to click log in button.

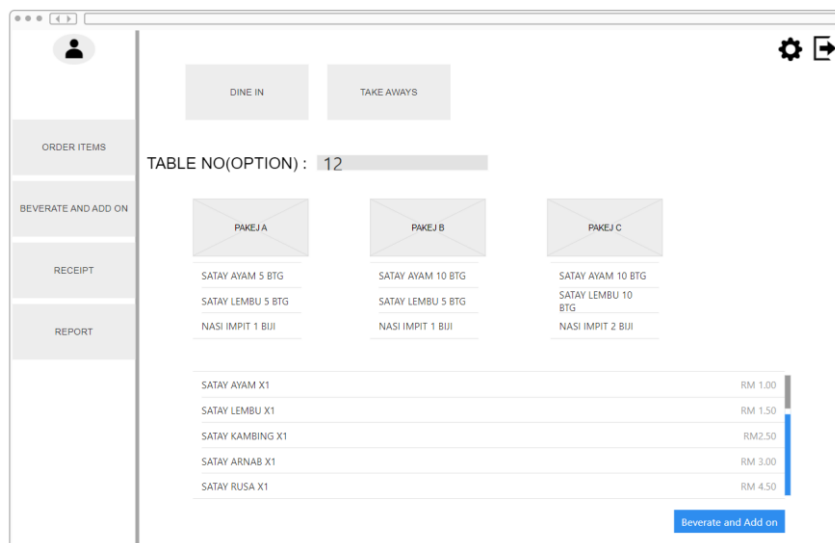


Figure 3.5.2 Order page

In order page, user will see the menu and to take order user need to click any menu they want. Then user need to click beverage and add on button to go next page.

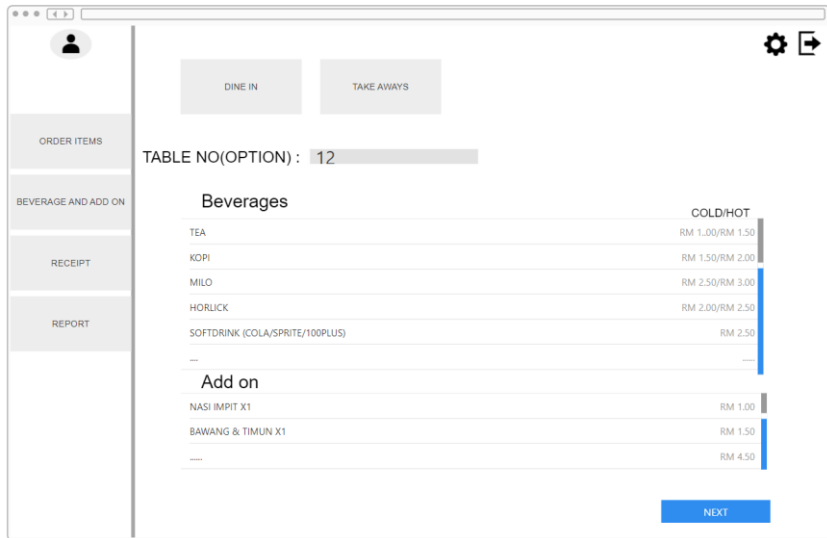


Figure 3.5.3 Order page 2

Next, User can click what the beverages that they want and have option to add on another item or not.

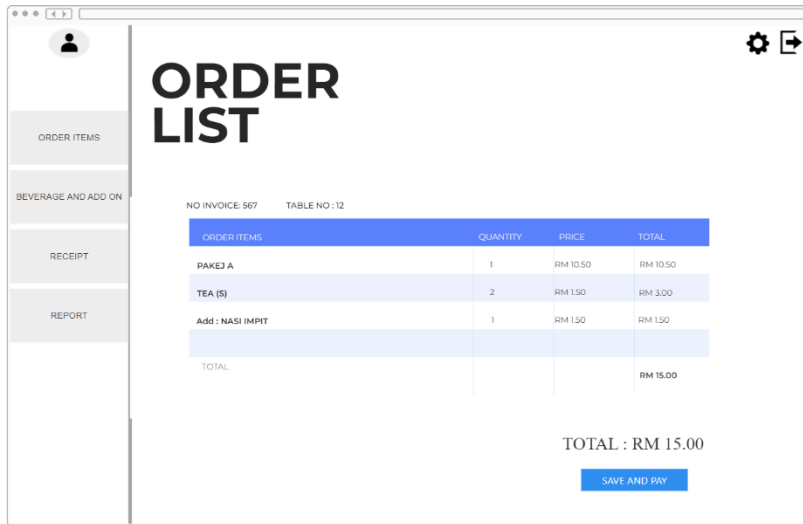


Figure 3.5.4 Order list page

This page will show about order list that user put in.

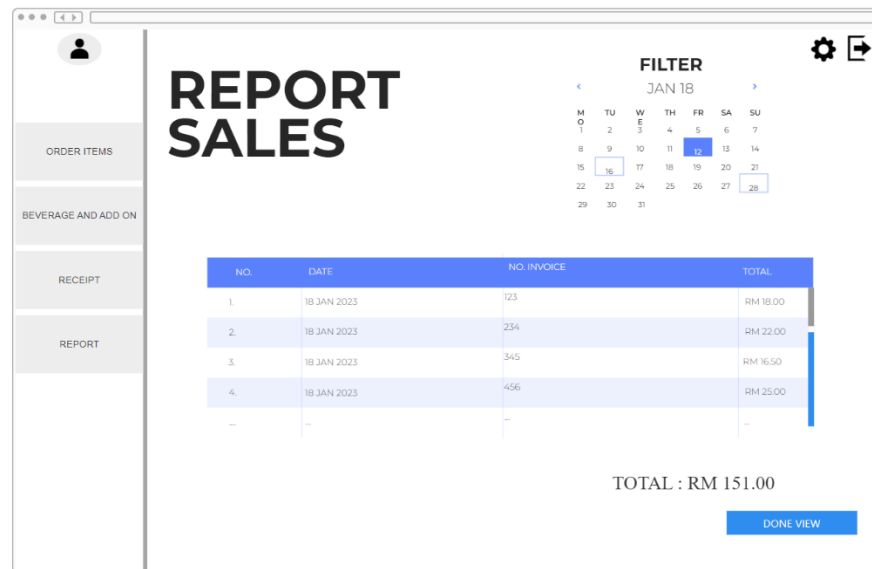


Figure 3.5.5 Report page

This page especially for manager of this restaurant which is report information of the sales.

3.6 System Implementation

The implementation phase is the phase of the proposed system will be developed. It is based on the context diagram, DFD, ERD and the wireframes during the design phase. The user requirements from the requirement analysis phase will be used to develop the proposed system. The minimalist concept is used for the user interface in the proposed system to provide the user with a simple and pleasant system.

With inputs from system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality which is referred to as Unit Testing.

3.7 System Testing

In this phase, the proposed system would be tested to ensure if it is met all the system's requirements and no error detected. Besides, functionality testing also will be performed to validate the workflow of the system. Plus, user acceptance test for non-functionality also will be held. The system has to work or function correctly according to the project's objectives.

The client is involved in the testing phase as well, in order to ensure all requirements are met. All flaws and bugs detected during this phase are fixed accordingly.

3.8 System Deployment

In this phase, the software is deployed into a live environment (client's server) in order to test its performance. The proposed system will be deployed and the user can use it in real-life data as once the software is deployed, it becomes available to end-users. Sometimes, this phase also includes training of real-time users to communicate benefits of the system.

3.9 System Maintenance

The system maintenance phase is for the system if there is a modification needed for the system after deployment. It is to improve system performance. There are might be some issues which come up in process. To fix those issues patches are released and also to enhance the product some better versions are released, maintenance is done to deliver these changes.

3.10 Summary

This chapter explains briefly how methodology will be used throughout this development of the project. The methodology assists in developing and designing the gymnasium system. It also can help the system analysts managed all tasks in suitable ways. It also explains how a user will interact through this employee management system from the DFD diagram, context diagram, and DFD level 1. This diagram will show the flow of the process inside the system with the unique symbol inside the diagram. The user interface also being shown in this chapter to briefly explain and visualize the interface.

CHAPTER 4: IMPLEMENTATION AND TESTING

4.1 Introduction

This chapter provides more information about the proposed a web-based satay sales management system development and the system testing process. Implementation is the process of putting an action for the formulated plan and it is also an intrinsic part of every software development process. Furthermore, testing each one of those actions formulated in the plan is said to be implementation testing. The goal of the implementation phase is to develop and build the system such that it satisfies user requirements using the data acquired from the survey and the preceding three chapters as a reference. Thus, this chapter will explain the technologies used in system development. The testing process also will be described further in this chapter.

4.2 Installation and Configuration of System's Component

The following software had to be installed and configured before the proposed system could be developed. There are several software needed to develop the system which are XAMPP and Notepad ++ and using a few programming languages such as PHP, HTML5, JavaScript and MySQL. These tools are rather simple and easy to use. The tools need to be configured to use in the development process.

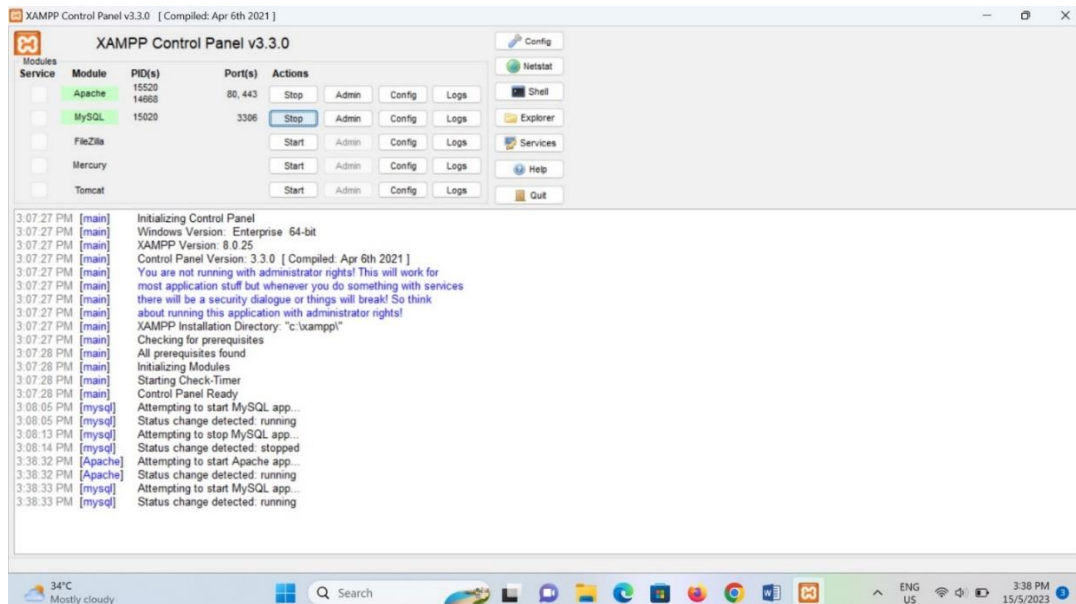
4.2.1 XAMPP software

XAMPP is an open-source cross-platform of Apache, MariaDB, Perl, PHP, MySQL and Perl programming languages. The open-source software is a free-of-charge solution that stacks used for the local development of web environment. It specializes in a cross platform which is supported by window to run the localhost for those who are developing any web-based system. It will create an environment of development web and testing for proposed system at local computer. It also can download on url <https://www.apachefriends.org/>.



Figure 4.2.1.1 XAMPP download page

The installer package is chosen based on the platform used either window, linux or mac os. Run the exe file after the packed has been downloaded, instruction will appear for the guideline installation process. After the software is successfully installed, open XAMPP control panel and click config button on left windows. Then, click service and port setting. Next is change Apache main port to 8080 (80 by default) and SSL port to 4433 (443 by default). Click “save” once it been done.



4.2.1.2 XAMPP control panel

Click on “Start” button for Apache and MySQL in order to run local server service as shown in figure 4.2.1.2. If the services are running, the button will turn “stop” and module of Apache will turn into green.

4.2.2 Notepad++ software

Notepad++ is the software that is being used to develop IT Skills Competency Evaluation Web-based System. An alternative to Notepad that is free and supports several programming languages. It supports tabbed editing, which allows working with multiple open files in a single window. This text editor was chosen since it runs on the Windows platform and is lightweight and straightforward. It is available for download at <https://notepad-plus-plus.org/downloads/>. Furthermore, no further setting is required throughout the installation procedure.

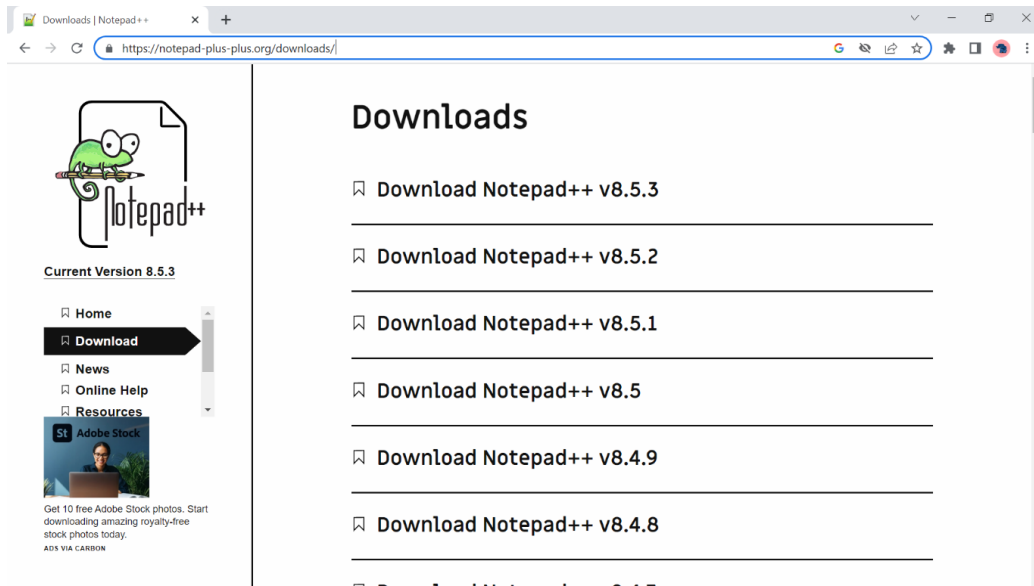


Figure 4.2.2.1 Notepad++ download page

In the Notepad++ download page, there are many versions of notepad and its sort by newest to oldest.

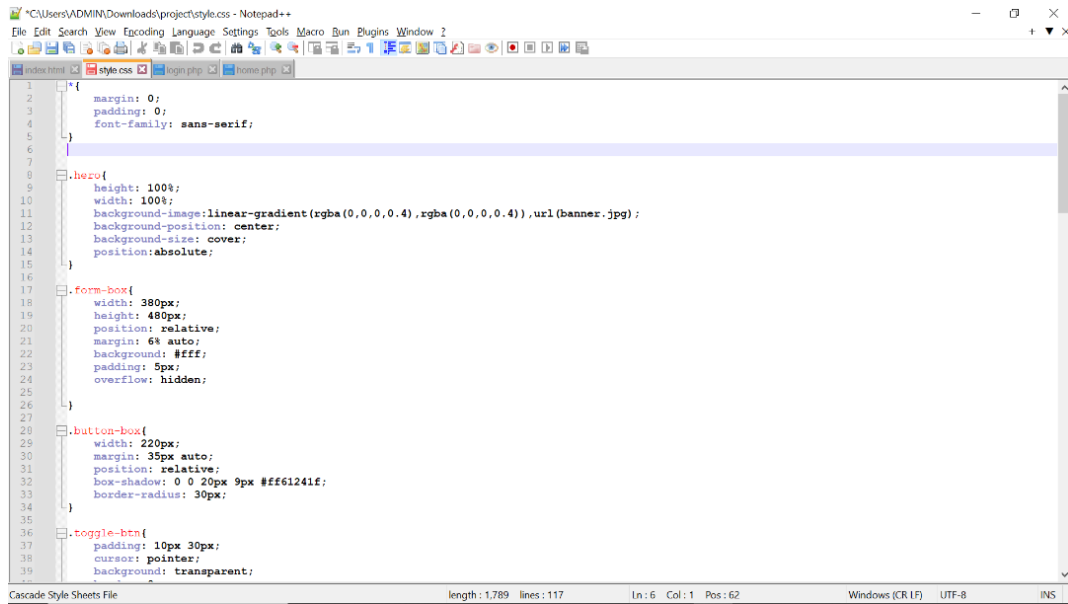


Figure 4.2.2.2 Notepad++ interface

Figure 4.2.2.2 is interface of Notepad++ which is consist of code from variety programming languages for example CSS, HTML and PHP.

4.3 User Role

There are three type of user will use this system who are administrator, employee (waiter) and employee (chef). Each of them have different level of accessibility as shown in Table 4.

User	Accessibility
Admin	<p>Menu management :</p> <ul style="list-style-type: none"> - View menu list. - Add menu category. - Add menu item name and price. - Edit and delete menu. <p>Sales management :</p> <ul style="list-style-type: none"> - View sales profit. - View order sales list. - Filter order sales list by date. - View and print receipt sales. <p>Staff management :</p> <ul style="list-style-type: none"> - Create new staff username with role. - View current staff list. - Change role for staff. - Delete staff username.

Staff (Waiter)	<ul style="list-style-type: none"> - View latest ready order. - View role. - Change staff status (online/offline). - Create new order data. - View order data.
Staff (Chef)	<ul style="list-style-type: none"> - View latest ready order. - View order need to prepare. - Change status order (preparing/ready).

Table 4. User role.

4.4 System Implementation

After starting means click the start button for both Apache and MySQL in XAMPP, user need to follow the following steps to execute the system:

1. Extract file.
2. Copy the main project folder eg: MieSatay-Management-System file.
3. Open This PC, open Drive file which contain xampp file then click on htdocs files and Paste in.

Now Connecting Database:

1. Open a browser and go to URL <http://localhost/phpmyadmin/>.
2. Then, click on the databases tab.
3. Create a database naming “msms” and then click on the import tab.
4. Click on browse file and select “msms.sql” file which is inside the “MieSatay-Management-System” folder.
5. Click on go.

After Creating Database:

1. Open a browser and go to URL <http://localhost/MieSatay-Management-System/>.

After that, the homepage will display on the screen as shown in figure 4.4.1.

4.4.1 Homepage



Figure 4.4.1 Homepage

Figure 4.4.1 is the homepage of Mie Satay Sales Management System. Admin and Staff management link button are designed on this homepage. User can access into the system by simply click on the Admin or Staff management button and will be led to the Login page.

4.4.2 Admin Management System

4.4.2.1 Login Page

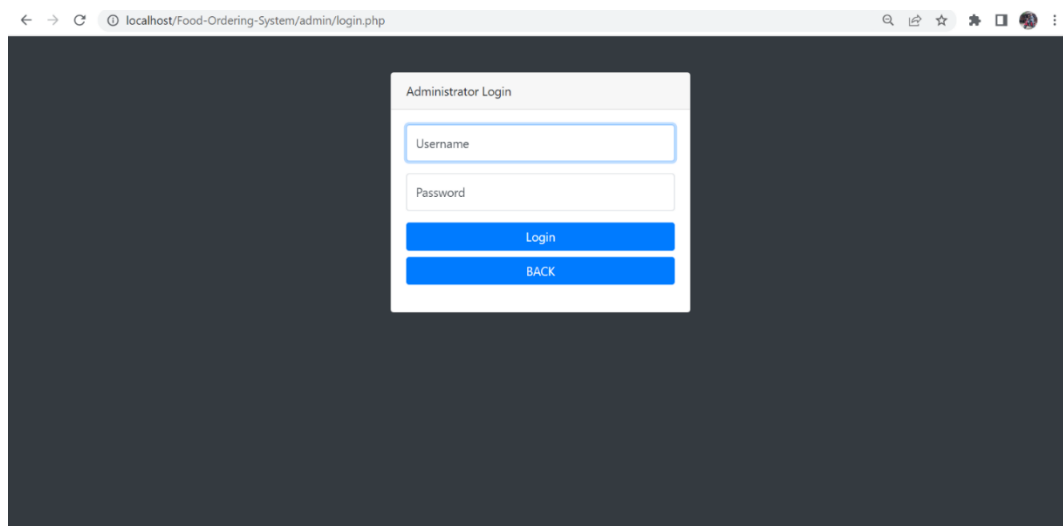


Figure 4.4.2.1 Administrator Login Page

As shown in Figure 4.4.2.1, user can fill up the username and password then click the Login button to access into the system. If they entered incorrect username and password, or left the input empty, they will be directed back to this page. There is an alert notification or pop-up

message to inform them to fill in the details correctly. The link to go back to the main page are also provided on this page.

4.4.2.2 Administrator Panel Page

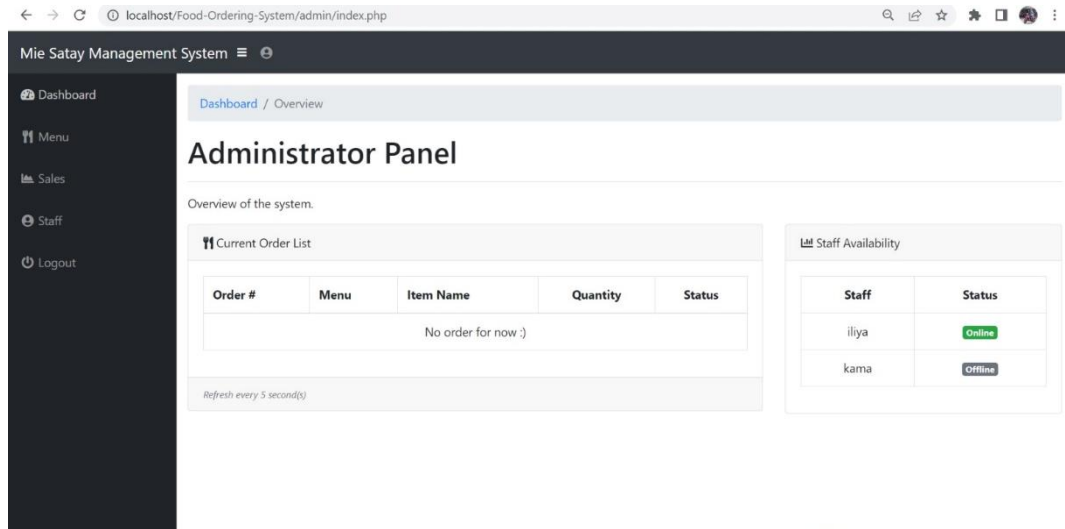


Figure 4.4.2.2 Administrator Panel Page

After login, user will be redirect to the Administrator Panel page as shown in Figure 4.4.2.2. The page shows the Overview of the system consists of Current order list and Staff availability list. The navigation bar including Menu, Sales, Staff, and Logout are also designed on the left side of this page.

4.4.2.3 Menu Management Page

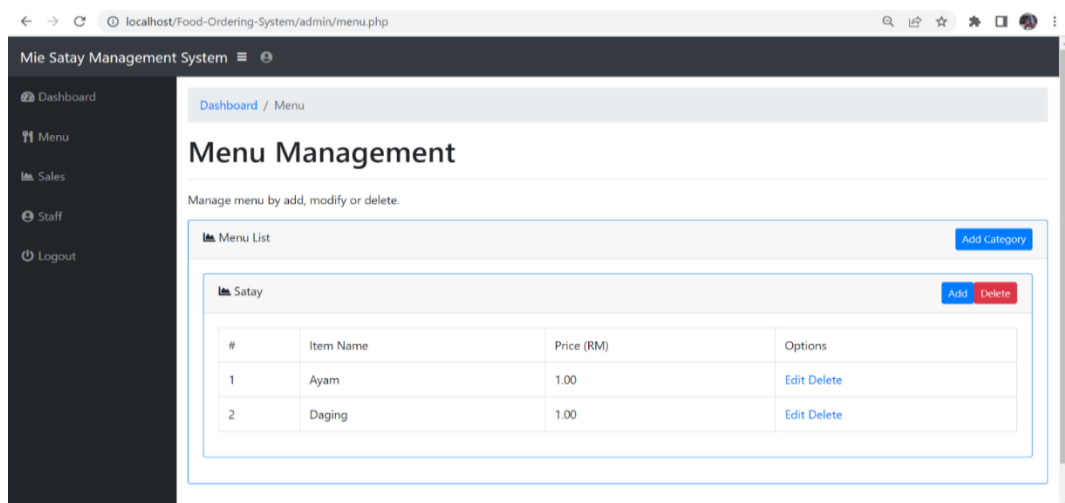


Figure 4.4.2.3.1 Menu Management Page

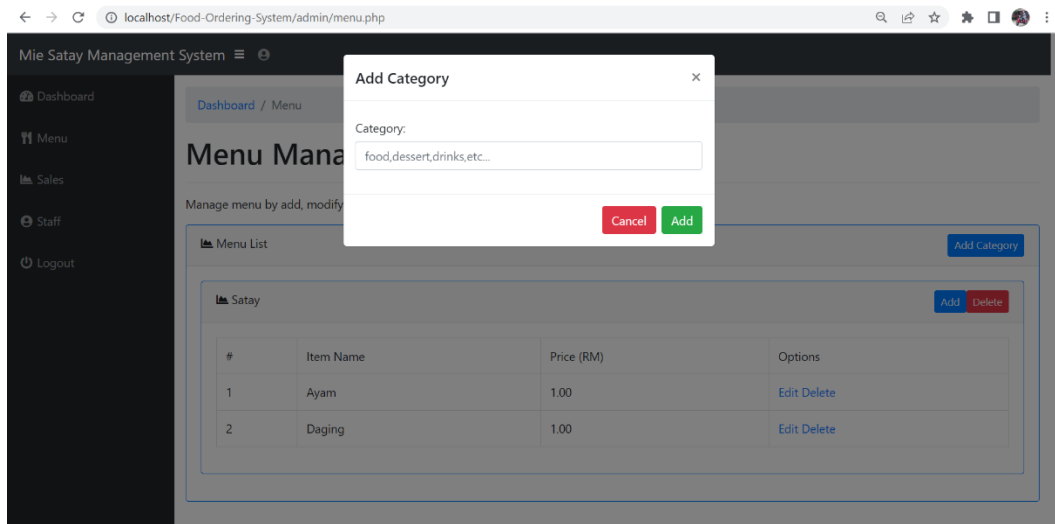


Figure 4.4.2.3.2 Add Category

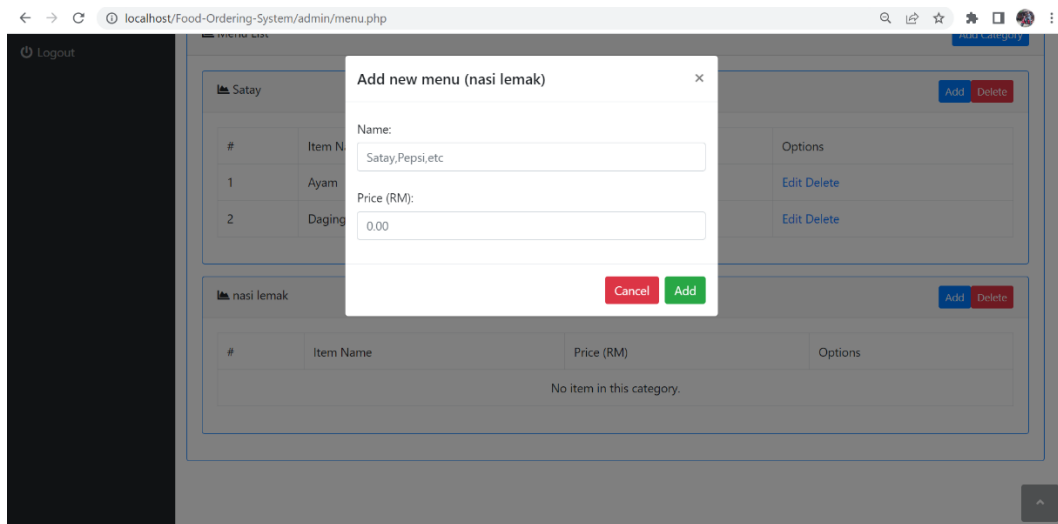


Figure 4.4.2.3.3 Add New Menu

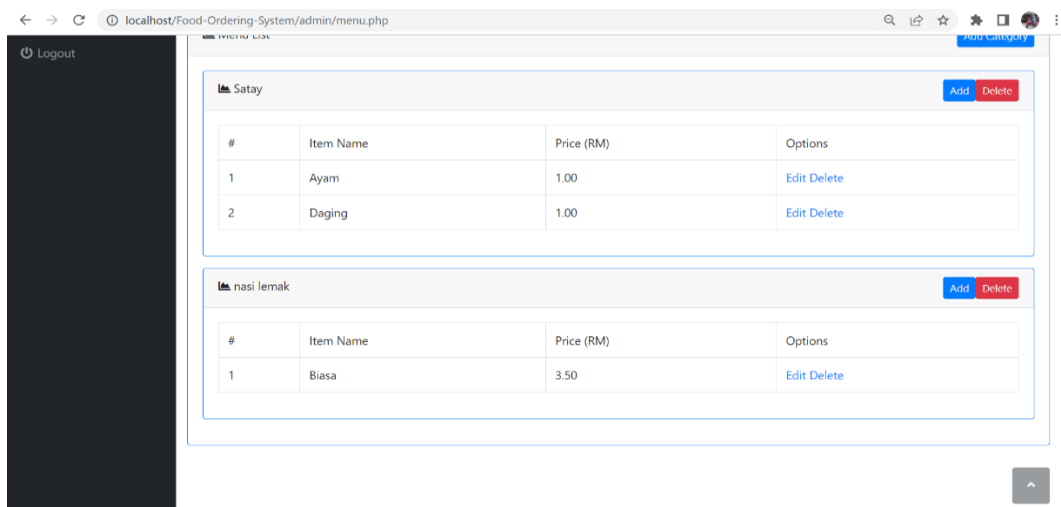


Figure 4.4.2.3.4 Added New Menu

Figure 4.4.2.3.1 is the Menu Management page that allow user to manage menu by adding, modified or delete the menu. When user click on the Add Category button, a pop-up Add Category form will appeared as shown in Figure 4.4.2.3.2. User can fill the category by inserts the menu that are requested by customer (i.e.: satay, nasi lemak). Next, the adjustment for item and price according to the menu can also be added or deleted by simply click on the Add or Delete button. Add new menu form will appeared as shown in Figure 4.4.2.3.3 thus, user can fill the name and price, and simply added both data into the system by click the Add button.. Figure 4.4.2.3.4 shows the result of the added new menu.

4.4.2.4 Sales Management Page

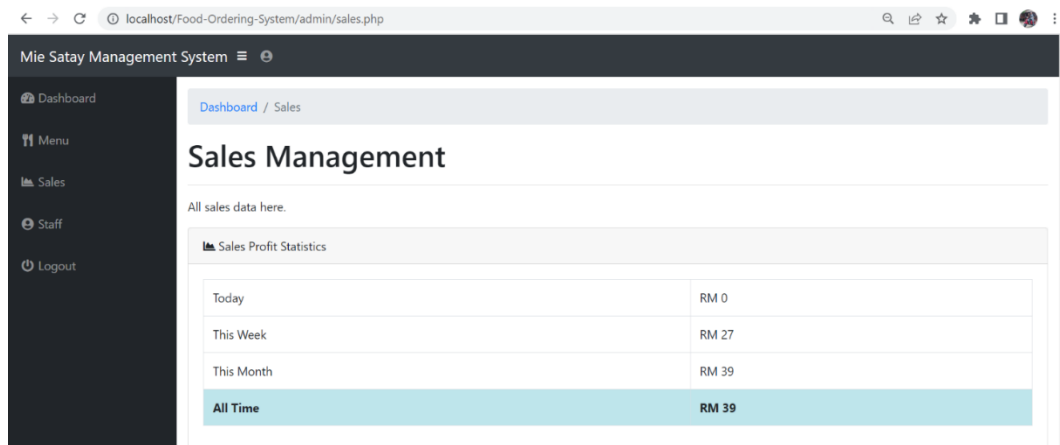


Figure 4.4.2.4.1 Sales Management Page

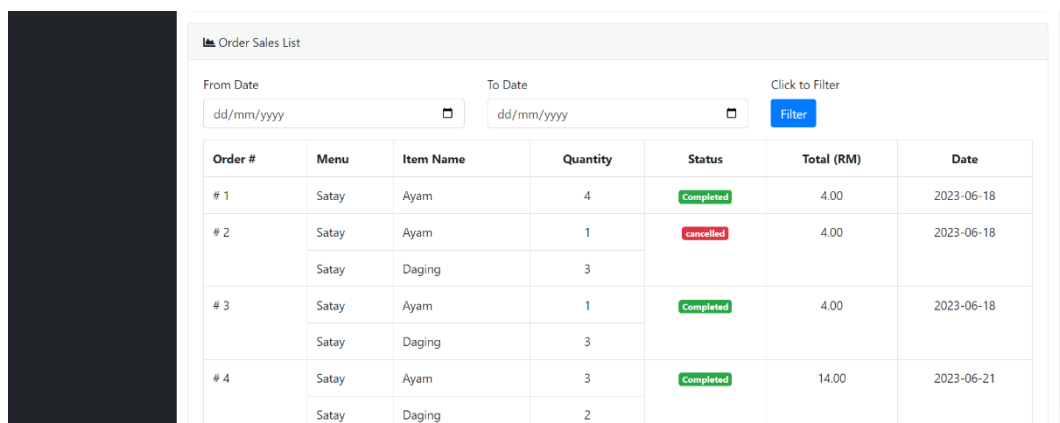


Figure 4.4.2.4.2 Sales Management Page cont'

Figure 4.4.2.4.1 and Figure 4.4.2.4.2 is the Sales Management Page. The Sales Management page consists of Sales profit statistics and Sales orders report. Sales orders report can be view altogether or also be filtered by date. User can enter a specific date by click on the Filter button.

4.4.2.5 Staff Management Page

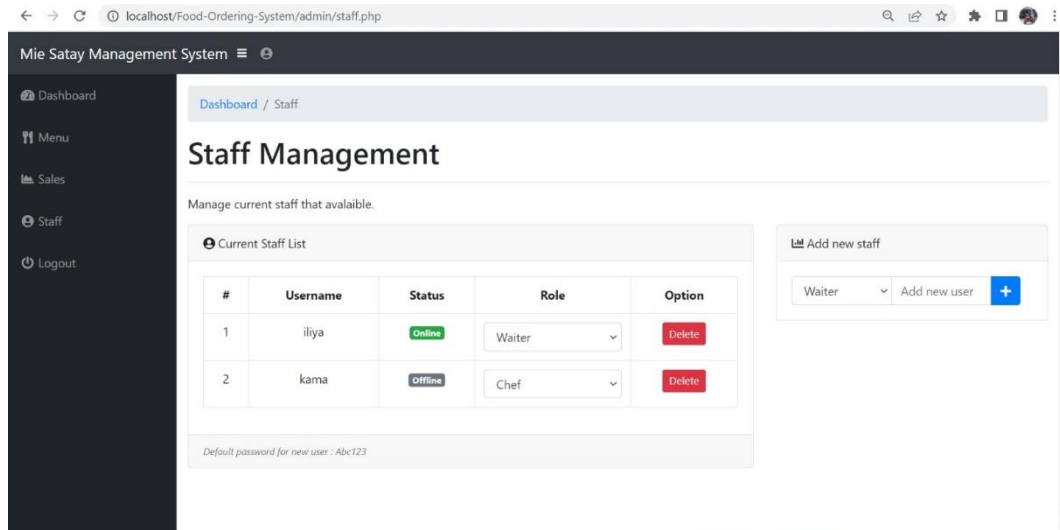


Figure 4.4.2.5 Staff Management Page

Figure 4.4.2.5 is the Staff Management Page. The page shows the Current staff list and also an Add new user filter for adding the new staff in. User can add new user according to their designed role and also delete the current user by simply click on the designed button.

4.4.2.6 Logout Page

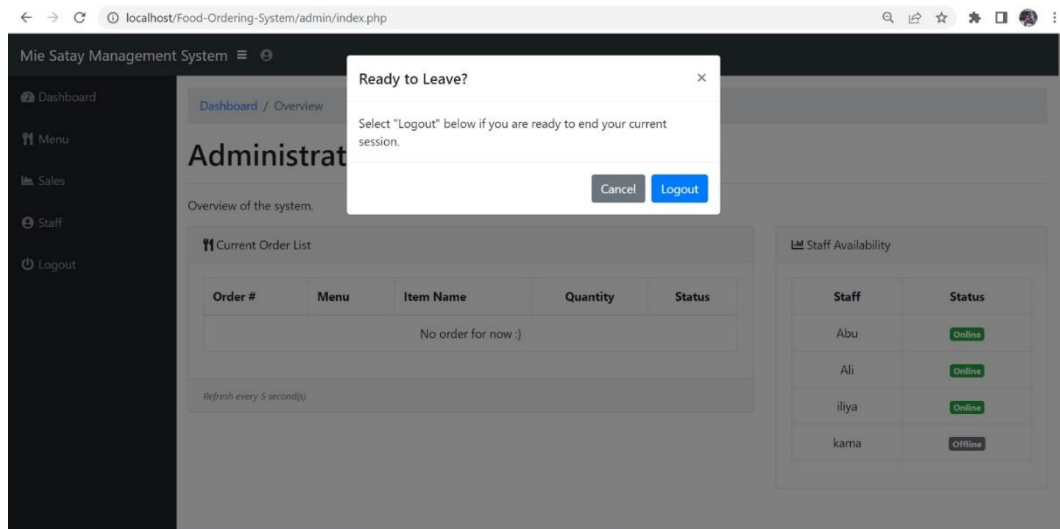


Figure 4.4.2.6 Logout Page

Figure 4.4.2.6 is the pop-up Logout message when user click on the Logout section on the navigation bar. User can exit the system by simply click on the Logout button if they are ready to end the current session in the system.

4.4.3 Staff Management System

4.4.3.1 Login Page

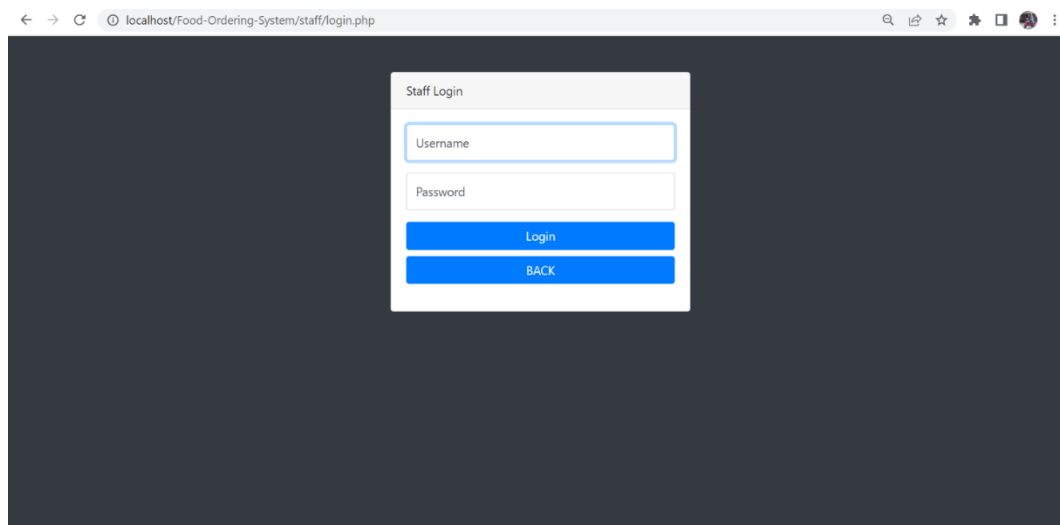


Figure 4.4.3.1 Staff Login Page

As shown in Figure 4.4.3.1, staff can fill up the username and password then click the Login button to access into the system. If they entered incorrect username and password, or left the input empty, they will be directed back to this page. There is an alert notification or pop-up message to inform them to fill in the details correctly. The link to go back to the main page are also provided on this page.

4.4.3.2 Staff Panel Page (Waiter)

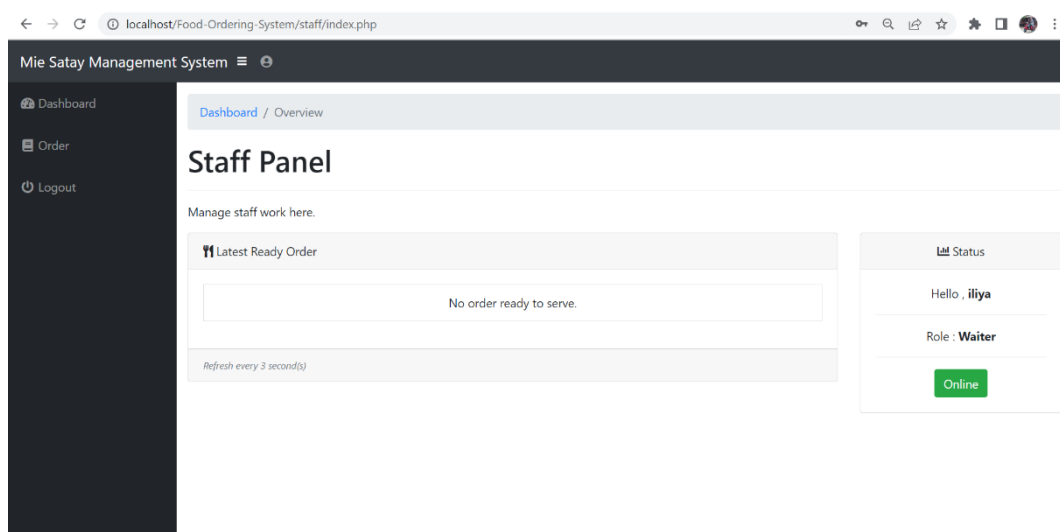


Figure 4.4.3.2 Staff Panel Page

Figure 4.4.3.2 shows the Staff Panel page which consist of Latest ready order list and Staff status list. The name and role of the staff can be seen as in the column. The staff status can be changed from online to offline if the staff is on leave by click on the designed button.

4.4.3.3 Order Page (Waiter)

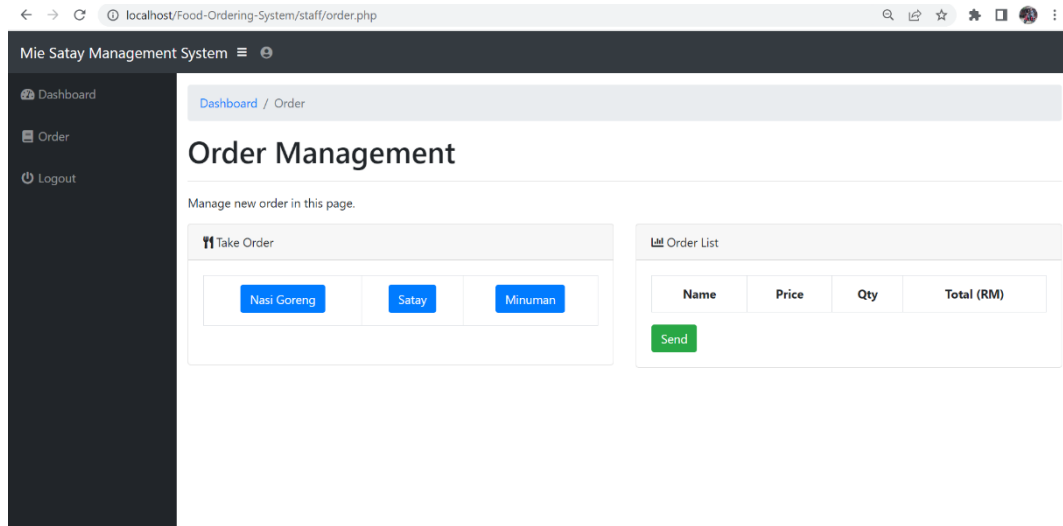


Figure 4.4.3.3.1 Order Management Page

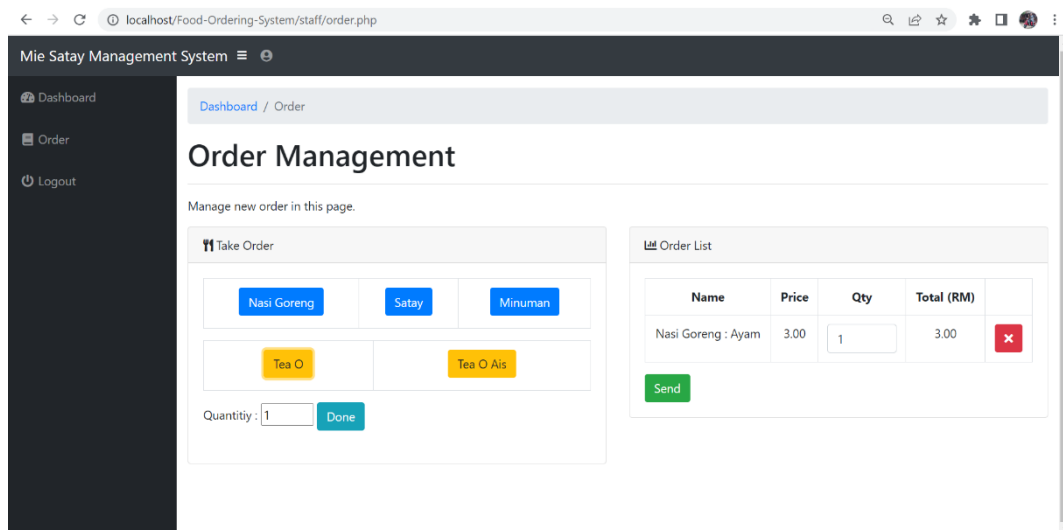


Figure 4.4.3.3.2 Add order

Figure 4.4.3.3.1 illustrates the Order Management page consist of Take orders and Order list. To take a new order, user need to click on the displayed category, then insert the item name and quantity. After user click on the Done button, the order will be displayed directly in the Order list which consist of price and total price as shown in Figure 4.4.3.3.2 After user confirmed with the order, user need to click on the Send button to send the data to the kitchen department.

4.4.3.4 Kitchen Page (Chef)

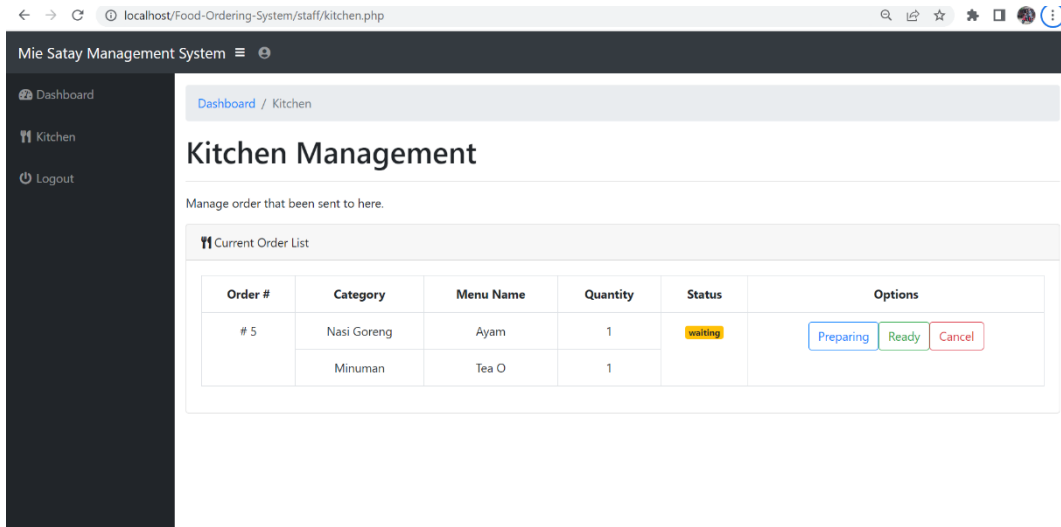


Figure 4.4.3.4.1 Kitchen Management Page

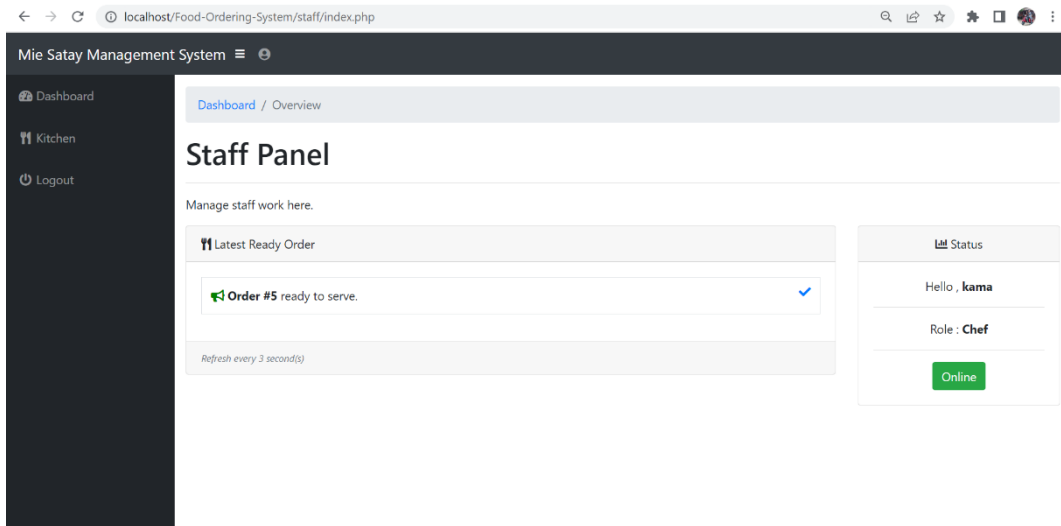


Figure 4.4.3.4.2 Staff Panel Page

Figure 4.4.3.4.1 shows the Kitchen Management page which only can be used by user that are registered as chef position. User can view the Current order list and also change the status list. If the order in preparing, user need to click on Preparing button, then click Ready if the order is ready to be served and also click the Cancel button if customer is not ready to pick up the order. After order have been confirmed and ready to be served, waiter will serve the order and take payment by cash. In the meantime, users can click on blue tick button as shown on Figure 4.4.3.4.2 to add the data into the report sales.

4.4.3.5 Logout Page

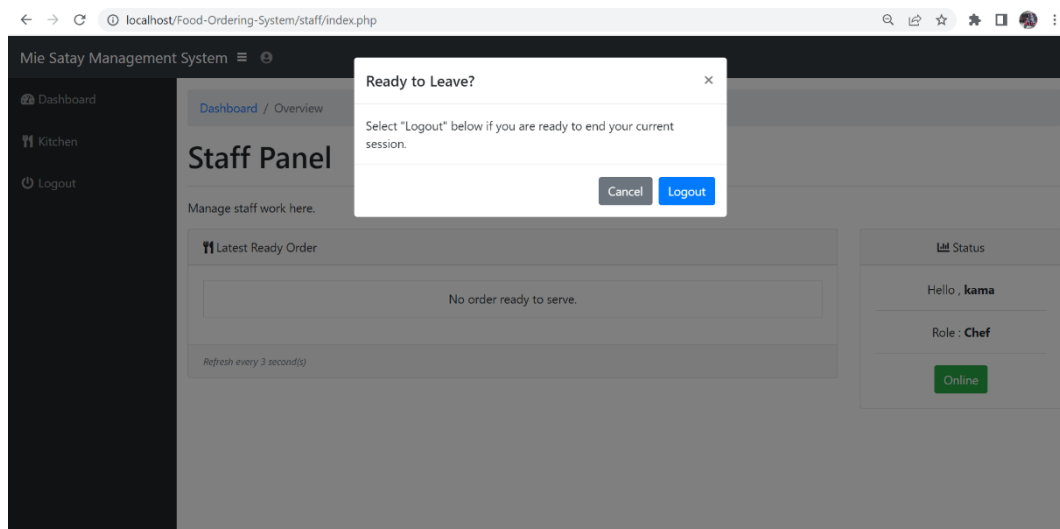


Figure 4.4.3.5 Logout Page

Figure 4.4.3.5 illustrate the Log out alert pop-up when user click on the Logout section. The user has the option to logout or cancel; if the user chooses to log out, the system will redirected to the Login page. Otherwise, it will return to the previous page.

4.5 System Functionality Testing

Functional testing is described as a testing method that ensures that each software application performs as expected. Functional testing is carried out to determine how the device performs in order to ensure that it meets the set requirements. The system's functionality is checked by providing the correct input and comparing the actual performance to the predicted result.

4.5.1 Homepage

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Staff Management Button	Click on Staff Management button	Redirected to Staff Login page	Redirected to Staff Login page	Pass
2	Admin Management Button	Click on Admin Management button	Redirected to Administrator Login page	Redirected to Administrator Login page	Pass

Table 5. Homepage Test Case

4.5.2 Admin Management System

4.5.2.1 Login Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	View User Login	Enter username and password.	Display the Username and Password	Display the Username and Password	Pass
2	Login Button	Click on Login button	Redirected to Login page	Redirected to Login page	Pass
3	Back button	Click on Back button	Redirected to homepage	Redirected to homepage	Pass

Table 6. Login Page Test Case

4.5.2.2 Administrator Panel Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Dashboard	Click Dashboard on the navigation bar	Redirected to the Administrator Panel page	Redirected to the Administrator Panel page	Pass
2	Menu	Click Menu on the navigation bar	Redirected to the Menu page	Redirected to the Menu page	Pass
3	Sales	Click Sales on the navigation bar	Redirected to the Sales page	Redirected to the Sales page	Pass
4	Staff	Click Staff on the navigation bar	Redirected to the Staff page	Redirected to the Staff page	Pass
5	Logout	Click Logout on the navigation bar	Redirected to the Logout page	Redirected to the Logout page	Pass

Table 7. Administrator Panel Page Test Case

4.5.2.3 Menu Management Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Add Category Button	Click on Add Category Button	Display the Add Category form	Display the Add Category form	Pass
2	Add Button	Click on Add button	Added menu into the list	Added menu into the list	Pass
3	Delete Button	Click on Delete button	Delete menu from the list	Delete menu from the list	Pass

4	Edit Button in Option column	Click on Edit Button in Option column	Display the current item and price form	Display the current item and price form	Pass
5	Delete Button in Option column	Click on Delete Button in Option Column	Delete the current item and price list	Delete the current item and price list	Pass

Table 8. Menu Management Page Test Case

4.5.2.4 Sales Management Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	View From Date	Enter date, month and year	Display the date, month and year	Display the date, month and year	Pass
2	View To Date	Enter date, month and year	Display the date, month and year	Display the date, month and year	Pass
3	Filter Button	Click on Filter button	Display the order sales report according to the filtered date	Display the order sales report according to the filtered date	Pass

Table 9. Sales Management Page Test Case

4.5.2.5 Staff Management Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Role Option	Enter date, month and year	Display the date, month and year	Display the date, month and year	Pass
2	View Add New User	Enter new user	Display the new user	Display the new user's name	Pass
3	Add New User Button	Click on Add New User Button	Added new user into the list	Added new user into the list	Pass
4	Delete Button	Click on Delete Button	Delete the current user	Delete the current user	Pass

Table 10. Sales Management Page Test Case

4.5.2.6 Logout Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Logout Button	Click on Logout button	Display homepage	Display homepage	Pass
2	Cancel Button	Click on Cancel button	Display previous page	Display previous page	Pass

Table 11. Logout Page Test Case

4.5.3 Staff Management System

4.5.3.1 Login Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	View User Login form	Enter username and password.	Display the Username and Password	Display the Username and Password	Pass
2	Login Button	Click on Login button	Redirected to Login page	Redirected to Login page	Pass
3	Back Button	Click on Back button	Redirected to Homepage	Redirected to Homepage	Pass

Table 12. Login Page Test Case

4.5.3.2 Staff Panel Page (Waiter)

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	View Dashboard Page	Click on dashboard section	Display dashboard page	Display dashboard page	Pass
2	Status Button	Click on status button	Offline will change to online and vice versa	Offline will change to Online and vice versa	Pass

Table 13. Staff Panel Page (Waiter) Test Case

4.5.3.3 Order Page (Waiter)

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Category Name button	Click on category name button	Display menu item name	Display menu item name	Pass
2	Item Name Button	Click on item name button	Display quantity and Done button	Display quantity and Done button	Pass
3	Done Button	Click on Done button	Display name, price, quantity and total below Order List	Display name, price, quantity and total below Order List	Pass
4	Send Button	Click on Send button	Data will add to database	Data will add to database	Pass

Table 14. Order Page (Waiter) Test Case

4.5.3.4 Kitchen Page (Chef)

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Preparing Button	Click on Preparing button	Status waiting will change to preparing	Status waiting will change to preparing	Pass
2	Ready Button	Click on Ready button	Status waiting or preparing will change to ready	Status waiting or preparing will change to ready	Pass
3	Cancel Button	Click on Cancel button	Status waiting or preparing will change to cancel	Status waiting or preparing will change to cancel	Pass
4	Blue Tick Button	Click on Blue Tick button	Data will add to database and report sales	Data will add to database and report sales	Pass

Table 15.. Kitchen Page (Chef) Test Case

4.5.3.5 Logout Page

	Test Case	Procedural	Expected Outcome	Actual Outcome	Result (Pass/Fail)
1	Logout Button	Click on Logout button	Display homepage	Display homepage	Pass
2	Cancel Button	Click on Cancel button	Display previous page	Display previous page	Pass

Table 16. Logout Page Test Case

4.6 Non-functional Testing

Non-functional testing assesses the prototype's usability to ensure that it meets the user's expectations and provides a smooth user interface. It's intended to assess a system's readiness based on non-functional criteria that aren't covered by functional testing.

The usability testing was carried out to evaluate the effectiveness of Web-Based Satay Sales Management System. Usability testing aims to determine how well a product works for its intended audience. To achieve clear objectives, it is necessary to maximize the effectiveness, productivity, and satisfaction of the designated user. Usability testing is a process in which consumers of a product are asked to complete tasks to assess the product's ease of use, work time, and user understanding. Following the usability testing, the respondents were given a series of questionnaires to fill out to get their input, which may range from personal opinions to suggestions for improving the application. The results of the survey are shown in the following sub-topics:

- i) Reaction to the system
- ii) Effectiveness of system
- iii) Navigation system

The values for the system evaluation are shown in Table 17. Strongly agree has a rank and value of 5, agrees has a rank and value of 4, and natural or average agreements has a rank and value of 3. While disagree has a rating of 2 and a value of 2. Finally, the lowest rank and value is 1, indicating that the criteria are highly disagreed upon.

Rank	Scale
Strongly disagree	1
Disagree	2
Average	3
Agree	4
Strongly agree	5

Table 17. Measurement Criteria

4.6.1 Reaction to the system

The first part of usability test criteria is reaction to the system. Research has collected data from 30 respondents. Based on Table 18 question 1, there are 25 respondent strongly agree that this system is simple and easy to understand while 3 agree and 2 average. Based on question 2 there 20 respondents strongly agree that this system easy to run while 10 are average. Lastly, for question 3 there are 20 respondents who are strongly agree that the system easy to manage while 5 agree and 5 average. Based on this respondent we can ensure that this system is easy to understanding and user friendly. We can conclude that this system is ready to being published and being used.

No	Question	1	2	3	4	5
1.	Web-Based Satay Sales Management System would be simple and easily understand to the user	0	0	2	3	25
2.	It is easy for user to learn how to run the process in the Web-Based Satay Sales Management System	0	0	0	10	20
3.	The functionality of Web-Based Satay Sales Management System is easy to manage.	0	0	5	5	20

Table 18. Reaction to the System.

4.6.2 Effectiveness of system

Table 19 shows the second part of the questionnaire, which is about the effectiveness of the system. There are three question in this part which to evaluate the effectiveness to the user. From the feedback of the respondent we can conclude that this system give huge advantage to the staff and admin that will be using this system.

No	Question	1	2	3	4	5
1.	This system would make the user easy to manage their order.	0	0	0	1	29
2.	When user need to order, they can view the menu list and add to order easily.	0	0	0	10	20
3.	User can easily update and delete the information inside this system.	0	0	0	7	23

Table 19. Effectiveness of System.

4.6.3 Navigation System

There are three questions in this section: "Main navigation can be clearly recognized" "Navigation labelling is clear and exact," and "Links can be perfectly connected to other pages." Based on Table 20, it can be concluded that the respondents satisfy with our navigation system that have clear explained, labelling name and the link perfectly connected to other pages.

No	Question	1	2	3	4	5
1.	Main navigation can be clearly recognised	0	0	0	10	20
2.	Navigation labelling is clear and exact	0	0	0	3	27
3.	Links can be perfectly connected to other pages	0	0	0	5	25

Table 20. Navigation System.

4.7 Summary

This chapter has described and explained more details about the proposed system implementation and the method used for the system testing. Aside from that, this chapter explains the components that must be configured and installed for the proposed system development. Based on the results of the testing, this system is capable of performing practically all of the functions that the user requires.

CHAPTER 5: CONCLUSION AND FUTURE WORK

5.1 Achievement

The proposed system achievement has been outlined in this chapter. Overall the objectives have been met, and the system have benefits the owner of Mie Satay. The details of this project's achievement are detailed as in Table 21.

Objective	Achievement
To create a web-based information systems design to assist of marketing systems for Mie Satay.	The proposed project had been successfully created for the Mie Satay.
To design and developed an online ordering systems for meeting owners' satisfaction.	The designing of web-based had been modified to suit the user to use it. This system enable user to key-in data into the system and also view the ordering system. The user also can be redirected to cart page where the subtotal and total price shown.
To generate a sales report data consists of sales report statistic and list of sales orders.	The sales report data consists of sales report statistic and list of sales orders have been successfully generated.

Table 21. Objective and Achievement Summary

5.2 Limitation and Constraint

One of the limitation and constraint of the system is if the internet connection is unavailable thus, this system cannot be used. Other than that, the assessment sales report is not automatically sent to the users' email. The ordering web systems are also limited for a web-based viewing function and designed with function of cash payment option only.

5.3 Future Work

Several adjustments and improvements can be done to improve the current performance and usability of the proposed project. As for example, user can implement caching mechanisms that store frequently accessed data locally on the user's device. This way, if the internet connection is lost, the system can still retrieve and display cached data, ensuring some level of functionality. Besides, the design approach of the assessment sales report can be improved by adding the functionality to directly send the assessment sales report to the user's email after each assessment. The system also can be improved by developed a proper application of ordering system with various type of online payment function in the future.

5.4 Summary

In conclusion, the implemented prototype software has been fully tested to demonstrate the quality and performance of the system. The system now had been developed to help the owner of Mie Satay to manage order and derivatives sales. This report also documented all the relevant research details and decision-makings processes. In summary, the project has satisfied its objectives and fulfilled its purpose. I hope, the application can meet most of the requirements of food online ordering system.

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