

**RESTAURANT ORDERING SYSTEM**

By

Wong Siew Jiu

A REPORT

SUBMITTED TO

Universiti Tunku Abdul Rahman

in partial fulfillment of the requirements

for the degree of

**BACHELOR OF INFORMATION SYSTEMS (HONS)**

**INFORMATION SYSTEMS ENGINEERING**

Faculty of Information and Communication Technology

(Kampar Campus)

JAN 2019

UNIVERSITI TUNKU ABDUL RAHMAN

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## DECLARATION OF ORIGINALITY

I declare that this report entitled “**RESTAURANT ORDERING SYSTEM**” is my own work except as cited in the references. The report has not been accepted for any degree and is not being submitted concurrently in candidature for any degree or other award.

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Name : \_\_\_\_\_

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## **ACKNOWLEDGEMENT**

I would like to express my sincere thanks and appreciation to my supervisor, Mr Tey Chee Chieh who has given me this bright opportunity to engage in Restaurant Ordering System project. A million thanks to you. I also would like to thanks my friends for their support and encouragement. Finally, I must say thanks to my parents and my family for their love, support and continuous encouragement throughout the course.

## **ABSTRACT**

This Restaurant Ordering System project is developed to transform the old and traditional system that mostly used by the restaurants to a new and more efficient ordering system. The traditional ordering system brings inconvenience to both staffs and customers as it requires a lot of manual work. The manual work done by the staffs will cause some human errors such as give the incorrect bill to the customers, ugly handwriting of the waiter, incorrect sequence of the order. All these human errors will cause the customer dissatisfaction towards the restaurant. Therefore, this restaurant ordering system is designed and developed to help the restaurant to have a better management. By having this ordering system, the time of placing order has reduced. The customers do not need to wait to be served when they eat in the restaurant. The customers will be more satisfy at this ordering system.

The methodology that used to develop this system is throwaway prototyping methodology. This methodology is chosen because the system will be developed in a short time compare to other methodologies. Throwaway prototyping methodology also allows the developer to listen to the feedback of the end user to keep on working on the development to match the requirements of the end user.

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## **Chapter 1 Introduction**

### **1.1 Problem Statement**

Nowadays, many restaurant using traditional restaurant ordering system to serve customers. In the traditional restaurant ordering system, the staff write down the foods that the customer order. The paper will then pass to the kitchen and the chef will start to cook. This has caused few inconveniences. The staff might make some errors while writing down the order. Sometimes, when the staff write in hurry will make the handwriting difficult to understand. The staff might lose the order paper and customers might also receive incorrect bill.

One of the problem that faced by restaurants that using traditional ordering system is the customers do not know the time for preparation for the food. Some of the customers might have next schedule after their lunch or dinner. They need to know the time preparation so that they can plan their schedule wisely. Especially when there is a lot of customers, the customers might think their order has been forgotten if their food still not yet be served in a long time. It will be good if there is an estimated time to prepare the food shown to the customers.

Furthermore, some of the customers might want to change their food or cancel their food. The customers are only allowed to cancel their order if the chef not yet start cooking. If using the traditional restaurant ordering system, the customers need to inform the staff, then the staff only inform to the chef. If there is a lot customer in the restaurants, the staff might forget to inform to the chef. The staff might also too late approach the chef and the customers are unable to cancel their order. This problem should be solved because it is inconvenient for the customers. It is much more convenient for customers if they can cancel their order themselves. They no need wait the staff to serve them and waste the time. A cancel button should be displayed so that the customers can cancel their order if the chef not yet start cooking.

Moreover, it is difficult to update the latest information to the customers. The availability of the dishes is according to the ingredients that bought every day. When there is lack of ingredients, the chef is unable to prepare some of the dishes. Therefore, it is difficult to inform every customer when they want to order. The staff might forget to inform the customers. As they have many things to do. If the customers already order and feel excited to taste the dishes, but the staff inform them the dishes is unable to order due to lack of ingredients. This will cause the customer dissatisfaction towards the restaurant. The brand image of the restaurant will be affected.

## **1.2 Background and motivation**

People like to dine in at restaurant for their meals nowadays. There are a lot reasons why people prefer eating out. One of the reasons is they lazy to cook after work. People will feel tired after more than 7 hours of work. Therefore, they do not have any energy to prepare their meals. In addition, university students have a lot of works to do, such as assignments, tutorials and take part in curriculum activities. It will be more convenient if they eat in restaurant compare to they cook themselves. As more and more people eat in the restaurant, the restaurant manager should make some changes to increase the speed of ordering.

Traditionally, the customers need to interact with the waiters to place order. The waiters write down the foods that the customer order. The paper will then pass to the kitchen and the chef will start to cook. The customers have faced a lot inconveniences with this traditional method. For example, waiting to get the food served, received incorrect bill and many more. All this inconvenience will cause the customers unsatisfied on the service of the restaurant.

The customers are demanding simplification tasks such as book movie tickets nowadays. Therefore, restaurant also should make changes. With the new changes, the customers can make their order through restaurant ordering system. The customers do not need to wait to be served usually at the peak hours. After they order themselves using the ordering system, they just need to wait for the food.

In conclusion, this report is written to propose a restaurant ordering system. This system can help to improve the current ordering method. Furthermore, it also brings convenient to both restaurant and customers. After this project has done, this system will be very useful for many restaurants.

### 1.3 Objectives

- To develop a system that include the preparation time of food

By using this restaurant ordering system, it is easier to know the time preparation of the food. The customers might have their own schedule after their lunch or dinner. Therefore, they need to know the preparation time of food in order to plan their schedule wisely. During the peak hours, when their food is not yet being served in a long time, they might think that their order has been forgotten. By having this feature in the system, the customers can know the estimated time preparation of the food. They can check the estimated preparation time anytime and know that their order will not be forgotten by the chef.

- To ensure the customers can cancel their order

The restaurant that using traditional method include many steps when customers wish to cancel their order. The customers need to inform the staff, then the staff will inform the chef. In this restaurant ordering system, the customers can cancel their order without interact with the staff. They can just click on the cancel button to cancel their order. The customers can cancel their order with one condition which is the chef not yet prepare their food. If the chef started to prepare the food, the customers are not allowed to cancel their order. When the chef starts to prepare the food, he or she will change the status of the order. The status of the order will show to the customers so that the customers can know whether their order has prepared by the chef or not.

- To design a user-friendly system that provides latest information to customers

This restaurant ordering system allows both staffs and chefs to update the latest information of the menu to the customers. When there is lack of ingredients, the chef should be able to change the menu and the availability of each food. If the food is not available, the food will not appear in the menu. When the customers view the menu, they can't view the food. This can solve the problem of staff forgot to inform the latest information to customers. The user interface of the system should also be clean and clear and also attractive to the user. The system should be easy to use by the users. A user-friendly system is when the customers use the system in the first time, they know how to view the menu and make their order. The system also should not be complexity as the customers might do not know how to use it.

**1.4 Proposed Approach/Study**

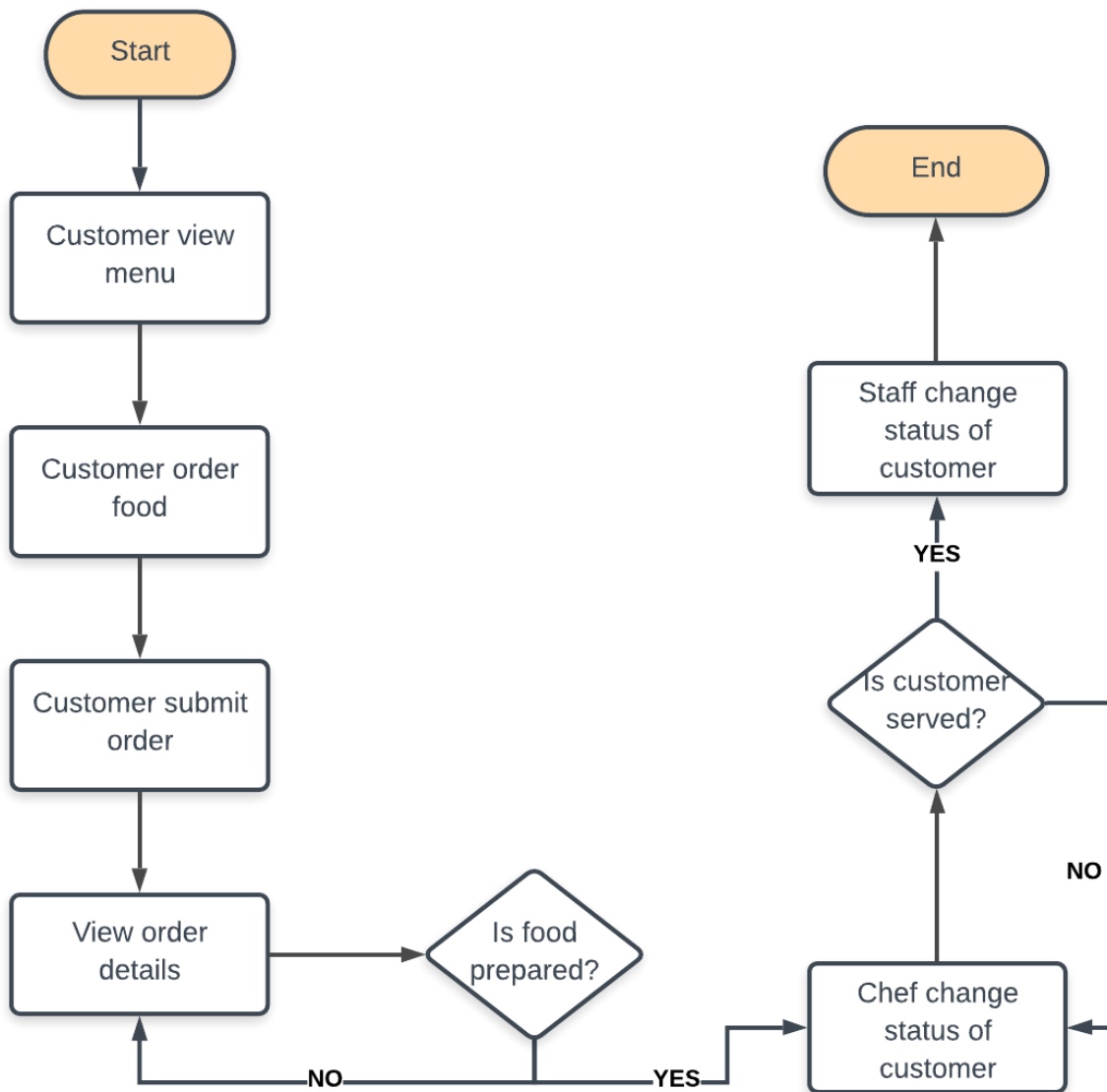


Figure 1-1 System Flowchart of Restaurant Ordering System

Figure 1-1 shows the system flowchart of Restaurant Ordering System. When the customers walk in to the restaurant, the staff will serve the customers to sit down. Then, the customers will use the device that provided by the restaurant to view the food menu. Then, the customers can order their food. After the customers fill in the quantity of the food and the table name and submit the order, the chef and the staff will receive the order details of the customers. If the food is started to prepare, the chef will change the order status of the customers. After the food is ready, the staff will serve the customers with the food. After all the food has been served, the staff will change the status of the order.

### **1.5 Highlight of What Have Been Achieved**

This restaurant ordering system is developed to solve the problems that will happen while using traditional ordering system. One of the problem that faced by restaurant using traditional ordering system is do not know the time of preparation for the food. This developed restaurant ordering system allow the customers to know the preparation time of their order. Therefore, they can easily plan their next schedule after their meal. Moreover, the customers might want to cancel their food. If using traditional ordering system, the cancellation of order includes few steps. However, in this restaurant ordering system, the customers can press cancel button to cancel their order. The chef will know it from the dashboard of the system. Furthermore, it is difficult to tell all the customers the latest information of the menu when taking order of customers. The staff might forget to inform the customers. With this restaurant ordering system, the staff can update the latest menu information. The staff does not need to inform verbally to customers one by one anymore.

### **1.6 Report Organization**

This report is divided into 5 chapters. Chapter 1 is the introduction of the project includes problem statement, objectives and motivation. In Chapter 2, three types of ordering systems are reviewed and compared with the proposed system. Chapter 3 describe the overall proposed architecture and methods. The user interface design and different diagrams are included in this chapter as well. Chapter 4 explain the methodology and tools used and also the testing phases. Chapter 5 discuss the conclusion for the project.



## Chapter 2 Literature Review

### 2.1 Wireless Food Ordering System

Nowadays, internet is widely used in everywhere. People use internet to perform their tasks every day, such as chat with family and friends, communicate with colleagues, search information and many more. Internet is very convenient to the people as almost everything can be done by internet. The telecommunication and internet has growth rapidly. There are some industries starting to apply this technology into their business. This will help their business be more efficient.

The user can access to data and services from a remote server, which will allow the user to access the databases across the network or internet. Most of the handheld devices support this wireless technology because they allow the user to access the database to retrieve the data. People nowadays use mobile devices to work and access with data and information. It is because the mobile devices are cheap and small. PDA which is Personal Digital Assistant is the mobile device that suitable for business applications. They have the ability to access data and information from remote locations (Khairunnisa, K et al, 2009).

In this ordering system, the waiters take the orders from the customers by using the PDA. Then, the waiters will send the order to the kitchen via web-based wireless application. The order of the customers will be displayed on a computer screen in the kitchen. The kitchen staff will refresh the list when the food is ready to be served. The waiters will be informed through the PDA. Then, they will serve the food to the respective table. This system will increase the efficiency of the services as the waiters do not need to take an order using paper anymore.

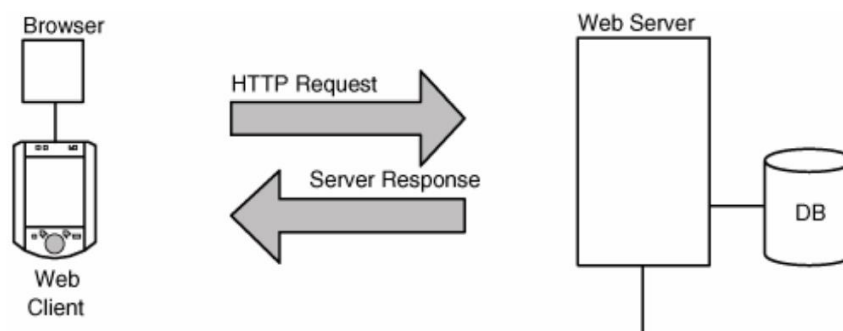


Figure 2-1 Mobile Applications: Architecture, Design and Development

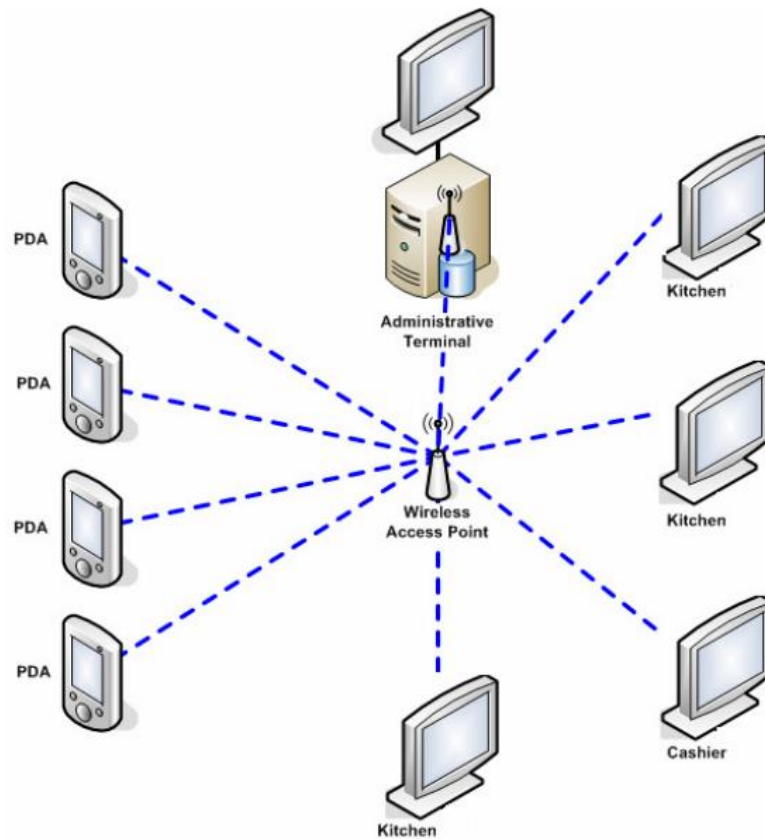


Figure 2-2 Logical Wireless Diagram

The strength of this system is the time in taking order has reduced. The waiter does not need to walk to the customers and take the order from them. They also do not need to walk back to the kitchen to inform the chef what food has ordered. The customers can just make their order through the PDA and the order will display in the kitchen. Especially during the peak hours such as lunch time and dinner time, the customers do not need wait for a long time to be served.

The weakness of this system is it does not support real-time feedback. The customers are not allowed to provide their feedback after they finish their meal. It is because PDA can only use to make their order. PDA do not provide any order status feedback to let the customers to fill in.

This system and the proposed system have the similarity which is the time in taking order is reduced. Both of this system do not need the customers wait to be served. They can place order

themselves using the system. The proposed system also does not support the real-time feedback. If the customers want to give feedback, they need to speak directly to the staff.

## 2.2 Point of Sale System

Point of sale system which is also known as POS system, is a combination of hardware and software that allows the staff to perform some tasks. There are a lot of businesses using this system to operate their daily transactions including restaurants, hospitals and hotels.

POS system includes few hardware such as display pole, printer, handheld device, terminal and cash register. Display pole is used to show the price of the item when the item is scanned. Printer is used to print the receipt after the customers make their payment. Handheld device is used to accept the credit card payments from the customers. Terminal is the main screen that use to fill in the transaction details. Cash register is used to keep the cash. When the staff receive the cash from the customers, they keep the money inside the cash register (“Software Testing Help”, 2018).

When the customers go into the restaurant, they either make their order first at the counter or wait to be served by the waiter. If the restaurant requires the customers to order first, they need to queue up at the counter and make their order. Then, they only find their seats in the restaurant. The another way is the customers find their seat when they reach the restaurant. The waiter will serve the customers and help them to make the order.

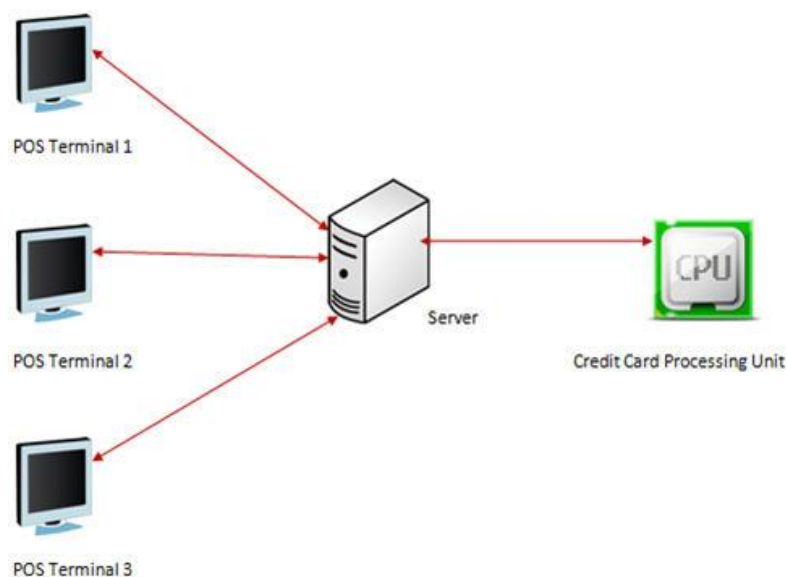


Figure 2-3 POS Architecture Diagram

A restaurant might have more than one POS terminals. All terminals of the restaurant are connected to a file server. The configurations and settings are done on the server, then send back to the terminals. If the restaurant accepts credit card for the payment, third party provider is involved to perform the credit card processing. The data will send to the bank or third party when the staff perform credit card transaction.

The strength of this system is it can reduce the time of taking order. This also can improve the satisfaction of the customers. By using this system, the duration of taking order is fast. It also can reduce the mistakes that will done by the staff. It allows the staff to track the sales of the restaurant. The staff is allowed to generate daily and monthly sales report through this system. The staff also can view the history of all orders.

Limitation of this system is the customers are tired of waiting on the queue. During the peak hours such as lunch time and dinner time, there are a lot of customers in in the restaurant. The customers need to wait for a long time to wait for their turn. Some of the customers might lose their patience and walk out from the restaurant.

The differences of this POS system and proposed system is POS system requires the customers to queue up at the counter to make their order. This system also allowed to be used by the staff only. The customers do not use the system directly, but they make the order through the staff. However, the proposed system let the customers to use the system themselves. They place their order themselves through the system.

### **2.3 Online Ordering System**

Internet is very famous and it plays a huge role in people's life nowadays. People not only use it for communication, they also use for education purpose, work purpose and many more. Many company start to sell their items online because people nowadays like to purchase items online. People also like to purchase items through internet as it brings a lot of convenience to people.

Restaurant industry also started to make use of internet to attract more customers. Some of the restaurant started to use online ordering system to let the customers to make their order. When the customers make the order through the internet, the data and information will send to the

database of the restaurant. The order of the customers also will be displayed in the screen of the restaurant.

This online ordering system brings convenience to customers. The customers can choose the restaurant they like through the internet. They can view the menu of the restaurant and make their order through the website. They have two options to choose to have their food, which are delivery or pick up. If they choose delivery, the deliveryman of the restaurant will send the food to the customer's house. On the other hand, if the customer chooses pick up, the customers can go to the restaurant to take their food. Payment of the food can be either cash, credit card or PayPal.

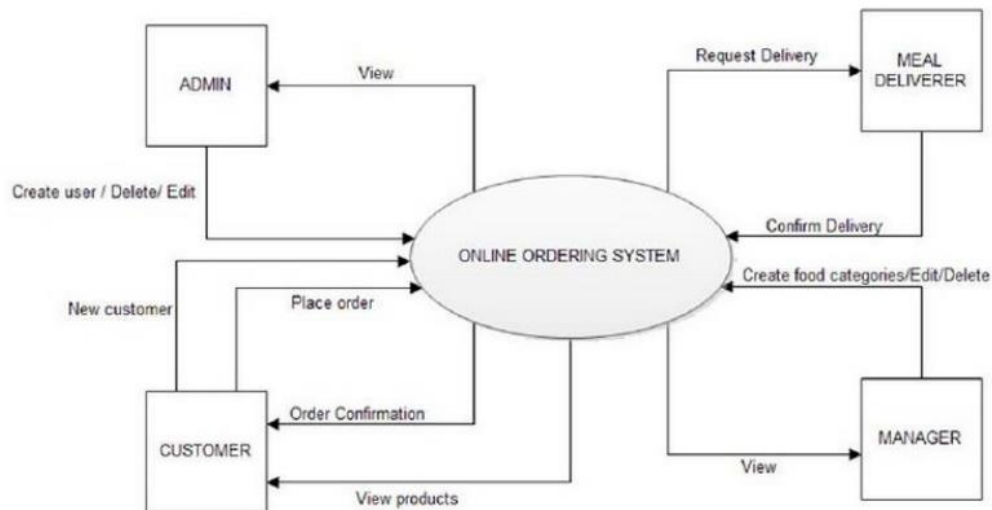


Figure 2-4 Online Ordering System Context Diagram

The strength of this system is its flexibility. The customers can order the food anytime and wherever they are. The customers just need to access to the internet using mobile device or laptop to make their order. They do not need to waste their time to walk in to the restaurant to make their order. They also do not need to queue up in the restaurant. This has saved the customer's time.

The limitation of this system is not all the people use internet. Some of the senior citizens do not know how to use internet. Therefore, they are unable to access to the internet to make their order. This system is unable to target all types of customers. Moreover, this system relies on

internet. If there is no internet connection or the service provider is under maintenance, the customers are unable to access to the website. This will bring inconvenience to the customers.

The similarity of this system and proposed system is both of this systems using internet to let the customers place order. The difference of both of this system is online ordering system is used to make an order when you are lazy to eat in the restaurant. However, proposed system is used when the customers make their order themselves when they go into the restaurant.

### 2.4 Comparison Between Similar Systems

System \ Function	MMSCall	Poster POS	Domino's Pizza	Proposed System
Require staff to perform transaction	Yes	Yes	No	Yes
Fully automated	No	Yes	Yes	No
Portability	Yes	No	Yes	No
Menu management	No	Yes	Yes	Yes
Online ordering	No	No	Yes	Yes

Table 2-1 Comparison between existing systems with proposed system

## Chapter 3 System Design

### 3.1 Block Diagram

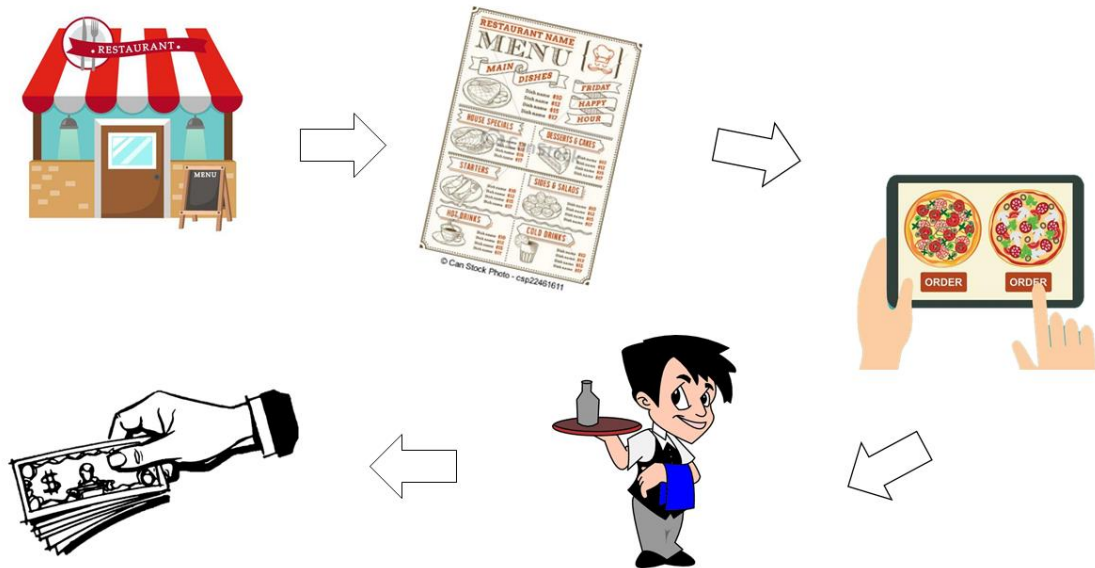


Figure 3-1 Block Diagram

Figure above shows the block diagram of Restaurant Ordering System. First of all, the customers will visit the restaurant. The staff will serve the customers to sit down. Then, the customers can view the menu through the device that is prepared by the restaurant. After they view the menu, they can start to order the food through the device. The staff and chef will know the order details after the customers ordered. After the food is prepared, the waiter will serve the customers. Then, the customers pay and leave the restaurant.

### 3.2 Use Case Diagram

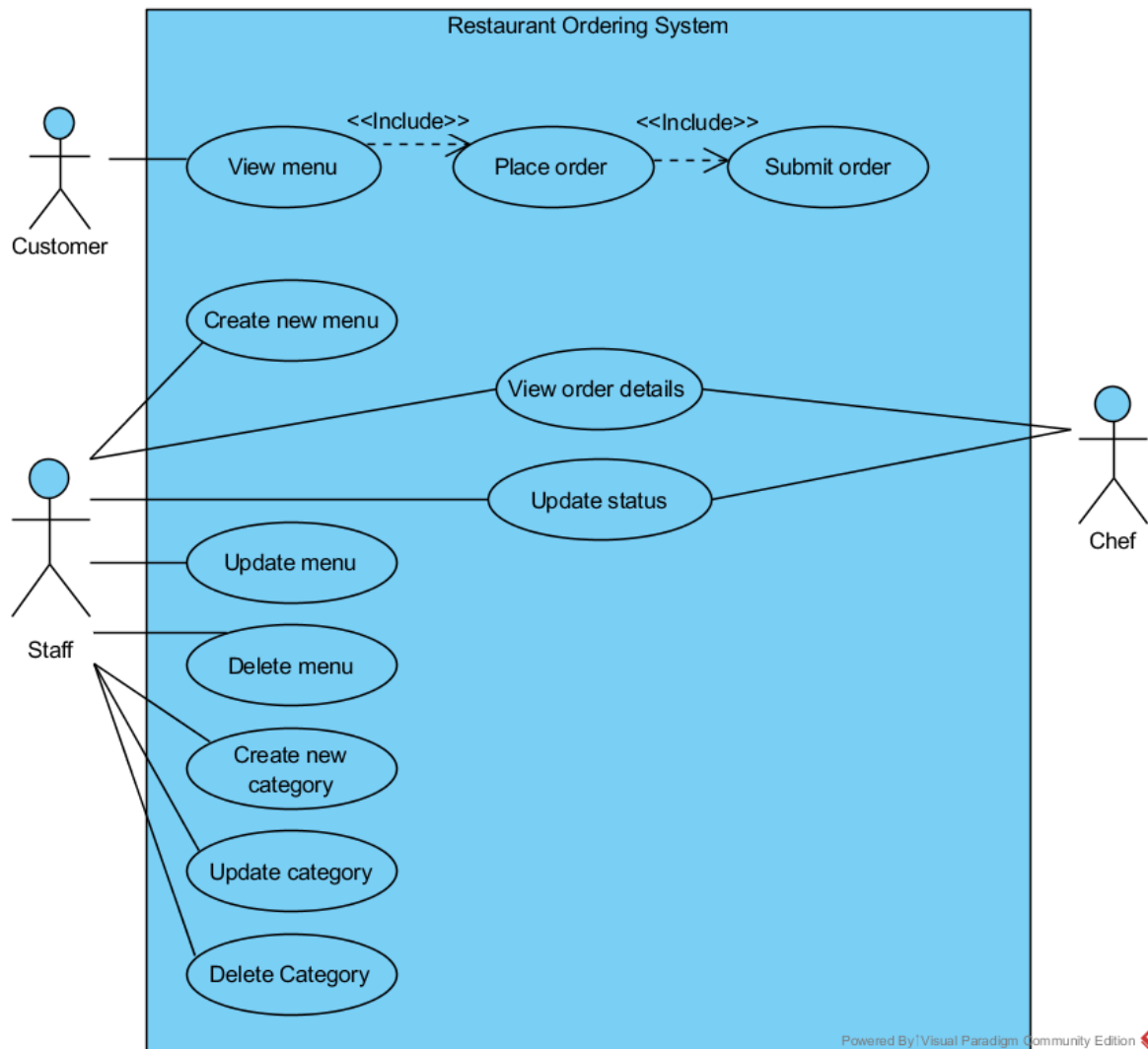


Figure 3-2 Use Case Diagram of Restaurant Ordering System

The figure above shows the use case diagram of Restaurant Ordering System. There are some functions provided by the system.

- Login  
Login function is needed to identify whether the user is staff or chef. Different roles can perform different tasks.
- View menu  
The customers can view the menu through this system. They can view the menu according to the category.



## Chapter 3 System Design

- Order food

The customers can order the food after they view the menu. They need to enter the table number and the quantity of each dishes.

- View order details

The staff and chef can view the full order details of the customers. The chef need to view to cook the dishes while the staff need to view the order details to serve the customers.

- Change order status

The staff and the chef have the right to change the order status of the customers. If the food of the customers has started to prepare, the chef will change the status of the order. If all the food of the customers has been served, the staff will change the status of the order.

- Create new menu

The staff can add new menu to the system. The staff can add the name, picture, price and the category of the food. After the staff inserted, the customers can view it through the menu page.

- Update new menu

The staff can update any menu through the system. The staff can change the name, price, picture and the category of the food. The customers can view the new menu after the staff make the changes.

### 3.3 Activity Diagram

#### 3.3.1 Place Order

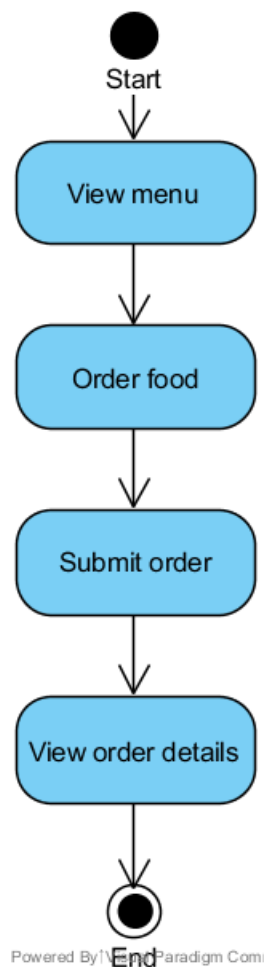


Figure 3-3 Activity Diagram for Customers to Place Order

The customers can view the menu through the device that prepared by the restaurant. After they made their decision, they can order the food through the device. The customers need to enter the table number and the quantity of the food in order to order the food. After the customers press submit button, the staff and chef can view the order details of the customers.

3.3.2 Change Order Status of Customers

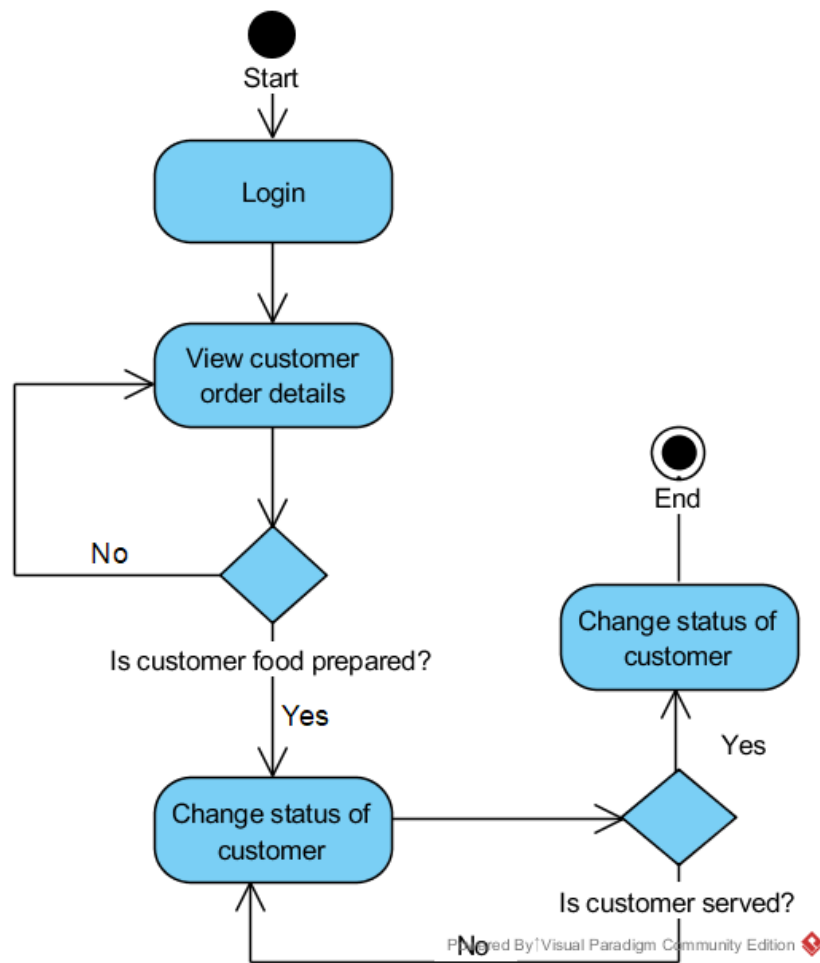


Figure 3-4 Activity Diagram for Staff and Chef to Change Order Status of Customers

The staff and chef must login to the system before they view the order details of the customers. If the chef started to prepare the food of the customers, the chef can change the order status of the customers from “Not yet prepare” to “Prepared”. After the food has been delivered to the customers, the staff can change the order status of the customers from “Not yet serve” to “Served”.

3.3.3 Update Menu

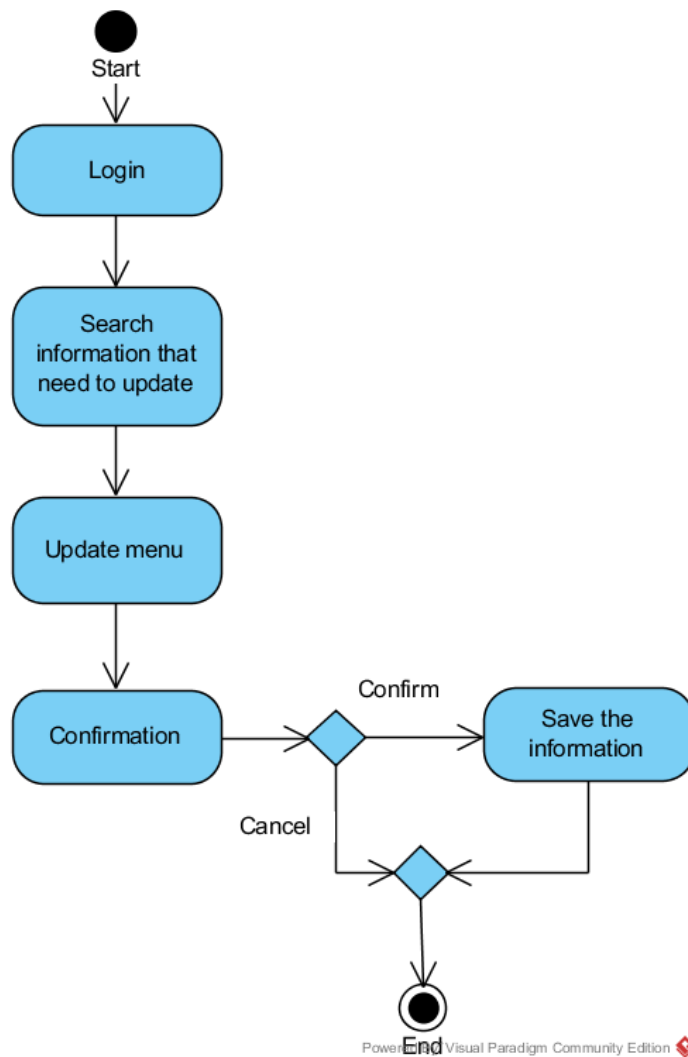


Figure 3-5 Activity Diagram for Staff to Update Menu

In order to update the menu, the staff must login to the system to perform the task. After the staff login to the system, they can view the menu at the products page. They firstly choose the record that need to update. Then, the staff can click the edit button to change the menu. They can change the name, price, picture and category of the food. If the staff confirm to make the changes, they can click update button to update the food details. If the staff do not want to make the changes, they can click close button to cancel it.

3.3.4 Update Category

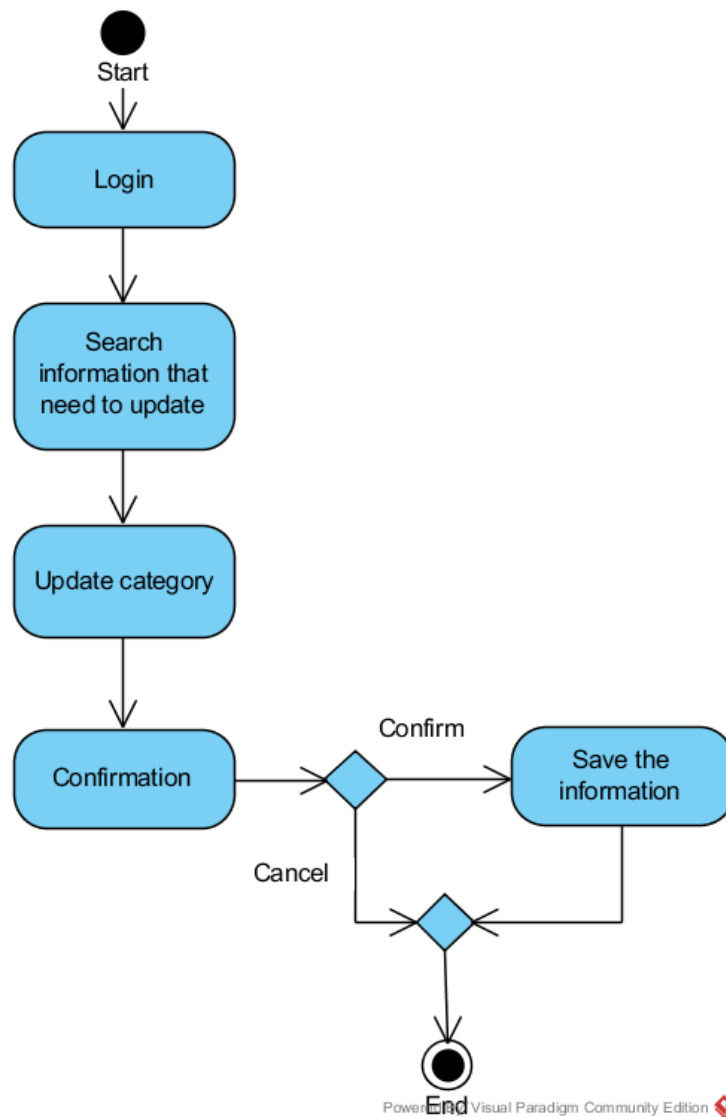


Figure 3-6 Activity Diagram for Staff to Update Category

The staff must login to the system in order to update the category details. After the staff login to the system, they can view the category details at the category page. The staff can click the edit button of any record to change the details of the category. They can change the name of the category. If the staff confirm to make the changes, they can click update button to update the category details. If the staff do not want to make the changes, they can click close button to cancel it.

3.3.5 Delete Menu

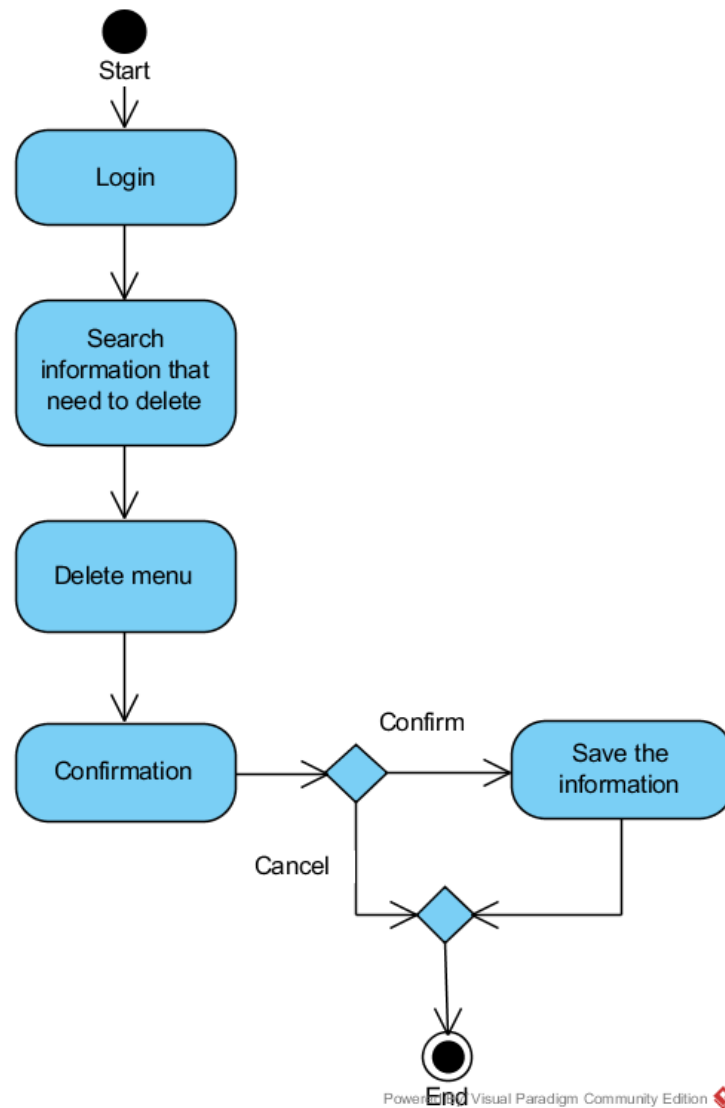


Figure 3-7 Activity Diagram for Staff to Delete Menu

In order to delete the menu, the staff must login to the system to perform the task. After the staff login to the system, they can view the menu at the products page. They firstly choose the record that need to delete. Then, the staff can click the delete button to delete the menu. If the staff confirm to delete the menu, they can click yes button to delete the menu. If the staff do not want to make the changes, they can click close button to cancel it.

3.3.6 Delete Category

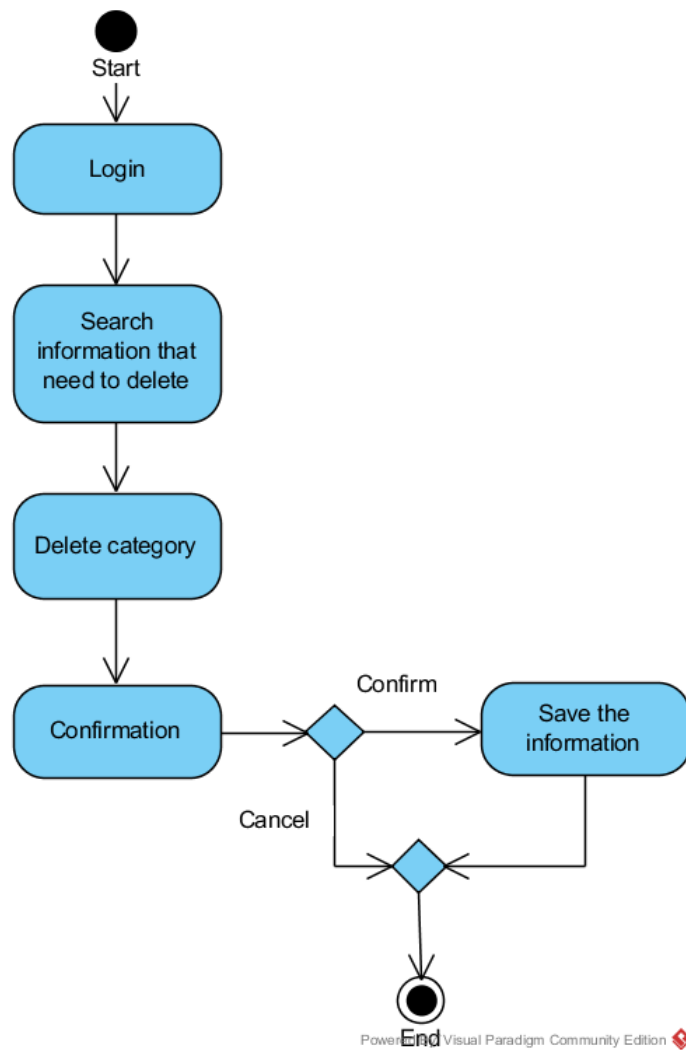


Figure 3-8 Activity Diagram for Staff to Delete Category

The staff must login to the system in order to delete the category details. After the staff login to the system, they can view the category details at the category page. The staff can click the delete button on the record that they wish to delete. If the staff confirm to make the changes, they can click yes button to delete the category details. If the staff do not want to make the changes, they can click close button to cancel it.

3.3.7 Create Menu

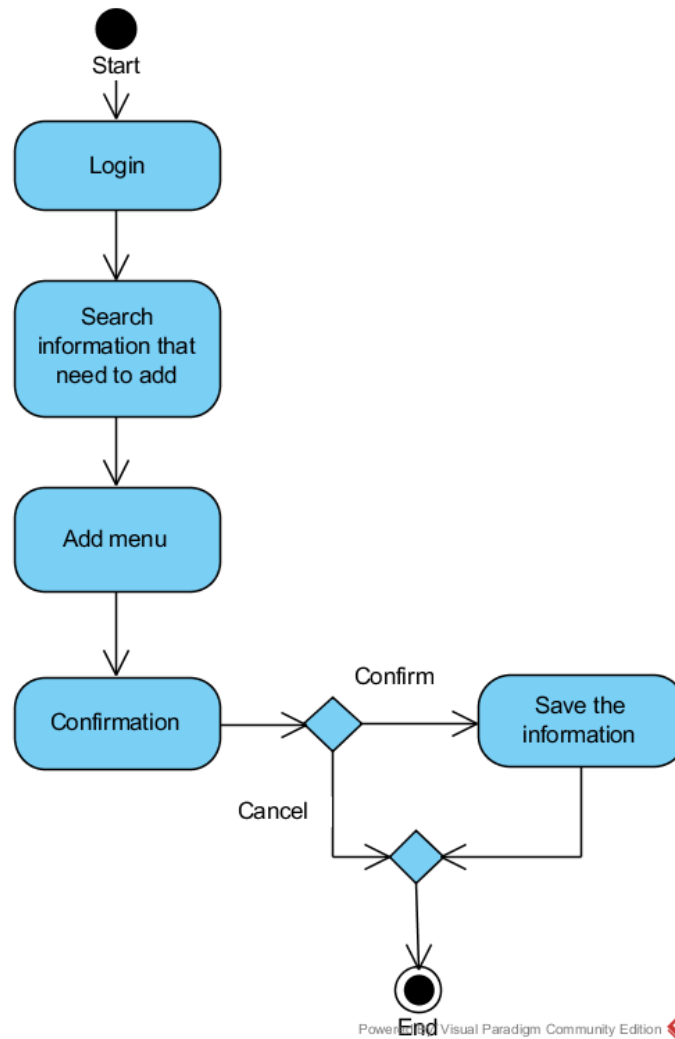


Figure 3-9 Activity Diagram for Staff to Create Menu

In order to create the menu, the staff must login to the system to perform the task. After the staff login to the system, they can view the menu at the products page. They can click on the add button to create new menu. Then, the staff can insert the name, price, picture and the category of the menu. If the staff confirm to add the new menu, they can click save button to add the menu. If the staff do not want to add new menu, they can click close button to cancel it.



3.3.8 Create Category

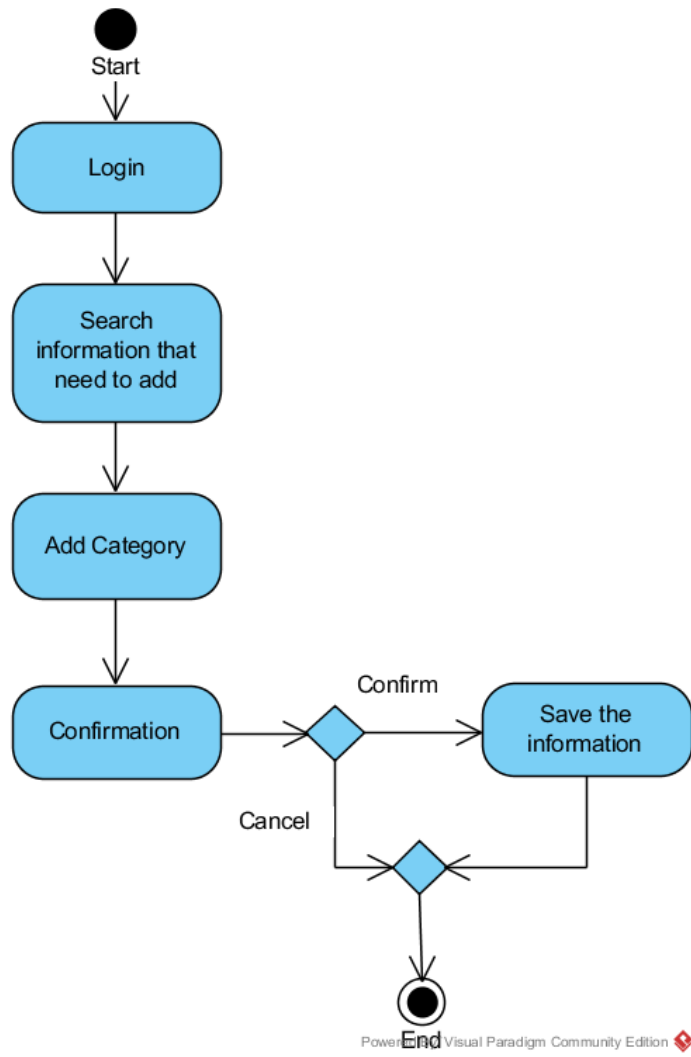


Figure 3-10 Activity Diagram for Staff to Create Category

The staff must login to the system in order to create the category details. After the staff login to the system, they can view the category details at the category page. The staff can click the add button to create new category. The staff only need to enter the name of the category. If the staff confirm to make the changes, they can click save button to add the new category details. If the staff do not want to add new category, they can click close button to cancel it.

### 3.4 User Interface Design

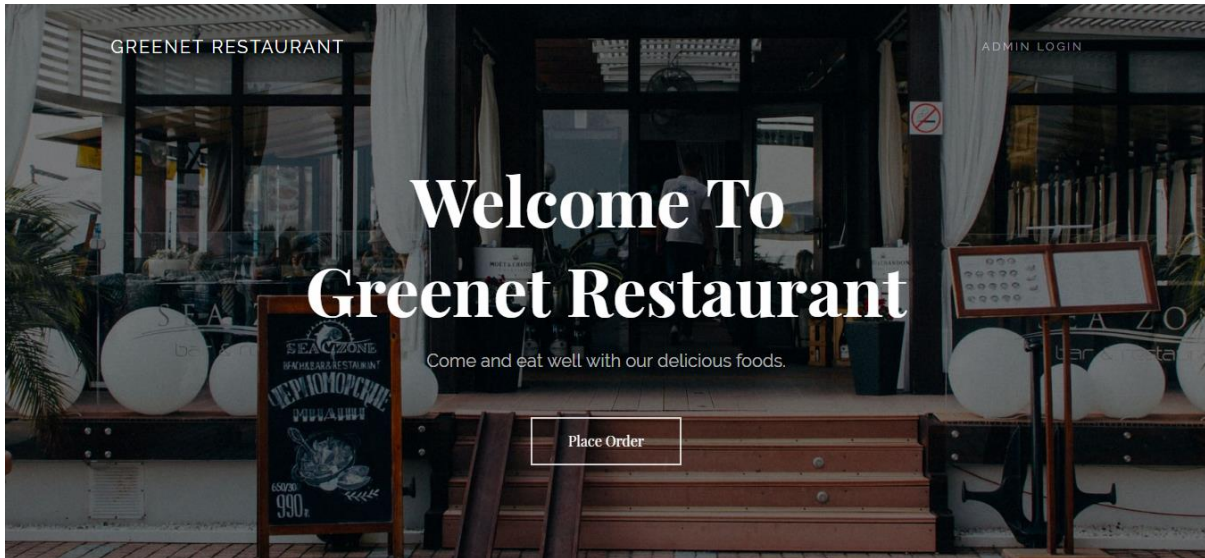


Figure 3-11 Home Page

This is the home page of the system. The customers can click on the place order button to view the menu. The staff and chef can click on the admin login button to login to the system.

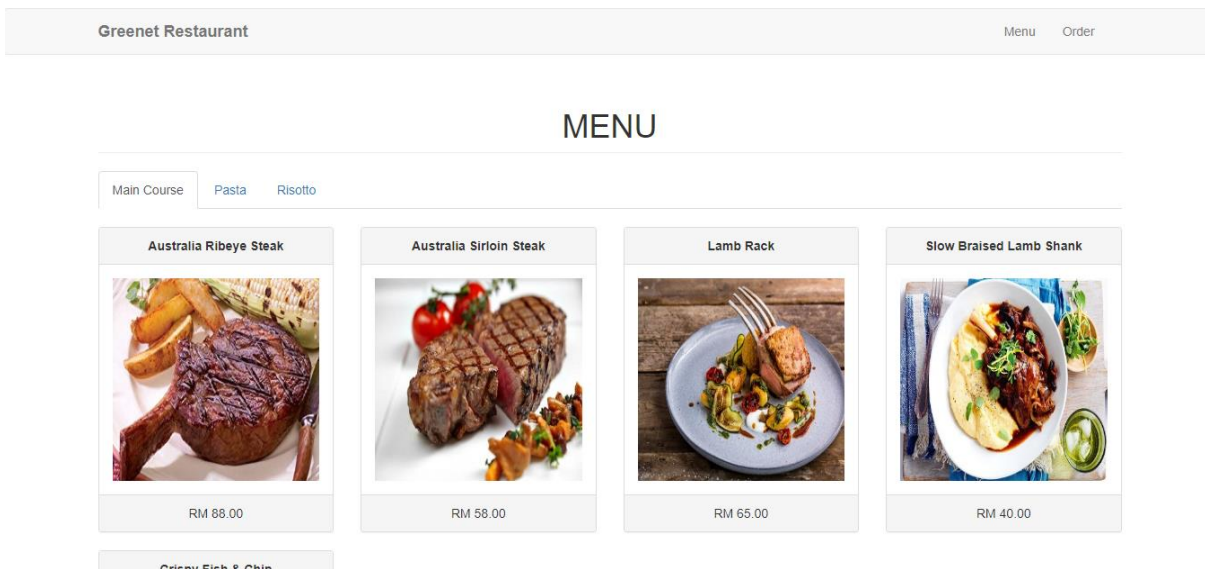


Figure 3-12 Menu Page

After the customers click the place order button, this page will be displayed to the customers. The customers can choose the category to view the food. If the customers wish to order the food, they can click on the order button.

## ORDER



<input type="checkbox"/>	Category	Product Name	Picture	Price	Quantity
<input type="checkbox"/>	Main Course	Australla Ribeye Steak		RM 88.00	<input type="text"/>
<input type="checkbox"/>	Main Course	Australla Sirloin Steak		RM 58.00	<input type="text"/>

Figure 3-13 Order Page Part 1

This is the order page of the system. It will show the category, name, picture and price of the food.



<input type="checkbox"/>					<input type="text"/>
<input checked="" type="checkbox"/>	Risotto	Squid Ink Risotto with Prawn		RM 30.00	<input type="text" value="2"/>

Table Name

Figure 3-14 Order Page Part 2

The customers need to tick the checkbox, fill in the quantity and the table name. Then, the customers can click on the order button.

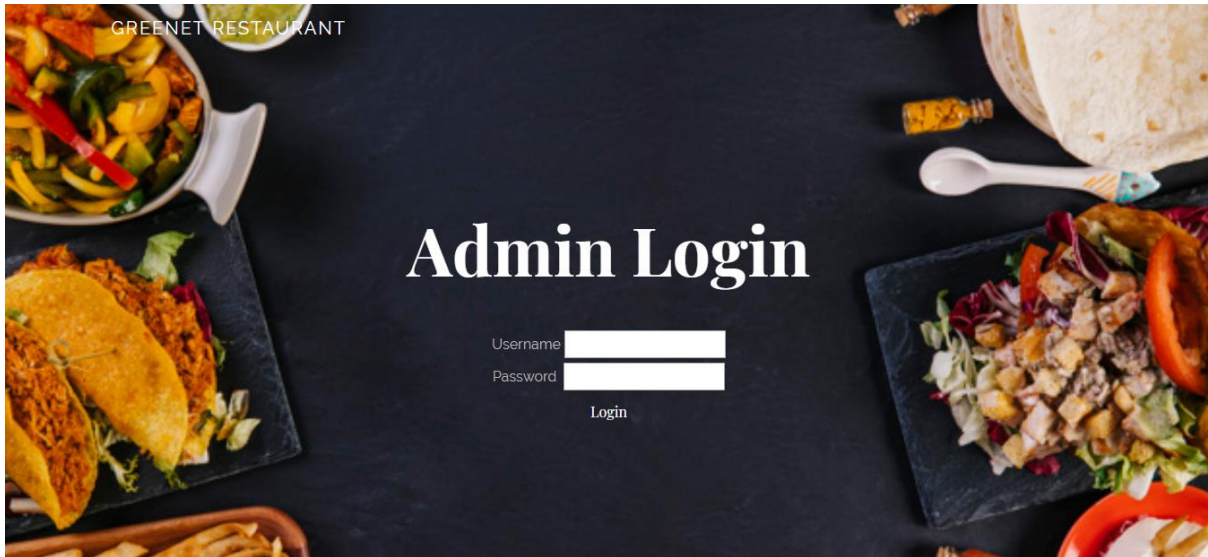


Figure 3-15 Admin Login Page

This is the admin login page for the staff and the chef to login. They are required to fill in the username and password.

Date	Table	Total Sales	Details	Status
Apr 08, 2019 02:33 PM	2	RM 60.00	<a href="#">View</a>	Not yet serve <a href="#">Not yet serve</a> <a href="#">Change Status</a>
Apr 08, 2019 11:44 AM	3	RM 58.00	<a href="#">View</a>	Served <a href="#">Not yet serve</a> <a href="#">Change Status</a>
Apr 08, 2019 11:40 AM	3	RM 63.00	<a href="#">View</a>	Not yet serve <a href="#">Not yet serve</a> <a href="#">Change Status</a>
Oct 09, 2018 08:19 PM	5	RM 450.00	<a href="#">View</a>	Served <a href="#">Not yet serve</a> <a href="#">Change Status</a>
Dec 06, 2017 03:29 PM	3	RM 600.00	<a href="#">View</a>	Served <a href="#">Not yet serve</a> <a href="#">Change Status</a>

Figure 3-16 Sales Page Part 1

After the staff login to the system, they can view the sales of the restaurant. The sales table includes the date order, table number, total sales, details of the sales and the status of the order. The staff can change the status to “Served” if they served all the food to the customers.

## Chapter 3 System Design

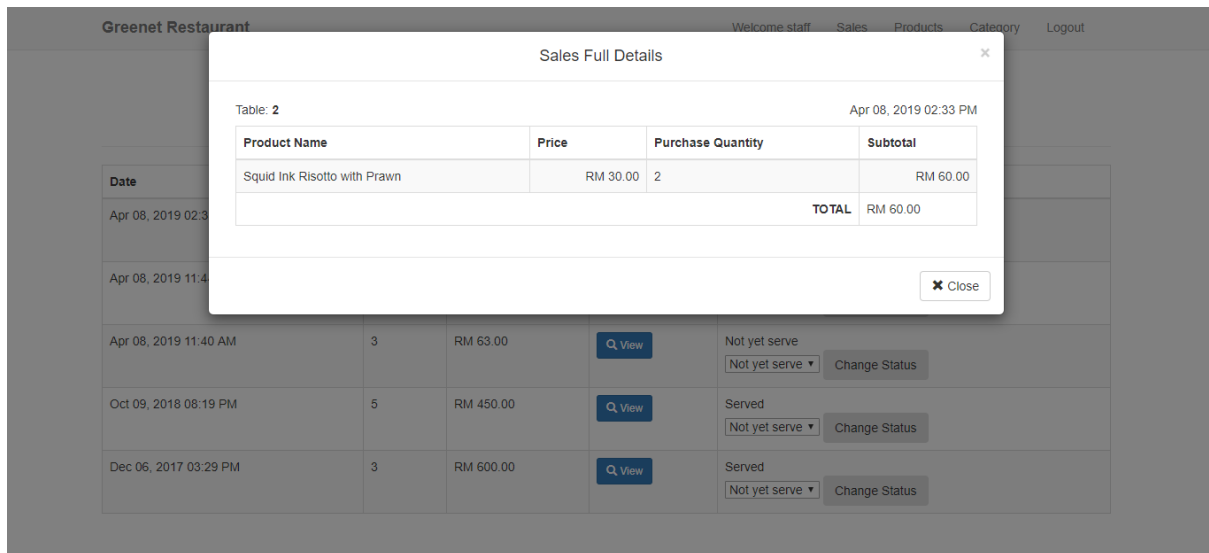


Figure 3-17 Sales Page Part 2

If the staff click on the view button, it will show more about the orders. The staff can view what customers have order and the quantity of the food.

## PRODUCTS CRUD

Photo	Product Name	Price	Action
	Australia Ribeye Steak	RM 88.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Australia Sirloin Steak	RM 58.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Crispy Fish & Chip	RM 29.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Lamb Rack	RM 65.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Slow Braised Lamb Shank	RM 40.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Beef Bolognese Tagliatelle	RM 28.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Penne with Mushroom Ragout and Organic Egg	RM 26.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Seafood Squid Ink Spaghetti	RM 34.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Spaghetti Carbonara	RM 28.00	<a href="#">Edit</a>    <a href="#">Delete</a>
	Spaghetti Pesto with Shrimp	RM 28.00	<a href="#">Edit</a>    <a href="#">Delete</a>

Figure 3-18 Products Page

This is the products page of the system. The staff can manage all the food in this page.

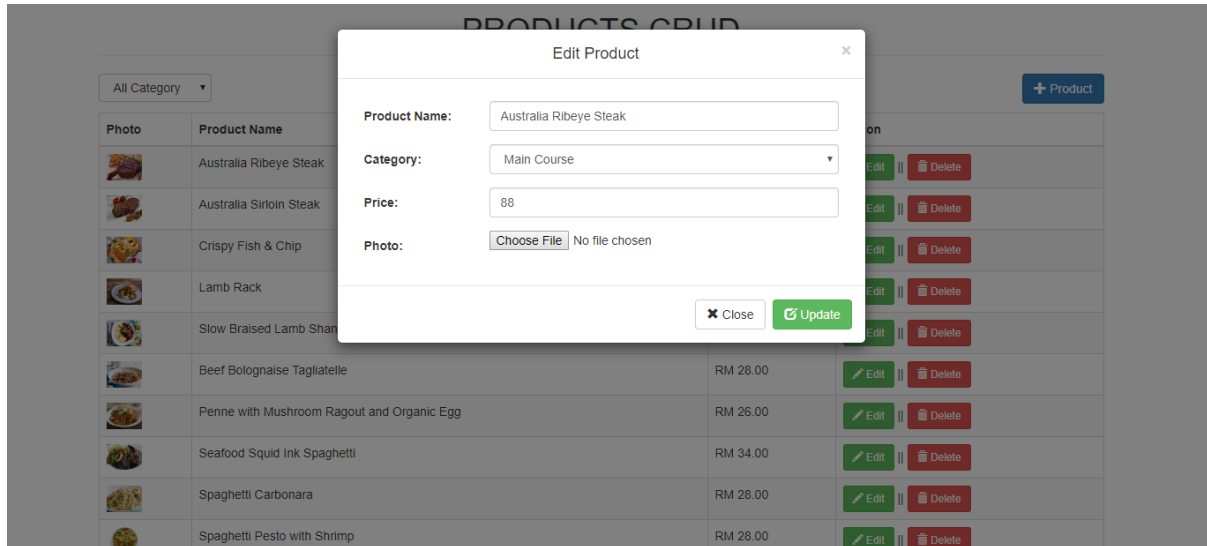


Figure 3-19 Update Menu

If the staff wish to update the food details, they can click on the edit button. Then, this modal will be displayed. The staff can change the name, category, price and picture of the food. If the staff wish to make the changes, they can click on the update button.

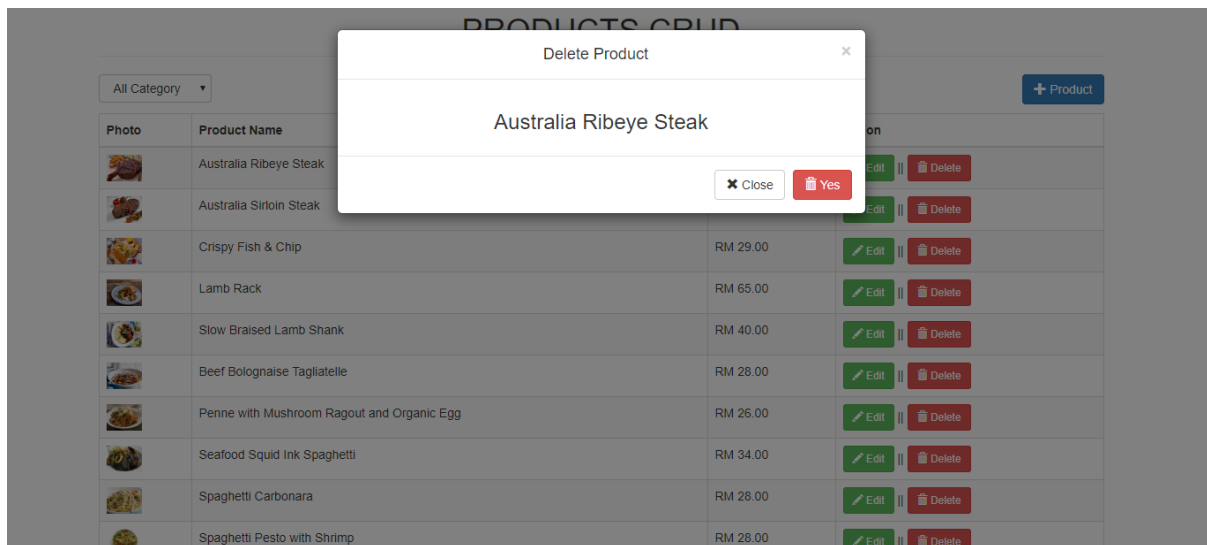


Figure 3-20 Delete Menu

If the staff want to delete food, they can click on the delete button to perform the task. The staff can click on the yes button to confirm delete the food.

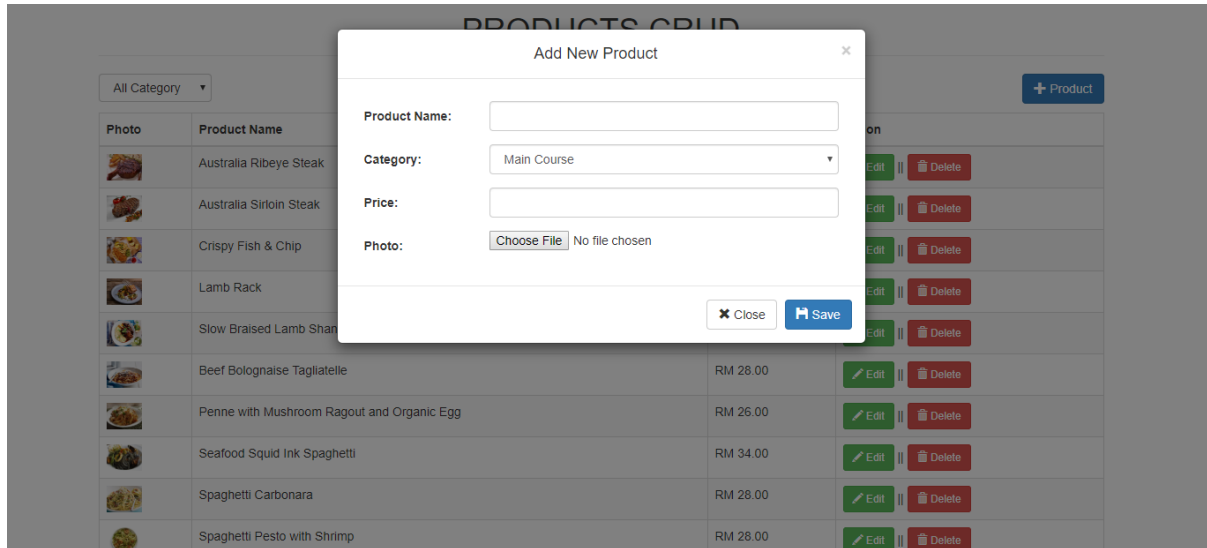


Figure 3-21 Add Menu

If the staff want to add new food, they can click on the add button. They need to fill in the name, category, price and the picture of the food. Then, they need to click save button to add the food.

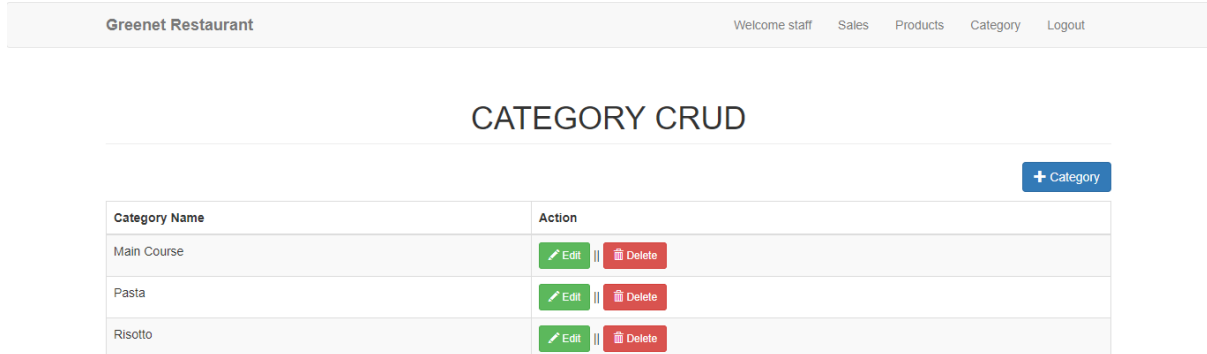


Figure 3-22 Category Page

This is the category page. The staff can manage the category details here.

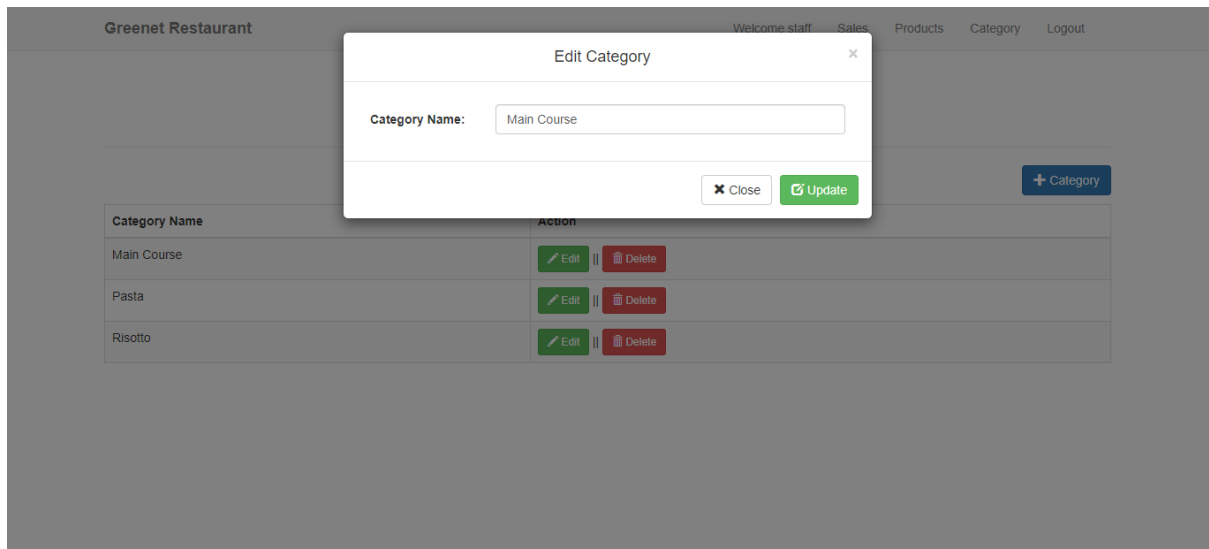


Figure 3-23 Update Category

The staff can update the category details by clicking the edit button. Then, the staff need to fill in the new category name.

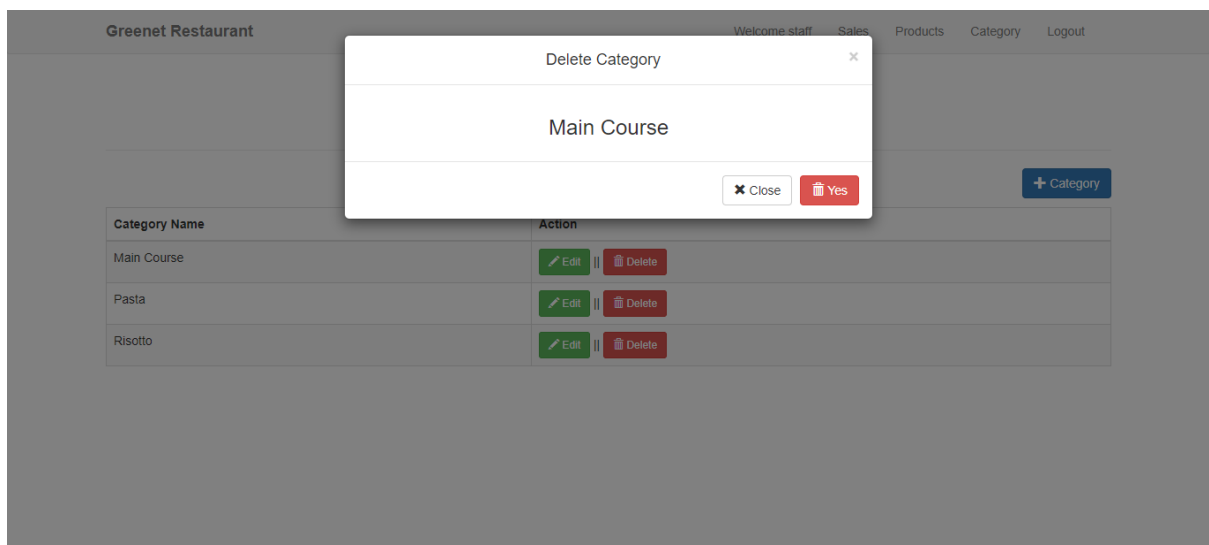


Figure 3-24 Delete Category

If the staff wish to delete the category details, they can click on the delete button.



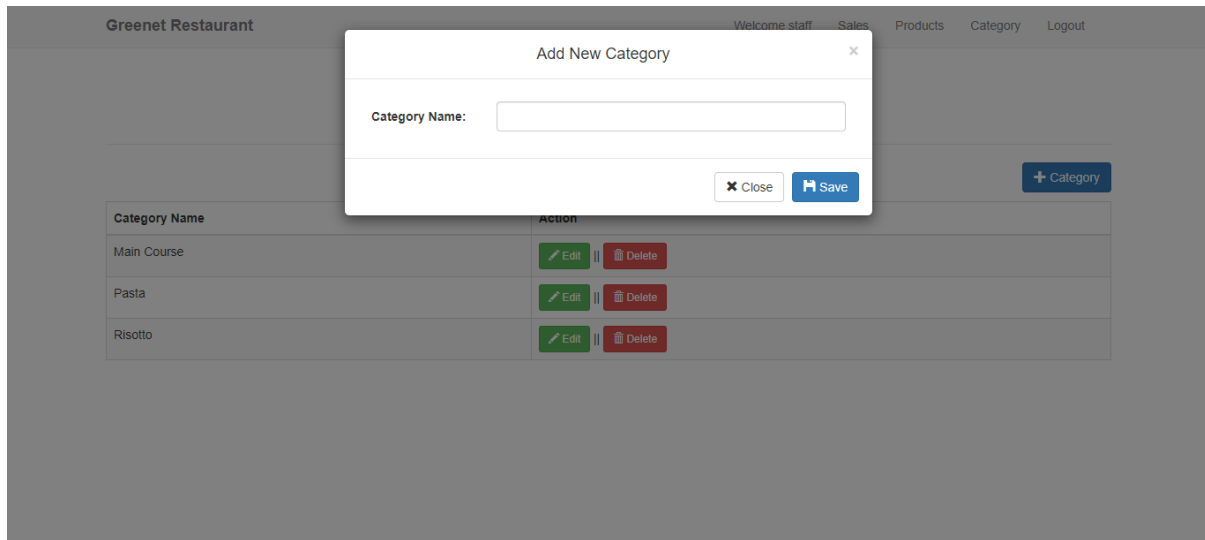


Figure 3-25 Add Category

The staff can add new category details by clicking the add button. They are required to fill in the category name.

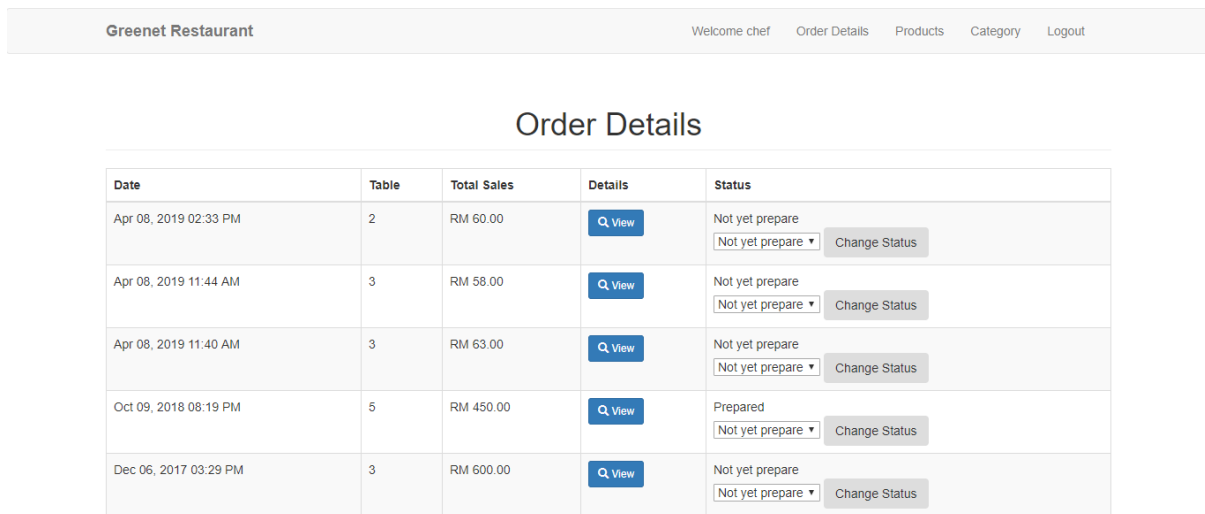


Figure 3-26 Chef Home Page

This is the chef home page. The chef also can view the order details of the customers. They can change the status of the customers. If they start to prepare the food of the customers, they can click the change status button to change the status.

## Chapter 4 Methodology and Tools

### 4.1 Methodology

The methodology that used to develop this system is Throwing away prototyping. Throwing away prototyping model is fast and cheap to design. It is suitable to use when the needs of the users are unclear. By using this model, it can ensure that the system requirements are validated and that they are clearly understood. Once the requirements are cleared, the systems will be developed from the beginning. The actual prototype can be discarded when the appropriate knowledge has been required. Throwing away prototyping can develop a system in a short time compare with other methodologies. When using this methodology, the user can receive the feedback from the end users and keep on working to develop a system that match the requirements of the end users.

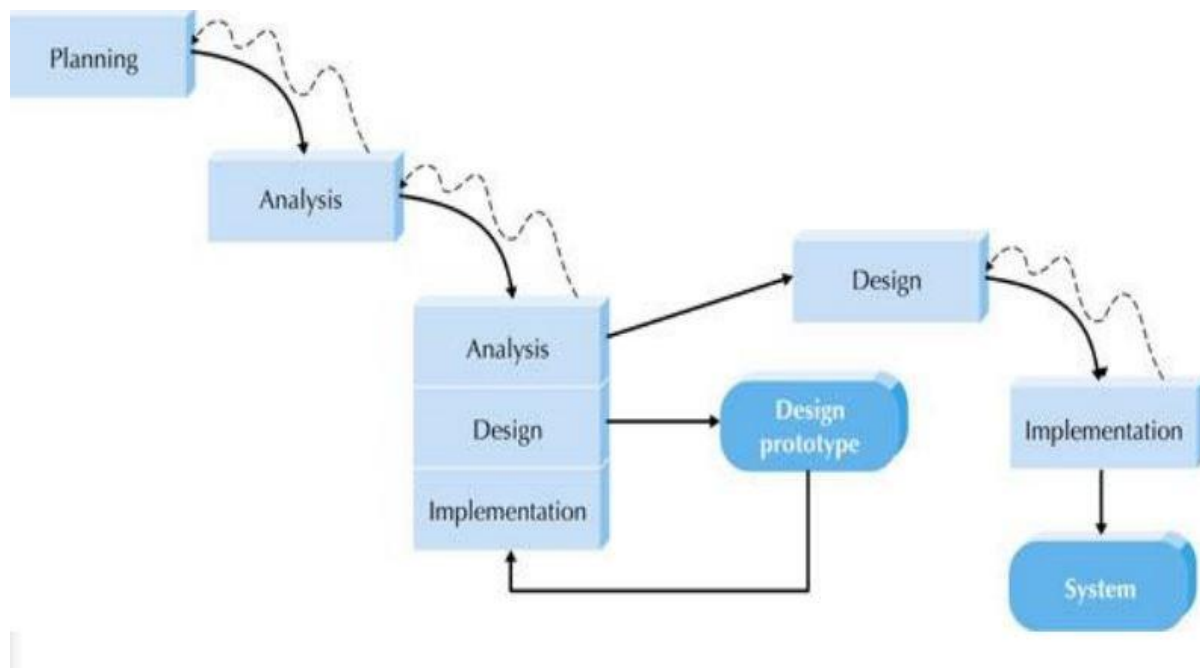


Figure 4-1 Diagram of Throwing away Prototyping model

### 4.2 Tools

- PHP, HTML, CSS

These technologies are used to build the system. PHP and HTML are used to build the interface of the system and build the functionality of the system. CSS is used to define styles of the system.

- XAMMP

XAMPP is a free and open-source cross-platform web server solution stack package. This software is used to connect to Apache and MySQL.

- phpMyAdmin

phpMyAdmin is an open source and free administration tool for MySQL. This tool is used to insert the database.

- Visual Paradigm Community Edition

Visual Paradigm Community Edition is a UML CASE Tool. This software is used to draw the use case diagram and activity diagram.

- Atom.io

Atom.io is a free and open-source text and source code editor. This software is used to code the system.

### 4.3 Requirement

- XAMMP Control Panel Version 3.2.3
- phpMyAdmin Version 4.8.5
- Laptop

Operating System: Windows 10

Processor: Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz 2.19GHz

### 4.4 Timeline

Timeline is used to ensure this project can be completed on time. In this semester, documentation of Final Year Project was done. The development of the system also done by this semester.

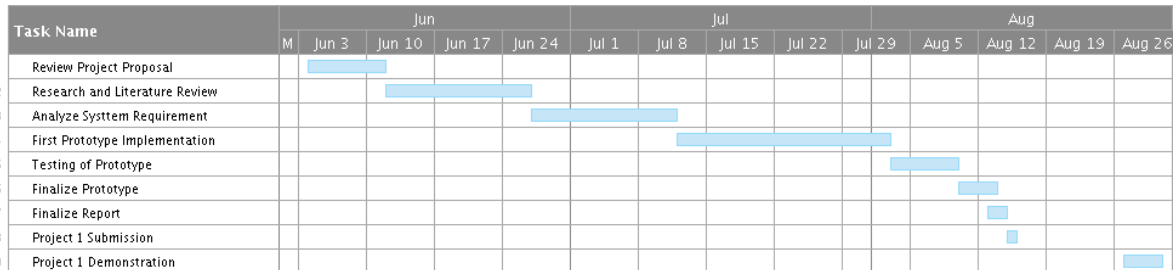


Figure 4-2 Timeline for Project 1

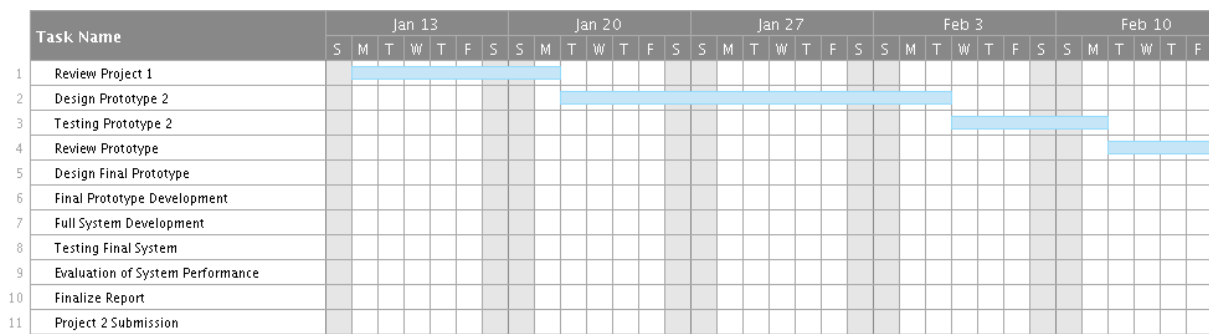


Figure 4-3 Timeline for Project 2

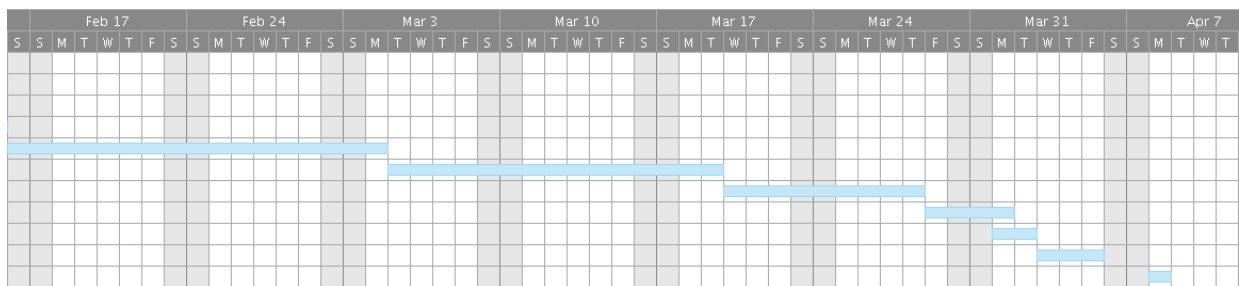


Figure 4-4 Timeline for Project 2 (cont)

#### 4.5 Implementation and Testing

The implementation of the system will be started after the end of the system design. The structure of the database will firstly build during development phase. Then, the server side and client side also built to allow the communication between customers and staff. During the testing phase, few test cases are carried out to test the system. This is to make sure the system is reliability.

##### Unit Testing 1: Login

Test Objective: To ensure the user able to login with valid name and password.

Input	Expected output	Actual output
Login by entering correct name and password.	The system let the user login.	The user login successfully.
Login by entering wrong password.	The system does not allow the user to login.	The user can't login to the system.
Login by does not enter any value.	The system does not allow the user to login.	The user can't login to the system.

Unit Testing 2: Add new menu

Test Objective: To ensure the staff able to add new menu into the system.

Input	Expected output	Actual output
Enter all the information of the food	The food information is stored into the database.	The food information is stored into the database and the user can view the food in the list.
Enter few information of food	The food information will not store into the database.	The system does not allow the user to add new food.
Click Save button without entering any information	The food information will not store into the database.	The system does not allow the user to add new food.

Unit Testing 3: Add new category

Test Objective: To ensure the staff able to add new category into the system.

Input	Expected output	Actual output
Enter the information of the category	The category information is stored into the database.	The category information is stored into the database and the user can view the category in the list.
Click Save button without entering any information	The category information is not store into the database.	The system does not allow the user to add new category.

Unit Testing 4: Order food

Test Objective: To ensure the customer able to order the food.

Input	Expected output	Actual output
Enter the information of the quantity, table name and tick the checkbox.	The order is processed successfully.	The customer is allowed to make the order.
Enter the table name information only.	The order does not process successfully.	The customer is not allowed to make the order.
Enter the information without entering table name.	The order does not process successfully.	The customer is not allowed to make the order.
Click Order button without entering any information	The order does not process successfully.	The customer is not allowed to make the order.

## **Chapter 5 Conclusion**

### **5.1 Conclusion**

Nowadays, the innovation of technology brings a lot of convenience to the people. Many company use management systems to grow their business as it is efficient for both sellers and customers. The food and beverage industry also started to follow the trend to use management system for their business.

Many restaurants that still using traditional ordering system will face few difficulties and problems such as careless of waiter, ugly handwriting of waiter, give wrong bill payment to the customers. All of these problems will cause the dissatisfaction towards the services of the waiter and the restaurant. This will also affect the brand image of the restaurant.

The traditional ordering system also difficult to update the latest information to the customers. The staffs are required to remember the latest information so that they can inform the customers. If the staffs forgot to inform to the customers, the customers might disappoint at the services of the restaurant.

In conclusion, this system helps to increase the productivity and efficiency of the restaurant. It reduces the manual work of the staff. By having this ordering system, the customers can make their order through the system. Then, the order will pass to the kitchen. The chef will start to cook when they see the order of the customers. Everything is done by the system and the staff just need to serve the food to the customers and wait for the customers to make the payment.

### **5.2 Project Discussions**

Restaurant ordering system is developed to benefits the restaurant by reducing the workload of the staff. This restaurant ordering system solve many problems of traditional ordering systems. The first objective of this system is to develop a system that include the preparation time of food. In this system, the customers can view the preparation time of food. Therefore, they can plan their schedule wisely after their lunch or dinner.

Furthermore, to ensure the customers can cancel their order is also one of the objective of this system. By using traditional ordering system, to cancel the order includes few steps. By using



## Chapter 5 Conclusion

this system, the customers can just click on the cancel button to cancel their order. When the chef not yet start to prepare their food, the customers are allowed to cancel their order. This can increase the satisfaction of the customers.

Moreover, third objective of this system is to design a user-friendly system that provides latest information to customers. The staff and chef can change the menu according to the availability of the food ingredients. Having a user-friendly system is also important as it will affect the brand image of the restaurant. The user interface of this restaurant ordering system is clean and clear. The dashboard for staff and chef also clean and neat.

### **5.3 Future Work**

More and more restaurants start to implement own ordering system. It is because the system helps to enhance the productivity of staffs. Restaurant ordering system not only benefits the restaurant, it also benefits the customers. The customers can make their order in an efficient and fastest way.

In future, the system can be improved by generate a QR code. By having this QR code, the restaurant does not need to provide the device to let customers make the order. The restaurant only need to link the QR code with the system. When the customers walk into the restaurant, they can use their own phone or device to scan the QR code. After scanning the code, they can view the menu and place the order.

Moreover, the system also can be improved by accepting different types of payments such as credit cards and debit cards. By implementing this function, the customers do not need pay the bill by cash in the counter. They can pay the bill through online payment gateway.

Furthermore, sometimes it is difficult to call the staff when the customers wish to request for something. The staff might not hear the voice of customers as they are busying serve the food. Therefore, a feature that can call staff through the system should be implemented. When the customers click on the button, the staff will immediately know which table is calling them.

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# RESTAURANT ORDERING SYSTEM

## INTRODUCTION

Nowadays, people like to dine in at restaurant for their meals. Without restaurant ordering system, the customers faced a lot inconveniences such as need to wait to be served, receive incorrect bill and many more. Restaurant ordering system should be apply into the restaurant to provide a better service to customers.

## OBJECTIVES

- Keep track record of customers
- Ensure food order in sequence
- User-friendly system

## METHODOLOGIES

Throwaway Prototype  
Development Model

## RESULTS

The customers can view menu and place the order. The staff can manage the menu. The chef can change the status of customer's order.

## CONCLUSION

This system allows customers to make their order without wasting time. They can view the menu and make the order and do not need to wait to be served.

