DEVELOPMENT OF AN ONLINE ORDERING APPLICATION SYSTEM USING OPTIMIZATION ALGORITHM

BY

ABDULHAMID SANI IBRAHIM

ND/23/COM/PT/0048

A PROJECT SUBMITTED TO

THE DEPARTMENT OF COMPUTER SCIENCE, INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY

KWARA STATE POLYTECHNIC, ILORIN

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF NATIONAL DIPLOMA (ND) IN COMPUTER SCIENCE

JUNE, 2025.

DEDICATION

This project specially dedication to Almighty Allah for His love, protection, guidance and supports for me especially in my academic career. Also to my beloved parents for their care and full support during my course, may Almighty Allah bless them abundantly (AMEN).

ACKNOWLEDGEMENTS

All praise is due to Almighty God the Lord of universe. I praise him and thank him for giving me the strength and knowledge to complete my HND programme and also for my continued existence on the earth.

ABSTRACT

The online ordering system provides convenience for the customers. It overcomes the disadvantages of the traditional visiting of canteen. This system increases the ability to bring foods for customer's door step. Therefore, this system enhances the speed and standardization of taking the order from the customer. It provides a better communication platform. A waterfall model under the software development life cycle (SDLC) is the methodology used to produce the online food ordering system and the customer self ordering system. It is used by system developers to produce or alter information systems or software. The proposed system will be developed using PHP and Mysql as database.

TABLE OF CONTENTS

Title page i

Certification ii

Dedication iii

Acknowledgements iv

Abstract v

Table of Contents vi

CHAPTER ONE

1.1 Introduction 1

1.2 Aim and Objectives of the Study 3

1.3 Statement of the Problem 3

1.4 Significance of the Study 3

1.5 Scope and Limitation 4

1.6 Organization of the Report 5

CHAPTER TWO

2.1 Review of Related Works 6

2.2 E-Commerce Concepts 8

2.3 History of Fast Food/Restaurant 9

CHAPTER THREE

3.1 Research Methodology 12

3.2 Description of Existing System 13

3.3 Problem of Present System 13

3.4 Description of the Proposed System 14

3.5 Advantages of the proposed System 15

CHAPTER FOUR

4.1 Design of the System 16

4.1.1 Output Design 16

4.1.2 Input Design 17

4.1.3 Database Design 19

4.1.4 Procedure Design 21

4.2 Implementation of Techniques Used in Details 21

4.2.1 Programming Language Used with Reasons 21

4.2.2 Hardware Support 21

4.2.3 Software Support 22

4.3 System Documentation 22

4.3.1 Program Documentation 22

4.3.2 Operating the System 23

4.3.3 Maintenance of the System 23

CHAPTER FIVE

5.1 Summary 24

5.2 Conclusion 24

5.3 Recommendations 25

Reference 27

Appendix 1 Flowchart 28

Appendix 2 Source Code 35

ONE CHAPTER

General Introduction

1.1 Introduction

Improving customer satisfaction can increase the customers' loyalty to a product or service provider. One way to improve it is by having a food ordering system which enables customers to purchase the products without physically visiting the shop, namely by phone or by website, and then have the product delivered to the customer's address safely and in good condition. Some food franchises in Indonesia have implemented this type of system, such as Kentucky Fried Chicken, McDonald's, and Pizza Hut. (Roy, 2015)

Hasiholan (2016) proposed that. In delivery service, one of the main problems is to find the shortest path between customers' addresses in order to deliver the product in reasonably short time, to save fuel usage and to optimize the utilization of the vehicles and delivery personnel. The optimization requirement is usually represented on the delivery staff job vacancy announcement that often requires the applicants to know the streets or shortcuts in particular area or city. The routing problem that is related to the condition of food delivery service is called Traveling Salesman Problem (TSP), (Booch, J., 2013) In TSP, the seller starts moving from his/her hometown and is required to visit several cities exactly one time before going back to his/her hometown with minimum total distance. All cities are connected to each other. In this research, the author develops a system that can optimize the delivery routing process by implementing one of the solutions to TSP, which is heuristics algorithm.

Due to the great increase in the awareness of internet and the technologies associated with it, several opportunities are coming up on the web. So many businesses and companies now venture into their business with ease because of the internet. One of such business that the internet introduced is an online food ordering system. In today's age of fast food and take out, many restaurants have chosen to focus on quick preparation and speedy delivery of orders rather than offering a rich dining experience. Until recently, most of this delivery orders were placed over the phone, but there are many disadvantages to this system. Torpey, (2010)

According to Brickers, *et al.,* (2006). it is possible for anybody to order any goods via the internet and have the goods delivered at his/her doorsteps. But while trying to discuss the transfer method of the goods and services, attention is focused on the payment mode. In other words, how possible is it to pay for goods and services via the internet? This then leads to the discussion of the economic consequences of digital cash. What are the implementations from the view point of economic? Since the world is fast becoming a global village, the necessary tool for this process is communication of which telecommunication is a key player. A major breakthrough is the wireless telephone system which comes in either fixed wireless telephone lines or the Global System of Mobile communication (GSM), Fowler, (2013).

An online ordering system originally designed for use in any food delivery industry, the main advantage of this system is that it greatly simplifies the ordering process for both the customer and the restaurant. The system also greatly lightens the load on the restaurants end, as the entire process of taking orders is automated. Once an order is placed on the webpage that will be designed, it is placed into the database and then retrieved, in pretty much real-time. Within this application, all items in the order are displayed, along with their corresponding options and delivery details, in a concise and easy to read manner. This allows the restaurant employees to

quickly go through the orders as they are placed and produce the necessary items with minimal delay and confusion. The greatest advantage of this system is its flexibility. The was developed using PHP and Mysql as the database.

1.2 Statement of Problem

As industries are fast expanding, people are seeking for more ways to purchase products with much ease and still maintain cost effectiveness. The vendors need to purchase the products in order to sell to end users. The manual method of going to their local food sales outlets to purchase food is becoming obsolete and more tasking. Food can be ordered through the internet and payment made without going to the restaurant or the food vendor. So there is need for a wide range of publicity and enabling direct order, processing and delivering of food through online system. For this system, there will be a system administrator who will have the rights to enter the menu with current prevailing prices.

1.3 Aim and Objectives of the Study

The aim of this system to design an ordering system for food industries and to create an avenue through the web where users can log on to our server and make a selection of whatever goods or food they like and subsequently pay via the internet. The following are the objectives:

i. To develop a system that will allow the customers to access all the different categories of available products that they can choose and select from.
ii. To develop a system that will provide a user friendly environment between the customer and employee thus increasing the efficiency of the food ordering system.
iii. To provide an online purchase form with which valued customers will be using to get in touch with any of their request whenever the need arises.

iv. To provide easy retrieval of orders made by the customers.

1.4 Significance of the Study

In view of the rapid development of computer technology in almost all the fields of operation and its use in relation to information management, it has become important to look into the development of online ordering system for firms to meet up with demands of the customers. Therefore, the food ordering and delivery system will help customers and management to order food from the comfort of their houses, Offices and this will enhance fastness in food delivery because the order will be deliver within the few period of time and the system will also reduce time wasted in data processing , because there is no need to write anything on paper , it's this system that will take order and deliver it to the admin in charged and once the order is received the company will process it and deliver the ordered and the system will also create a platform for online purchase and delivery of fast food and more also it will keep accurate record on purchased order and delivery.

1.5 Scope of the Study

In this project, a fast food company is designed to enable customers order for food and get it delivered accordingly and also to reduce the long queues of customers at the counter ordering for food and to reduce the work lord on the employees.

The application covers:

1. About the fast food company
2. The fast food and the services offered there
3. Online purchase
4. Type of food provided.

1.6 Organization of the Report

This project is segmented into five distinct chapters. Chapter one describes the introduction, aims and objectives, significance of the study, scope of the study as well as the organization of the report and definition of key terms.

The second chapter talks about the literature review, historical background, and review of related project.

The third chapter deals with the analysis of the existing system, problems of the existing system, description and the advantages of the proposed system.

The second to the last chapter deals with the design of the system which entails the output. Input, database and procedure design of the system, the implementation comprises of the hardware and software support while the documentation comprises of how to use the system and the system maintenance.

The last chapter deals with the summary experienced gained, conclusion and recommendations.

CHAPTER TWO

Literature Review

2.1 Review of Related Works

An ordering system is referred to as a set of detail methods that is being used in handling the ordering process. Food ordering can be computerized or done manually. Thos helps the customer to order their food themselves which is known as the customer self-ordering system. The customer self-ordering system can be defined as a computerized system that is being used by customers to place their own orders in the restaurant and allow the orders to be tracked, in order to prepare and deliver the food to the computers.

Torpey, (2015) reports that most of the Americans hate waiting for an order. Therefore, they prefer self-service technology, which can be in form of text messaging, the internet and kiosk. Usually, the customer prefers self-service because of speed and convenience in making order and transaction while minimize the miscommunication. He also mentioned that self-activated terminals are more likely to serve as ordering innovation in the future. The implementation of alternative ordering can increase check size, free up counter staff that need to serve customers and take money handling out of service equation.

Bhatnagar (2016) mentioned that the innovation of kiosk and computerized table top ordering screen will force restaurant industry re-jigger an often used acronym quick service restaurant to the self-service restaurant. Customers can get information or search for recipes from the kiosk and internet. The kiosk and internet also takes orders and receives credit cards or debit cards payment. As a result, wrong order and long queue can be avoided, order staff can be

arranged to somewhere else and focus to speed up on delivery orders. On the other hand, a table-top touch screen order system can take customer orders as well as handle other customer requests such as refill drinks, call a waiter and make payment by credit card and debit card.

Bytes, a restaurant located at Canterbury has been successfully standing apart from the competitors because of applying online self-service ordering and the payment concepts. The system used in Bytes allows the customers make an order through the touch screen, and the order will be directed to bar or kitchen. The system also offers games after a customer placed the orders while internet access will be provided to customers in the future. Touch screen ordering reduces the need of the waiter. The system also provides database for customers' habits and preferences, generate the management reports, perform analysis as well as allows the menu to be updated instantly. Brickers, (2016).

Based on study, it is possible for applying the online food ordering system to the fast food restaurants in Nigeria. This is because the system can improve workplace efficiency, increase sales of the restaurant as well as reduce making incorrect order. As a result, it is worth for investing on the system, whereby it can shorten the return on investment.

In addition, the system should be supported by the food origin taste and services to maintain the customers' loyalty and satisfaction. However, widely implementing the food ordering system may cause the influx of labor due to the elimination of waiters in restaurant industry. Even the system is important to be implemented, yet there is still some risk in other factors such as a direct interaction and restaurant design concept, which need to be considered for ensuring the success of the system.

Gan, (2012) proposed to develop an online fast food restaurant ordering system that allows customers to place orders anytime at any place. The system helps to manage order from customer as well as advertise promotion. It allows kitchen staff to view ordering information, management to manage fast food raw materials and staff to search customer delivery and profile information. This system helps to reduce queue issues during peak hours, speed up food preparation and increase customer volumes. As a result, market share of fast food restaurant can be boosted up and increases return of investment for the investor.

Leon, (2014) mentioned that there are several aspects that should be included in a good online food ordering system. System should be simple to navigate, not clustered and easy to make an order, Sharma, (2007,) designed with professionals looking with search engine optimize capability and available 24hours. The system should also have a secure payment gateway to protect their customers' credit cards information, fast and keep track on orders and sales history easily as well as generate a comprehensive sales report, (Sharma, 2013).

2.2 E-commerce Concepts

Electronic commerce or e-commerce according to Garret, (1996) is the exchange of goods and services by means of the internet or other computer networks. In e-commerce, buyers and sellers transact business over networked computers.

Electronic commerce is also sharing business information, maintaining business relationships and conducting business transactions by means of communication networks. It includes the relationship between companies (business-to-business), between customers (customer-to customer) as well as between companies and customers (business- to-customer). Business to business segment currently dominates the e-commerce while customer oriented

segment is significantly lagging behind and current estimate places it at less than 10% of the total volume, even though they are all experiencing an exponential growth (Vladimir, 1998). E-commerce offers buyers convenience. They can visit the World Wide Web (www) sites of multiple vendors 24hours a day and seven days a week to compare prices and make purchases, without having to leave their homes or offices.

For sellers, e-commerce offers a way to cut costs and expand their markets. They do not need to build staff or maintain a store or print and distribute mail order catalogs. Because they sell over the global internet, sellers have the potential to market their products or services globally and are not limited by the physical location of a store.

E-commerce also has some disadvantages, however. Customers are reluctant to buy some products online. Online furniture businesses for example, have failed for the most part because customers want to test the comfort of an expensive item such as a sofa before they purchase it. Many people also consider shopping a social experience, for instance, they may enjoy going to a store or a shopping mall with friends or family, an experience they cannot get online. Customers also need to be reassured that credit card transactions are secure and that their privacy is respected. E-commerce is not only widening customer's choice of product and services, but also creating new business and compelling established business to develop internet strategies.

2.3 History of Fast Food/Restaurant

A fast food restaurant is a restaurant characterized both by food ready to eat quickly after ordering and by minimal service. One trait shared by all fast food establishments is that the customer pays for the food prior to consuming it. Often this food is referred to as fast food. The

food in these restaurants is often cooked in bulk and in advance and kept warm or reheated on order.

Although fast food restaurants are often viewed as a representation of modern technology, the concept of “ready cooked food to go” is as old as cities themselves, unique variations are historical in various cultures. Ancient Roman cities had bread-and-olive stands, East Asian cultures features noodle shops. Flat bread and falafel are ubiquitous in the Middle East. Popular Indian fast food delicacies include Vada Pav, Papri Chaat, Bhelpuri, Panipuri and Dahi Vada. In the French speaking nations of west Africa, meanwhile, roadside stands in and around the larger cities continue to sell- as they have done for generations-a range of ready-to-eat char grilled meat sticks known locally as “brochettes” (not to be confused with the bread snack of the same name found in Europe). McDelivery , (2015)

Johnson, (2014), The modern history of a fast food in America began on July 7, 1912 with the opening of a fast food restaurant called the Automat in New York. The Automat was a cafeteria with its prepared foods behind small glass windows and coin-operated slots. Joseph Horn and Frank Hardart had already opened an Automat in Philadelphia but their Automat at Broadway and 13th street, in New York City, the modern history of a fast food in America began on July 7, 1912 with the opening of a fast food restaurant called the Automat in New York. The Automat was a cafeteria with its prepared foods behind small glass windows and coin-operated slots. Joseph Horn and Frank Hardart had already opened an Automat in Philadelphia but their Automat at Broadway and 13th street, in New York City, created a sensation and numerous Automat restaurants were quickly built around the country to deal with the demand. Automats remained extremely popular throughout the 1920’s and 1930’s. The company also popularized the notion of “take-out” food, with their slogan “less work for mother”. The American company

White Castle is generally credited with opening the second fast food outlet in Topeka, Kansas in 1921, selling hamburgers for five cents a piece. White Castle later added five holes to each beef patty to increase its surface area and speed cooking times. White Castle was successful from its inception and spawned numerous competitors.

Mc Donald's, (2015) the largest fast food chain in the world and the brand most associated with the term "fast food" was founded as a barbeque drive-in in 1940 by Dick and Mac. After discovering that most of their profit came from hamburgers, the brothers closed their restaurant for 3months and reopened it in 1948 as a walk-up stand offering a simple menu of hamburgers, French fries, shakes coffees and coca-cola, served in disposable paper wrapping. As a result, they were able to produce hamburgers and fries constantly, without waiting for customer orders, and could serve them immediately; hamburgers cost 15cents, about half the price at a typical dinner. The McDonald's stand was the milkshake machine company's biggest customer and a milkshake salesman named Ray kroc travelled to California to discover the secret to their high-volume burger-and-shake operation. Kroc thought he could expand their concept, eventually buying the McDonald's operation outright in 1961 with the goal of making cheap, ready-to-go hamburgers, French fries and milkshakes a nationwide business.

CHAPTER THREE

Research methodology and analysis of the system

3.1 Research Methodology

To resolve the aforementioned Objectives, a step-by-step methodology was applied:

Figure 3.1: Methodological Steps: (Source: Resham, 2016)

i. The first step taken was conducting surveys on the restaurants in order to assess the current ordering system and the procedure.

ii. Then, a literature review was performed in order to investigate ordering systems that have been designed by previous studies, which then served as the benchmark for subsequent system design.

iii. Interviews were also performed to gather the views and opinions of the restaurants staff and the customers on the current system. Based on both data obtained and literature review, a system of computerized ordering system was designed.

iv. The system was developed with HTML, PHP, and MySql was used for the design of the system

v. The final step was to evaluate the design based on its accordance with the literature review conducted and its ability to resolve the current system's setbacks.

3.2 Analysis of the Existing System

Throughout the system analysis, an in-depth, study of end-user information is conducted, for producing functional requirement of the proposed system. Data about the existing ordering system is collected through several fact-finding techniques such as website visit and document review, at the beginning of this stage. The data collected facilities information required during detailed analysis. A study on the current system is performed based on the collected data. As a result, user requirement of the proposed system are determined. At the end of this stage, requirement specification is produced as deliverable.

3.3 Problems of the Existing System

Due to manual means being employed by the fast food restaurants, it is very difficult to satisfy the wants and needs of the customers. Most of the problems include:

i. Mistakes are made when taking the orders of the customers
ii. The process of collecting customers' purchases order is very tedious. This makes it impossible to deliver goods on time.
iii. It leads to lack of understanding between the customers and the employees.
iv. The record keeping system is poor. Losses of vital records have been reported in the past consequently. Besides, protecting the file system from unauthorized access is a problem that has defiled solution.

v. Unnecessary time is wasted conveying information through the ladder of authority. Management at times seeks to get a copy of the customer's order form and this may take a lot of time to obtain it.

vi. It causes reduction of production flow.

These are the major problems facing the existing system and would be corrected with the help of the proposed system.

3.4 Description of the Proposed System

It is the purpose of the new system to address all the problems plaguing the present system. This system will do the analyzing and storing of information either automatically or interactively. It will make use of PhP-MYSQL. This will be like this: a report is generated conforming to particular information needed by the management via the monitor. This will require the input of necessary data and record of fast food ordering and delivery and then a report is generated.

The proposed system will also have some other features such as:

i. Accuracy in handling of data: The new system will enhance good and quality of service delivery.

ii. The volume of paper work will be greatly reduced: The system will reduce the manual record of keeping ordering file from the customers.

iii. Fast rate of operation as in making the ordered food available and delivered on time: The system will enhance fast and speedy delivery of the food.

iv. Flexibility (i.e. it can be accessed at any time) : The system allow the customer to

v. Easy way to back up or duplicating data in CD's in case of data loss

vi. Better storage and faster retrieval system

vii. Errors in the reports will be greatly minimized.

3.5 Advantages of the Proposed System

The proposed system is developed to manage ordering activities in fast food restaurant. It helps to record customer submitted orders. The system has the following advantages:

i. To allow the customer to make order, view order and make changes before submitting their order and allow them make payment through prepayment card or credit card or debit card.

ii. To provide interface that allows promotion and menu.

iii. To prevent interface that shows customers' orders detail to front-end and kitchen staffs for delivering customers' orders

iv. Tools that generate reports that can be used for decision making

v. It allows the management to modify the food information such as price, add a new menu and many others as well as tools for managing user, system menu and promotion records.

CHAPTER FOUR

4.1 Design of the System

The proposed system is designed in modules with each modules working together to perform the Development of Online Food Ordering System in order to enhance the performance of the existing system as earlier discussed in chapter three. The ability to analyze and give focus to the system is explained in the following formats which are output design, input design, database design and procedure design.

4.1.1 Output Design

This window is specifically designed for corps members that have already gotten their registration number to access to the information in the software system.

Fig: 4.1 Home pages: The homepage of the system where everything can be seen for the new user.

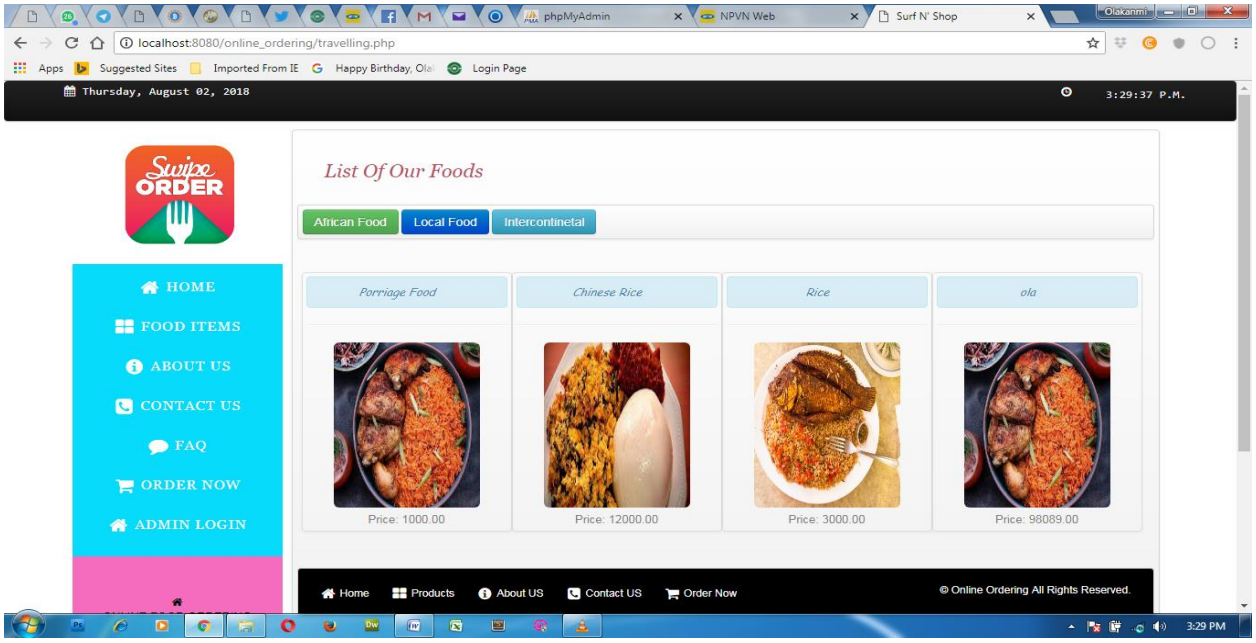


Fig: 4.2 Shows Menu: shows the food items where user can select his favorite food after his or her log in.

4.1.2 Input Design

The input to be extracted from the proposed system are

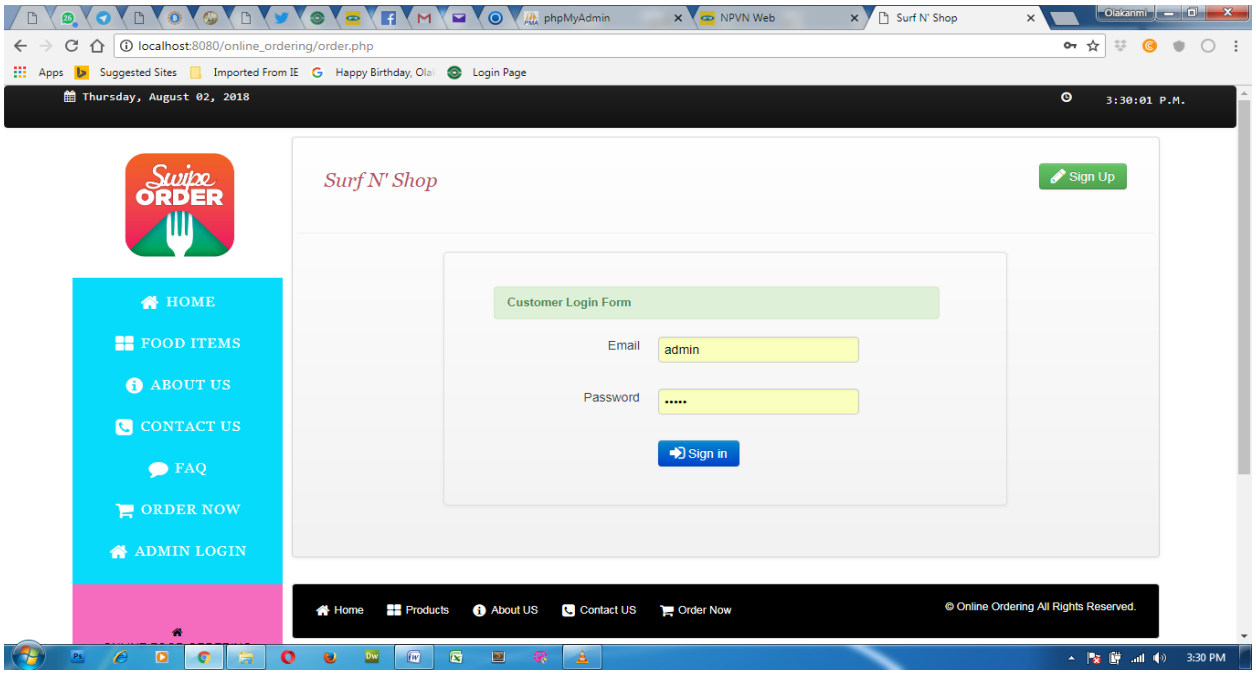


Fig: 4.3 Login page: This page allow the user to have access to the system before he or she can be able to do anything on the system

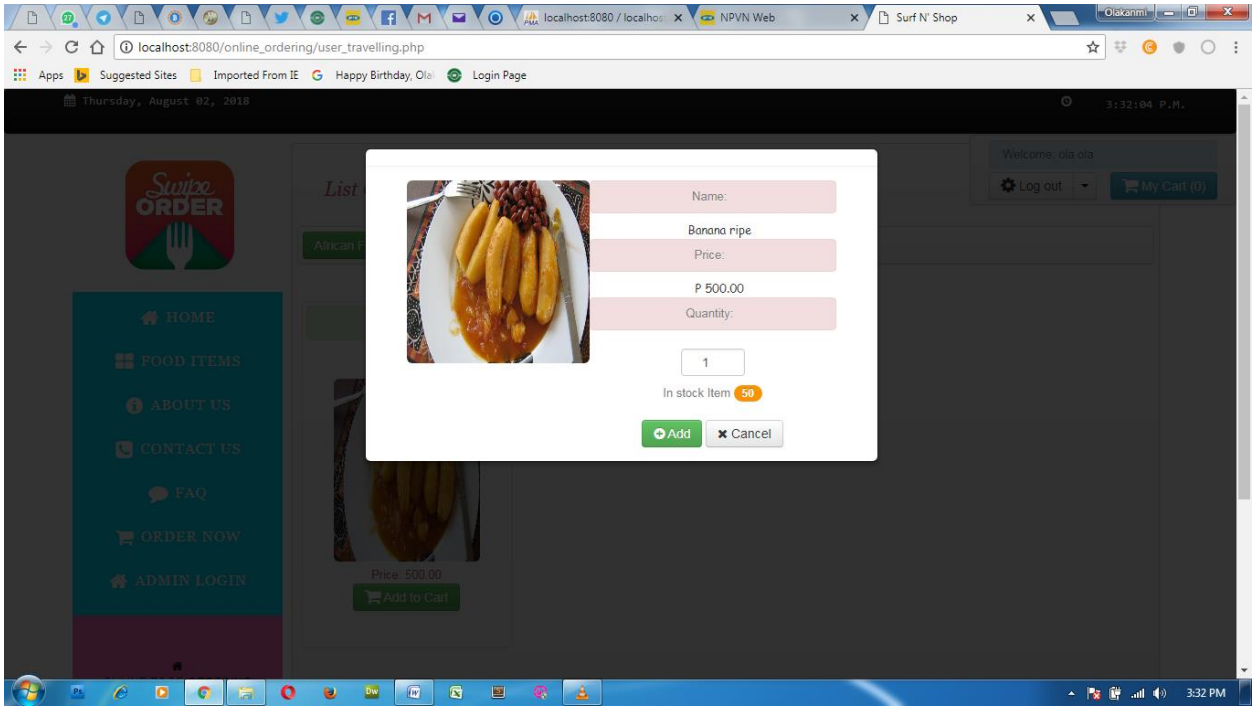


Fig: 4.4 Add to Cart Page: This page allows the users to add the food to its cart, that means the user can select his favorites food and add it his or her cart.

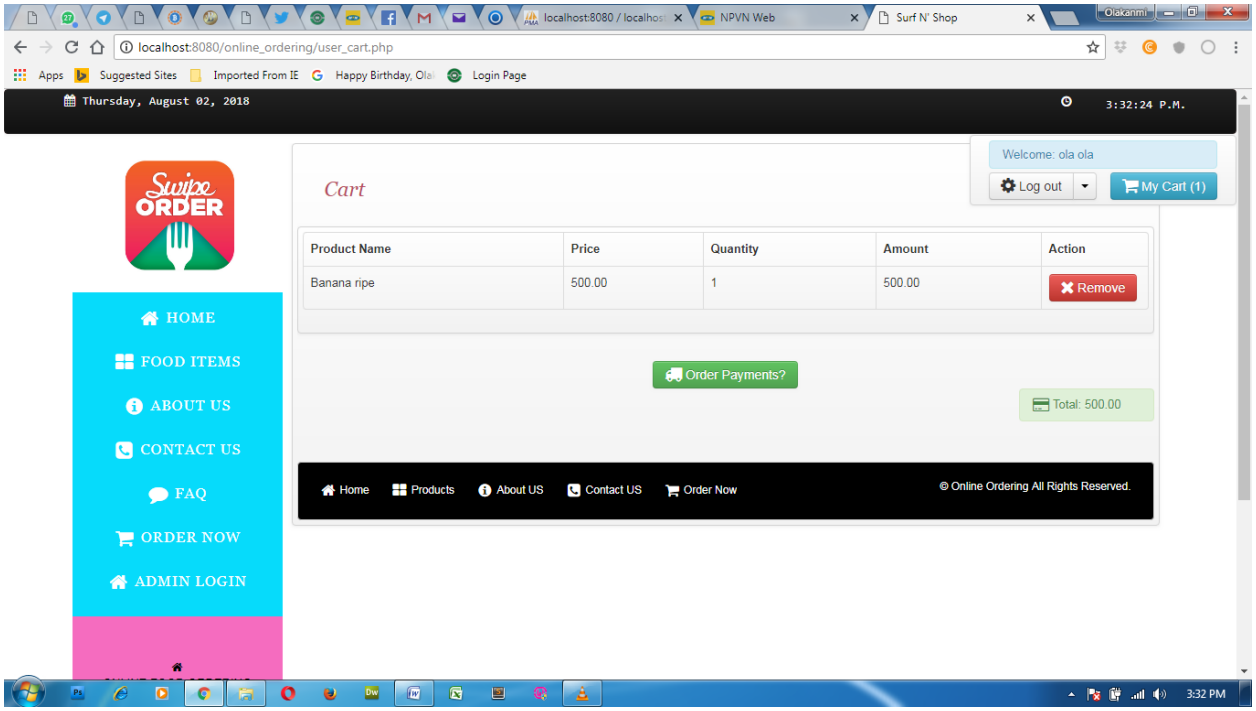


Figure 4.5: Payment Page: This page allows the user to make payment for the food that he/she has add to cart.

4.1.3 Database Design

This refers to the back end of the proposed system. The following steps is employed in the development of the database.

i. Click on start button and locate wampserver.

ii. Open any browser and type http://localhost/phpmyadmin

iii. Type the name of the database i.e recruitment and click on create new

iv. In few seconds the database is created.

v. To create table is the next action.

vi. On a create table menu type the name of the table and click on ok.

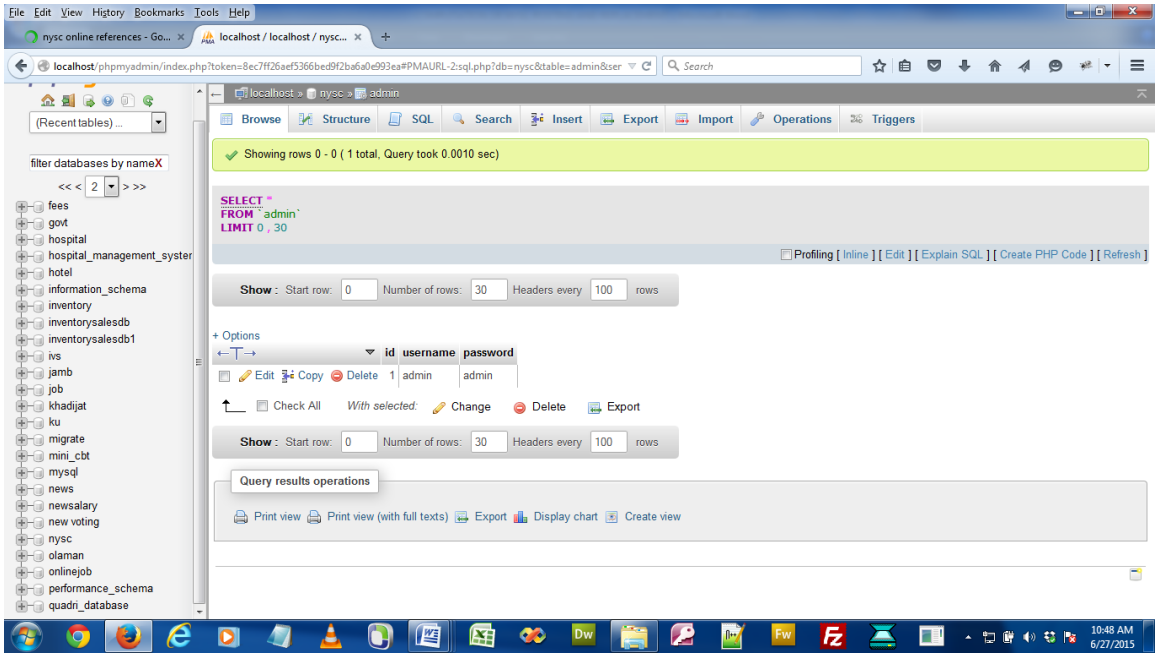


Fig: 4.5 Admin table

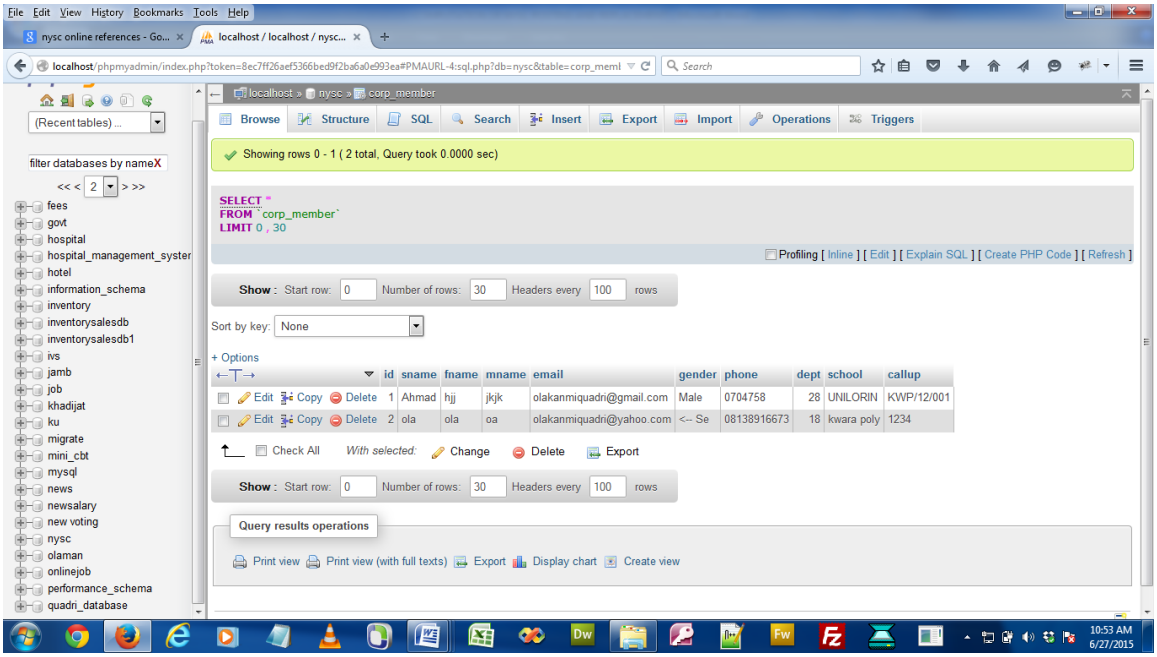


Fig: 4.6 Menu member table

4.1.4 Procedure Design

This refers to the step by step method of using the proposed system. The proposed system comprises of About, Register, Login, Modify Details while the administrator is able to add Users as well as its modification. So far, the various modules have been tested and each proved efficiency as an entity. (i.e. module). Though sometimes, the modules can perform their respective functions but when put together, they can function together. So this test therefore checks that when the modules are integrated they can combine to perform their respective functions. Hence, integration testing was done to the entire program structure to uncover errors associated with interfacing. These errors were debugged to produce desired results. The essence of integration testing is to ascertain that these modules do not lose their efficiency and reliability. The Integration involved the main form which serves as coordinator and driver for other module.

4.2 System Implementation

4.2.1 Choice of Programming Language

The new system is implemented using PHP programming language. This is because the programming language has the advantage of easy development. Flexibility as well as the ability of providing the developer/programmer with possible hints. More also the CSS was used to style the layout of the system and the Java Script was also used to implement the system.

4.2.2 Hardware Support

The program for this project is written in PHP Programming Language. It is designed to run on an IBM personal computer. The following minimum hardware specification is needed.

Hardware	Minimum System Requirements
Processor	1.2 GHZ Processor Speed
Memory	128 MB RAM (256 preferable)
Disk space	60 GIGABYTE
Display	800X600 Colors (1024x768 High color16-bit recommended)

4.2.3 Software Support

The proposed system makes use of macromedia fireworks for graphics work on the images and background used in the system, Macromedia Dreamweaver (a text editor) while MYSQL is used as the database.

SOFTWARE	**Minimum System Requirements**
Operating System	Window 2000 or later
Database Management System	MySQL
Run-time Environment	Wampserver

4.2.4 Implementation Techniques

System conversion examines the pros and cons of various approaches to system change over from the old to the new system and recommends which is the most suitable for the present study. It also goes further to plan a course of action for the conversion. In this project work, the researcher adopted the parallel change over procedures. It is a situation where the old system processes data alongside with the new system.

4.3 Documentation of the System

4.3.1 Program Documentation

In order for the proposed system to be used on any computer system it takes the following ways

i. Boot the system

ii. Put the software in the CD or flash drive into its appropriate drive.

iii. Open the content from “my computer” icon on the desktop or clicking the start button.

iv. Double click the set up icon from the content of the package folder in the device (flash, CD).

v. Follow the instruction and click on the appropriate button and the installation will be completed in a few moments.

4.3.2 Operating The System

i. Click on start button on the desktop.

ii. Point to all programs

iii. Select wampserver and launch it

iv. On the address bar of any browser type http://localhost/odering/index.php

v. As an administrator you are to type http://localhost/odering/admin/index.php on the address bar.

4.3.3 Maintaining The System

Maintenance this program can be done in PHP environment. Any future modification can be done by re-compiling the source program in development environment making necessary changes versions of the existing version of the mini word processing applications.

CHAPTER FIVE

Conclusion and Recommendations

5.1 Summary

At the end of this project work, I was able to design and develop software that can successfully handle online food ordering and product. In the process of the design, firsthand information on fast food businesses was obtained. This work also will serve as a stepping-stone for people who wish to research more on this topic. Other benefits are:

i. Provision of facility for handling text electronically using powerful and sophisticated word processors to produce elegant and error free documents.
ii. In addition to storing the organization's operational data on disk backing storage, other forms of data used by the organization could also benefit from storage on such medium.
iii. With the installed software, product ordering and delivery was made easier. The systematic approaches used during each phase of the software development provides a clear road map that would be of immense help to anyone carrying out research work in this area.

5.2 Conclusion

The development of online food ordering system involved many phases. The approach used is a top-down one concentrating on *what* first, then *how* and moving to successive levels of details.

The first phase started with a detailed study of the problems and prospects of ordering food. In the course of this study, many problems were discovered to have hindered the effectiveness of the existing manual system. These problems, information needs and activities were documented and later used as the basis for system design, which immediately followed the first phase. The design phase was concerned primarily with the specification of the system elements in manner that best met the organization's business needs.

During this phase, strict adherence was made on proven software engineering principles and practices. To implement this design, a computer program was then written and tested in phpMyadmin environment.

It is hoped that effective implementation of this software product would eliminate many problems discovered during systems investigation.

5.3 Recommendations

It is known that for any meaningful computer based information management to be integrated into any organization, proper training and orientation has to be given both to the staff and management. Proper training should be given to the data entry staff on how to handle the computer hardware especially during backup processes. In particular, electronic storage media are usually sensitive to change in temperature or pressure and as such, data can be lost very easily. The staff should also be highlighted on the need and advantage of the system and how it will equally assist them in their various field of work. They should also be informed of the cost of maintaining this new system so that they will handle it with all carefulness. Training materials should not be presented in formal way but with procedures like policies and form etc, they

should be circulated to the personnel. This will at the end generate appreciation and needed interest to operate the system.

REFERENCES

Ashutosh, B., Niranjan, J., Apurva, J., Prachi, O. and Lahane, S. (2013).

Digital Ordering System for Restaurant Using Android. [online] www.ijsrp.org. Available at: http://www.ijsrp.org/research-paper-0413/ijsrp-p1605.pdf

Brickers, J. (2006). Is Fast Casual Self-Service at the Tripping Ponit?

Bora, R et al,. (2006).Best Online Food Ordering System. Restaurant Checklist.

Beltis, A. J. (2016) 9 Advantages of an Online Food Ordering System.

Available at: https://pos.toasttab.com/blog/online-food-ordering-system (Accessed: 7 July 2017).

Cheong, S. N., Chiew, W.W. and Yap, W. J. (2010)

'Design and development of Multi-touchable E-restaurant Management System', in. 2010 International Conference on Science and Social Research (CSSR 2010), IEEE, pp. 680–685. doi: 10.1109/CSSR.2010.5773867.

Dhore, V. B. et al. (2014) 'Digital Table Booking and Food Ordering System

Using Android Application', International Journal of Emerging Engineering Research and Technology, 2(7), pp. 76–81.

Hasiholan T, (2016). How Online Food Ordering System helps you run more efficiently.

Leong, W. H. (2016) Food Ordering System Using Mobile Phone.

University Tunku Abdul Rahman. Available at: http://eprints.utar.edu.my/1943/1/IA-2016-1203135-1.pdf (Accessed: 12 January 2018).

Odesser-Torpey,(2010), "Data processing and Management Information Systems" McDonald and Evans Ltd.

Purname, J., & Wibowo, A.Y. (2007). Wireless Application for Ordering Management System in

a Restaurant.

Qwerteam.wordpress.com, (2014). Part 2: Review of Related Literature WERTEAM'S BLOG.

Roy D, (1977). Grinding it out: The Making of McDonald's. Chicago: Contemporary Books.

R.Bora, P. and Gupta, E. (2012). APPLICATION ON ORDER MANAGEMENT SYSTEM IN

RESTAURANTS.

Rashid, M., Izzuddin, T., Abas, N., Hasim, N., Azis, F. and Aras, M. (2013). Control of

Automatic Food Drive-Through System using Programmable Logic Controller (PLC).

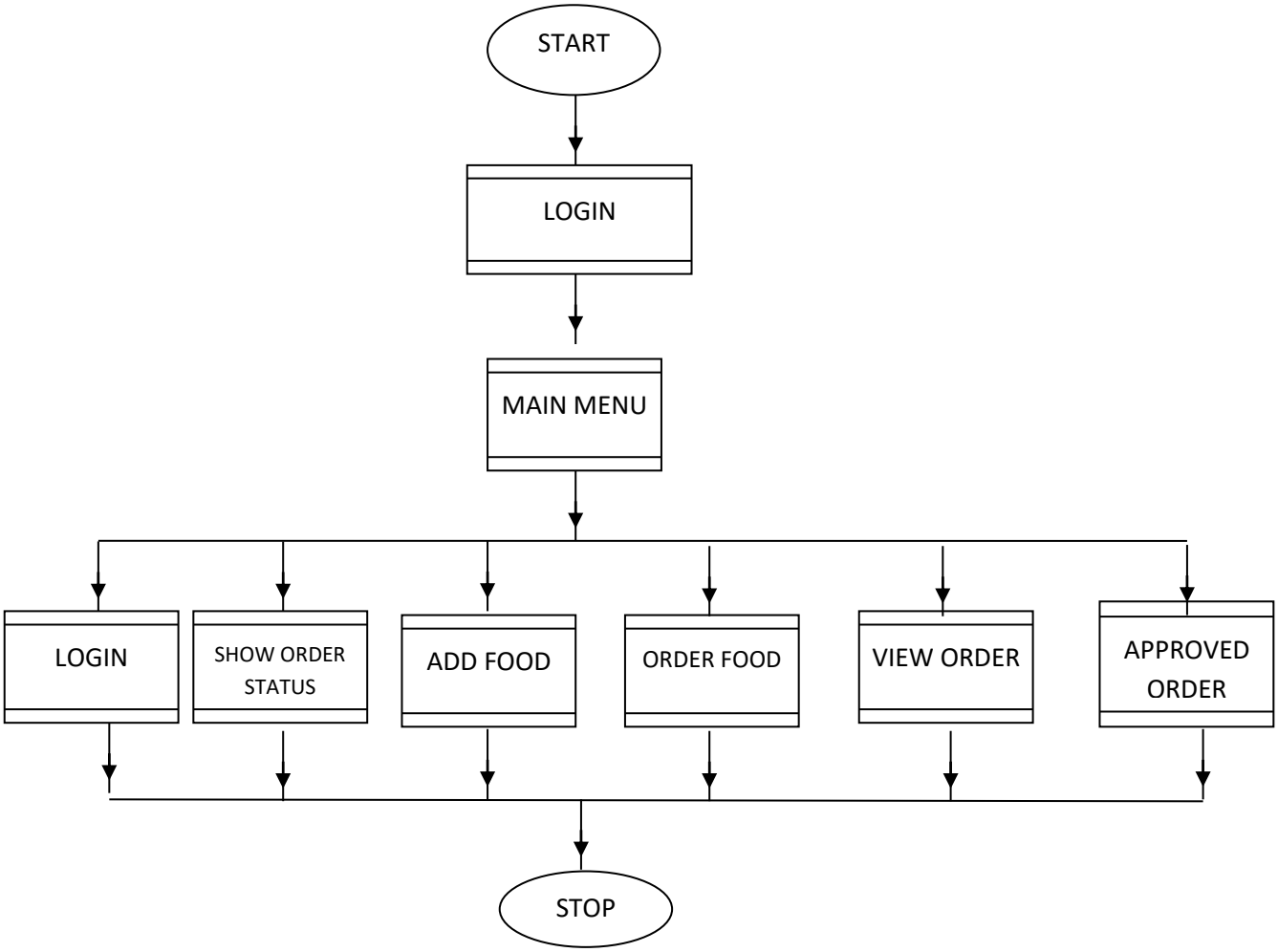
Resham, S., Neha, D., Priyanka, T. and Sushmita, S. (2014). Design and Implementation of Digital dining in Restaurants using Android.

Sarkar, S., Shinde, R., Thakare, P., Dhomne, N. and Bhakare, K. (2014). Integration of Touch Technology in Restaurants using Android.

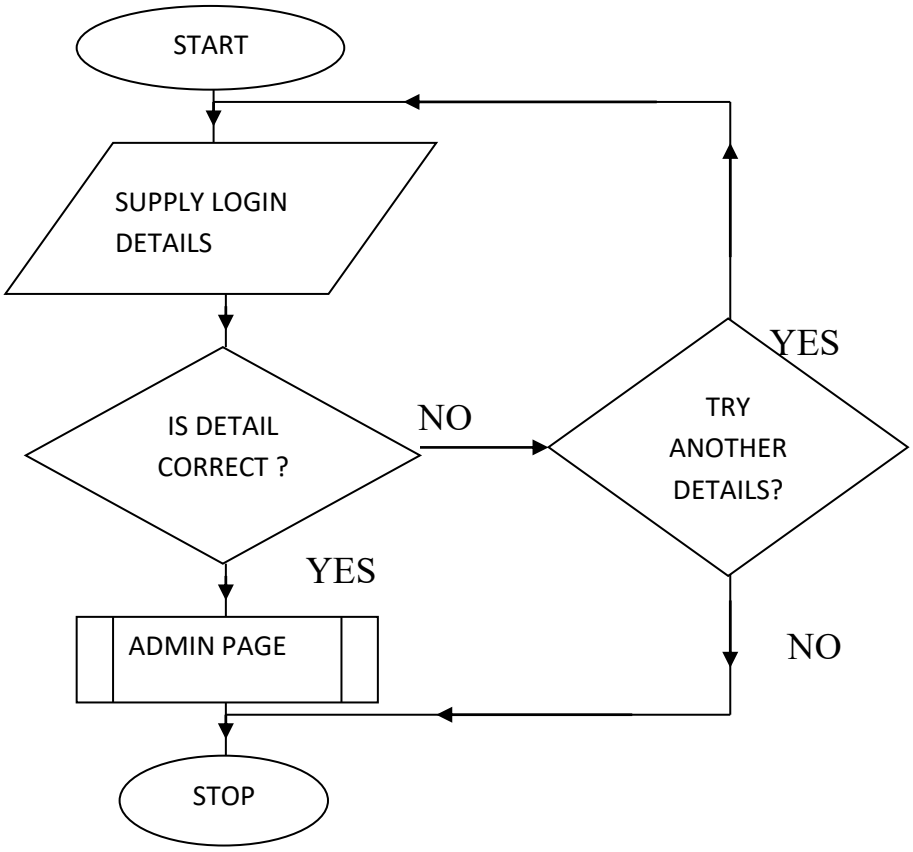
Shashikant Tanpure, S., R. Shidankar, P. and M. Joshi, M. (2013). Automated Food Ordering System with Real-Time Customer Feedback.

APPENDIX 1: FLOWCHART

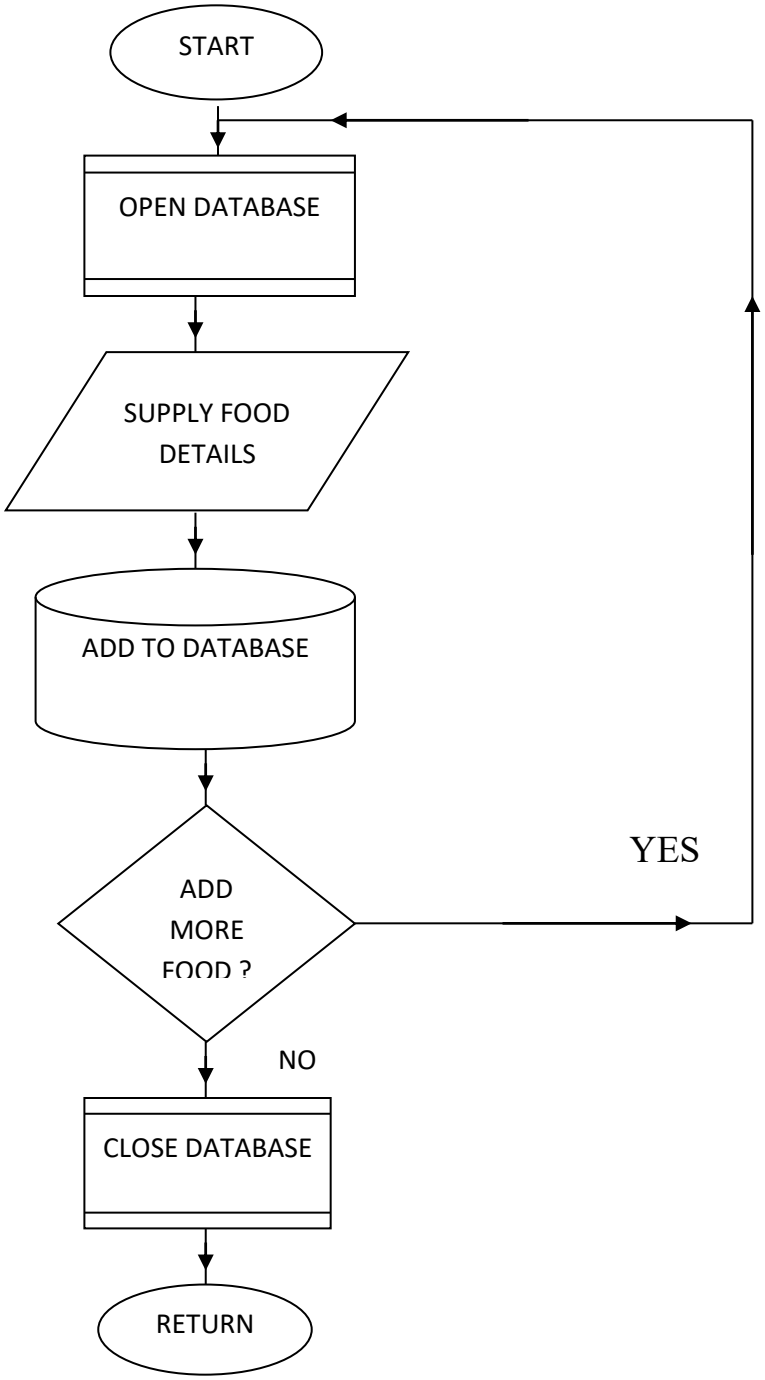
SYSTEM FLOWCHART



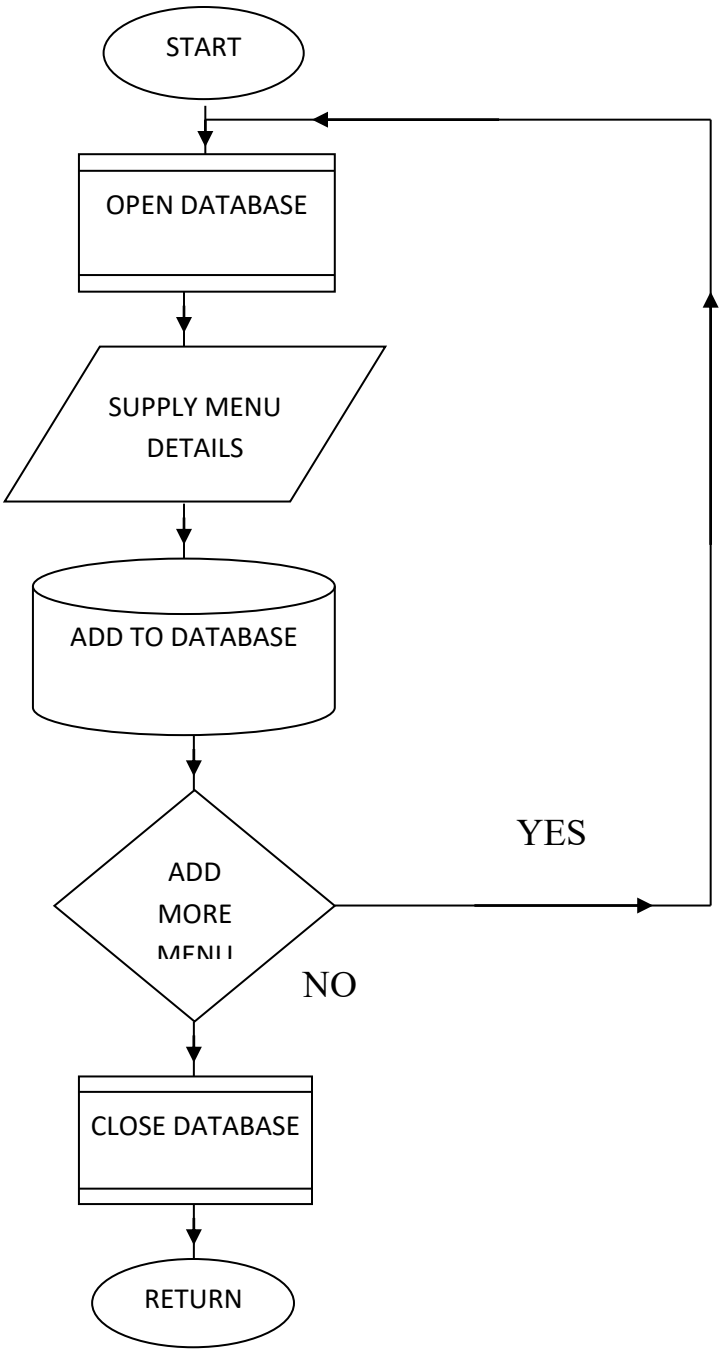
ADMINISTRATOR



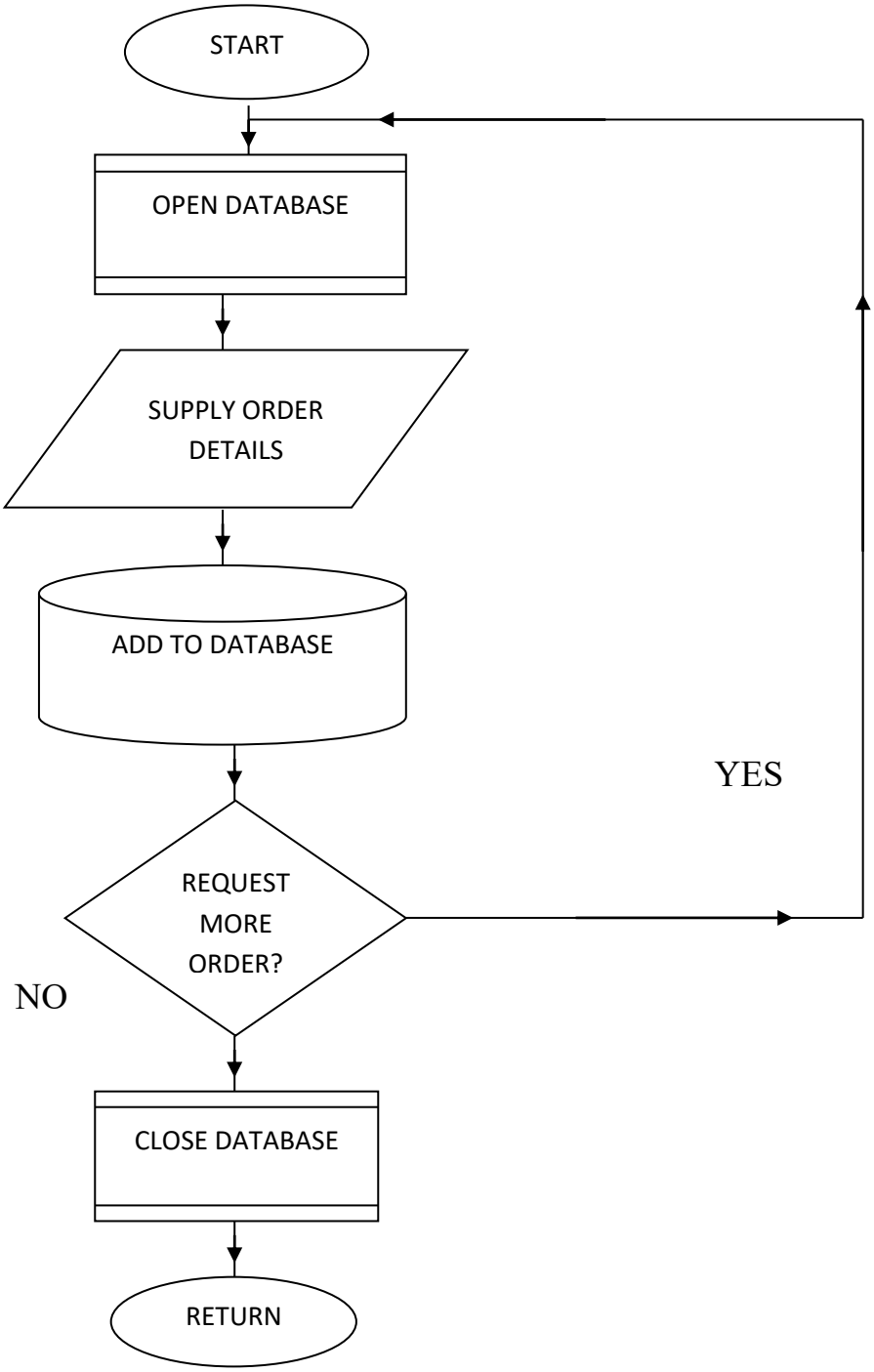
ADD FOOD


START
OPEN DATABASE
SUPPLY FOOD DETAILS
ADD TO DATABASE
ADD MORE FOOD ?
YES
NO
CLOSE DATABASE
RETURN

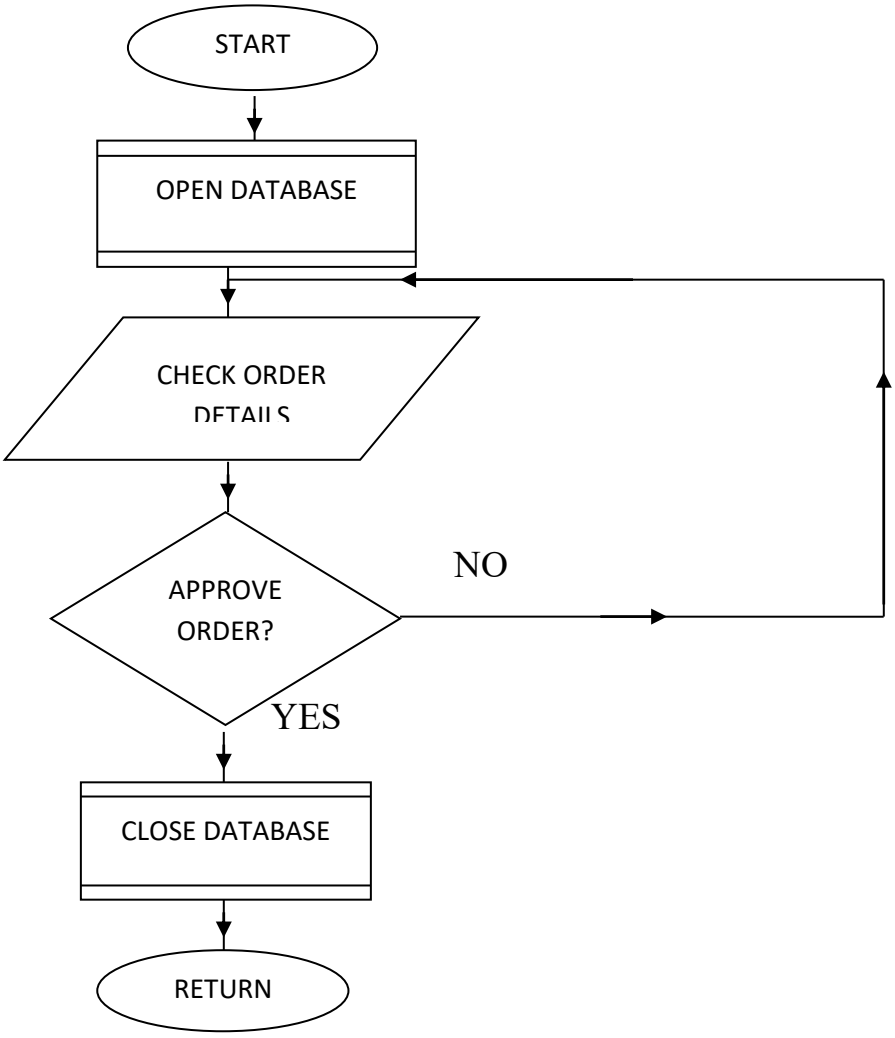
ADD MENU


START
OPEN DATABASE
SUPPLY MENU DETAILS
ADD TO DATABASE
ADD MORE MENU
YES
NO
CLOSE DATABASE
RETURN

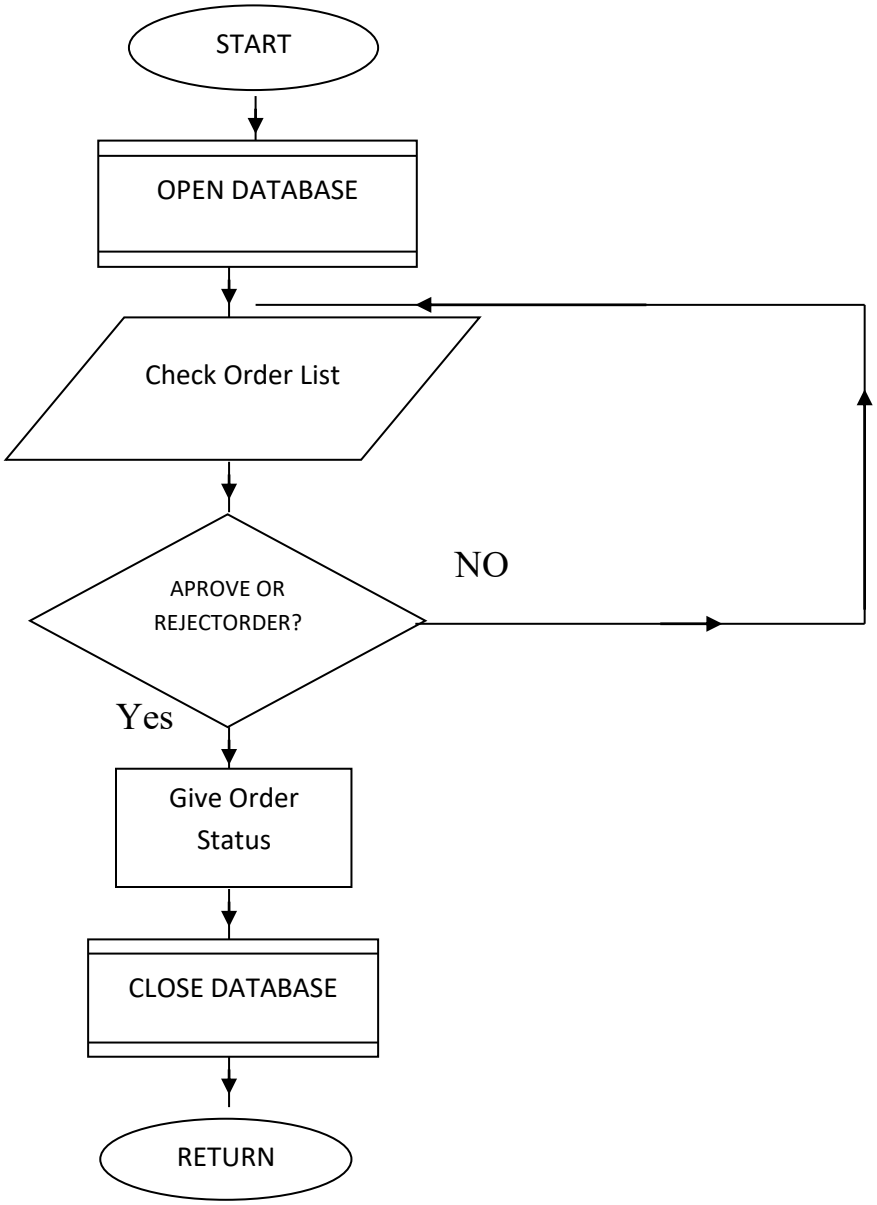
REQUEST ORDER



CHECK ORDER


START
OPEN DATABASE
CHECK ORDER
DETAILS
APPROVE
ORDER?
NO
YES
CLOSE DATABASE
RETURN

APPROVE ORDER



APPENDIX1: FLOWCHART

```
<?php
include('header.php');
?>
<body>
<?php
include('navtop.php');
?>

<div id="background">

<div id="page">

<?php include ('nav_sidebar.php');?>

<div id="content">

<div class="hero-unit-table"><!-- image slider -->
<div class="slider-wrapper theme-default">

<div id="slider" class="nivoSlider">
<img src="admin/images/1.jpg" data-thumb="images/toystory.jpg" alt="" />
<img src="admin/images/2.jpg" data-thumb="images/toystory.jpg" alt="" />
<img src="admin/images/4.jpg" data-thumb="images/wineries.jpg" alt="" />
<img src="admin/images/3.jpg"  alt="" data-transition="slideInLeft" />

</div>


</div>
<!-- end slider -->
<hr/>
<center>
<h3 class = "center alert alert-success" style = "width:500px; font-weight:Bolder;">FOOD
ITEMS</h3>
</center>
<div id="body">

<div class="body">
<ul>
<li>

<a class="figure" href="#" data-toggle = "modal"><img class = "image-
rounded"src="food/download (1).jpg"  width="100%"  height="150" alt=""></a>
</li>
```

```
<li>
<a class="figure" href="#" data-toggle = "modal" ><img class = "image-
rounded"src="food/download.jpg" width="100%"  height="150" alt=""></a>

</li>
<li>
<a class="figure" href="#" data-toggle = "modal" ><img class = "image-rounded"
src="food/KingAndQueens_900VP-1044x781.jpg" width="100%"  height="150" alt=""></a>

</li>
<li>
<a class="figure"  href="#" data-toggle = "modal" ><img class="img-rounded"
src="food/Matoke.jpg" width="100%"  height="150" alt=""></a>
</li>

</ul>

<?php include ('modal_latest.php');?>
</div>

</div>
<div id="footer">
<?php include('footer.php'); ?>
</div>
</div>
</div>
</div>
</div>
<?php include('footer_bottom.php') ?>
</body>
</html>

<div class="hero-unit-table">

<a href = "school.php" name = "" class = "btn btn-success">African Food</a>
<a href = "travelling.php" name = "" class = "btn btn-primary">Local Food</a>
<a href = "Hand.php" name = "" class = "btn btn-info">Intercontinetal</a>


</div>
<?php include('header.php'); ?>
<?php include('admin/connect.php'); ?>
<body>
<?php
include('navtop.php');
?>
```

```
<div id="background">

<div id="page">
<?php include ('nav_sidebar.php');?>
<div id="content">
<div class="hero-unit-table">
<div id="header">


</div>
<div id="body">


<h3>List of Our Foods</h3>
<p>
<?php include ('product_menu.php');?>
</p>

<ul class="thumbnails">
<?php
$query = mysql_query("select * from tb_products WHERE category = 'African Food'") or
die(mysql_error());
while ($row = mysql_fetch_array($query)) {
$id = $row['productID'];
?>

<li class="span3">
<div class="thumbnail">
<img data-src="holder.js/300x200" alt="">
<div class="alert alert-info"><div class="font1"><?php echo $row['name']; ?></div></div>
<hr>


<a  href="#<?php echo $id; ?>"   data-toggle="modal"><img src="admin/<?php echo
$row['location'] ?>" class="img-rounded" alt="" width="160" height="200"></a>


<p>
<p> Price: <?php echo $row['price']; ?></p>
</p>




</div>
</li>
```

```
<!-- picture modal -->
<div id="<?php echo $id; ?>" class="modal hide fade" tabindex="-1" role="dialog" aria-
labelledby="myModalLabel" aria-hidden="true">
<div class="modal-header">
</div>
<div class="modal-body">

<div class="span2">

<img src="admin/<?php echo $row['location']; ?>" width="200" height="200" class="img-
rounded">
</div>
<div class="span3">
<p>Name</p>
<div class="alert alert-success">  <?php echo $row['name'] ?></div>
<p>Description</p>
<div class="alert alert-success">  <?php echo $row['description'] ?></div>

<div class="alert alert-success">    Made in: <?php echo
$row['originated'] ?></div>
<p>Price</p>
<div class="alert alert-success">     <?php echo $row['price']
?></div>

</div>




</div>
<div class="modal-footer">
<button class="btn" data-dismiss="modal" aria-hidden="true"><i class="icon-
remove"></i> Close</button>
</div>
</div>
<!-- end modal -->


<?php } ?>

</ul>
```

```
</div>
<div id="footer">
<?php include('footer.php'); ?>
</div>
</div>
</div>
</div>
</div>
<?php
include('footer_bottom.php');
?>
</body>
</html>
<?php include('header.php'); ?>
<?php include('admin/connect.php'); ?>
<body>
<?php
include('navtop.php');
?>
<div id="background">
<div id="page">
<?php include ('nav_sidebar.php');?>
<div id="content">
<div class="hero-unit-table">
<div id="header">


</div>
<div id="body">


<h3>List of Our Foods</h3>
<p>
<?php include ('product_menu.php');?>
</p>

<ul class="thumbnails">
<?php
$query = mysql_query("select * from tb_products WHERE category = 'Local Food'") or
die(mysql_error());
while ($row = mysql_fetch_array($query)) {
$id = $row['productID'];
?>
```

```
<li class="span3">
<div class="thumbnail">
<img data-src="holder.js/300x200" alt="">
<div class="alert alert-info"><div class="font1"><?php echo $row['name']; ?></div></div>
<hr>


<a  href="#<?php echo $id; ?>"   data-toggle="modal"><img src="admin/<?php echo
$row['location'] ?>" class="img-rounded" alt="" width="160" height="200"></a>


<p>
<p> Price: <?php echo $row['price']; ?></p>
</p>




</div>
</li>

<!-- picture modal -->
<div id="<?php echo $id; ?>" class="modal hide fade" tabindex="-1" role="dialog" aria-
labelledby="myModalLabel" aria-hidden="true">
<div class="modal-header">
</div>
<div class="modal-body">

<div class="span2">

<img src="admin/<?php echo $row['location']; ?>" width="200" height="200" class="img-
rounded">
</div>
<div class="span3">
<p>Name</p>
<div class="alert alert-success">  <?php echo $row['name'] ?></div>
<p>Description</p>
<div class="alert alert-success">  <?php echo $row['description'] ?></div>

<div class="alert alert-success">    Made in: <?php echo
$row['originated'] ?></div>
<p>Price</p>
<div class="alert alert-success">     <?php echo $row['price']
?></div>
```

```
</div>




</div>
<div class="modal-footer">
<button class="btn" data-dismiss="modal" aria-hidden="true"><i class="icon-
remove"></i> Close</button>
</div>
</div>
<!-- end modal -->


<?php } ?>

</ul>




</div>
<div id="footer">
<?php include('footer.php'); ?>
</div>
</div>
</div>
</div>
</div>
<?php
include('footer_bottom.php');
?>
</body>



</html>
<?php include('header.php'); ?>
<?php include('admin/connect.php');
//Start session
session_start();
//Unset the variables stored in session
unset($_SESSION['id']);
```

```
?>
<body>
<?php
include('navtop.php');
?>
<div id="background">

<div id="page">
<?php include ('nav_sidebar.php');?>
<div id="content">
<div class="hero-unit-table">
<div id="header">


</div>
<div id="body">

<h3>Surf N' Shop</h3>
<div class="signup">
<a href="signup.php" class="btn btn-success"><i class="icon-pencil icon-
large"></i> Sign Up</a>
</div>
<hr>

<div class="row-fluid">
<div class="span12">

<div class="row-fluid">
<div class="span2"></div>
<div class="span8">
<ul class="thumbnails">
<li class="span12">
<div class="thumbnail">
<img data-src="holder.js/300x200" alt="">
<form class="form-horizontal" method="post">
<div class="alert alert-success"><strong>Customer Login Form</strong></div>
<div class="control-group">
<label class="control-label" for="inputEmail">Email</label>
<div class="controls">
<input type="text" id="inputEmail" name="username" placeholder="Email">
</div>
</div>
<div class="control-group">
<label class="control-label" for="inputPassword">Password</label>
<div class="controls">
<input type="password" id="inputPassword" name="password" placeholder="Password">
```

```
</div>
</div>
<div class="control-group">
<div class="controls">

<button type="submit" class="btn btn-primary" name="login"><i class="icon-signin icon-
large"></i> Sign in</button>
</div>
<br>
<?php
if (isset($_POST['login'])) {
function clean($str) {
$str = @trim($str);
if (get_magic_quotes_gpc()) {
$str = stripslashes($str);
}
return mysql_real_escape_string($str);
}

$username = clean($_POST['username']);
$password = clean($_POST['password']);

$query = mysql_query("select * from tb_member where Email='$username' and
Password='$password' ") or die(mysql_error());
$count = mysql_num_rows($query);
$row = mysql_fetch_array($query);
if ($count > 0) {


$_SESSION['id'] = $row['memberID'];
?>
<script>
window.location = 'user_school.php';
</script>

<?php
session_write_close();
} else {
session_write_close();
?>

<div class="alert alert-error">Please check your username and password</div>
<?php }
}
?>
</div>
```

```
</form>
</div>
if (isset($_POST['login'])) {
function clean($str) {
$str = @trim($str);
if (get_magic_quotes_gpc()) {
$str = stripslashes($str);
}
return mysql_real_escape_string($str);
}

$username = clean($_POST['username']);
$password = clean($_POST['password']);

$query = mysql_query("select * from tb_member where Email='$username' and
Password='$password' ") or die(mysql_error());
$count = mysql_num_rows($query);
$row = mysql_fetch_array($query);
if ($count > 0) {


$_SESSION['id'] = $row['memberID'];
?>
<script>
window.location = 'user_school.php';
</script>

<?php
session_write_close();
} else {
session_write_close();
include('footer_bottom.php');
?>


<?php
session_write_close();
} else {
session_write_close();
include('footer_bottom.php');

</body>

</html>
```