ABSTRACT

This system is primarily for the improvement of the existing ordering systems of food businesses. The study focuses on the design and development of current ordering system to alleviate the burdensome operations of the marketing personnel involved like the customer service representative. This system allows the customers to order via mobile or web, may it be for delivery or for pick-up. PHP, Android, MySQL Server and XAMPP are the primary resources being used from design to development. After thorough implementation and testing, high level of security and user-specification are ensured to be met. During deployment, the system allows users to access the system through the mobile app and website. The system will then allow users to login as part of the security purposes. After user authentication, the users can then order food from various food businesses that availed of our system. After the order has been made, order details will then be passed to our server, and then a copy will be passed to the particular food business branch. If the details have reached to the side of the client, the customer will be notified that the order for delivery has already reached the branch, and has already been processed. Reports and statistics will be generated for whoever requests, provided that they have the legal grounds for requesting it. We can provide any kind of reports as long as we have the data that they need.

Introduction

Nowadays, the evolution of technology has been relevant in our everyday lives. With technology, we found our works quicker and easier. The advancement of technology has greatly influenced business transactions. With the adoption of new technologies and the emergence of mobile devices, businesses can improve their transaction methods.

Today, when people want to gather information about anything it’s just a click away when searching the web. Being online is the new trend due to the vast number of resources that it provides; people are turning to the internet for fast and easy access to any information. These days, consumers expect everything instantaneously and for the information to be available at their fingertips. Even Marketing ideas and strategies are evolving. Considering the growing market for advertising on the Internet, which reaches thousands of potential consumers, many that may not have been reached with other conventional marketing methods. Having the ability to display menus, special promotions, and ordering online offers much more variety and convenience to consumers and gives the food business owners a competitive edge over his or her competitors.

The conventional way of ordering food is through calling food companies through telephone, telling the agent of the customers orders. The agent then checks the availability of the food ordered. If the food is available, the marketing crew will then note down the customers orders and gave the sales order which comprises the items ordered, quantity, price and total payment. The crew then asks the location onto where the food will be delivered and asks for how much money the customer has, so that the delivery boy will bring the change for it. Well, it takes time to do that. Thus, solving that problem is indeed significant.

An online and mobile-based ordering system is a
wonderful innovation in food industry. It can help food businesses in managing orders made by customers. With this system, the customers can easily order food and ensure that their orders will be prepared then. Ordering system is very important to those food businesses like fast food chains, restaurants and etc. because this system can help the transaction of businesses more efficient and productive. This is also important to those customers who want their orders to be done faster. This will enable user to find favorite foods from their favorite food businesses with there is no any type of distance or time constraints. Online food ordering is very useful to the people who do not have time to go for food, and who does not want to go to market due to any other reason. It also allows customers freedom and flexibility in the long run. The online ordering system suits businesses budget constraints and needs ideally.

Until now, some food businesses are still using the traditional way which is very tiresome, time-consuming and unproductive. The time spent by employees talking on the phone will delay some works and affect business operations.

Objectives of the Study

The general objective of the study is to analyze, design and develop a Web and mobile-based ordering system for food businesses.

Specifically, the study aims to:

1. provide an automated way of ordering food for customers
2. manage customers order by: their preferred food business, their food choices, which branch of food business they like to order, their payments
3. manage food businesses menus
4. manage customers account
5. manage food businesses account
6. send customer order details to nearest food business
7. provide notification of customers order status through SMS
8. provide monitoring services of customers orders, sales
9. generate reports

Scope and Limitations of the Study

This system is designed to provide an efficient way of ordering food. With this, the system will:

- allow the food businesses to manage their company’s information online.
- allow the customers to register online.
- allow the customers to view the categories of food business, the list of food businesses and choose the company of their choice.
- allow the customers to view the food menus and choose the food they want to order.
- allow the customers to choose their payments through PayPal, cash on delivery.
- access the system through online site.
- allow the customers to view the categories of food business, the list of food businesses and choose the company of their choice.
- allow the customers to view the food menus and choose the food they want to order.
- allow the customers to choose their payments through PayPal, cash on delivery.
- access the system through mobile apps.

The limitations of the project are the following:

- the system can only be accessed if there is an Internet connection.
- only registered food businesses can access the system.
- only registered food businesses can manage the information to be displayed in their page.
- the system is unable to customize food orders.
- only food businesses who availed our system, which the customers can place an order.
- only registered customers can download the mobile application.
- only android phones can download the mobile application.
- apps are only accessible if there is an Internet connection.
Significance of the Study

The proposed study, Fast and Furious Food (FFF), will be of great help to the following:

Customers. The proposed system will help them order food in a fast, efficient and convenient way. This will assist them in choosing the best food and seeking the best food business company.

Food Businesses. The proposed system will lessen their burdens especially in marketing department and increase business productivity. This will improve their business transaction methods.

Department of Trade and Industry (DTI). The proposed system will help them in strengthening socio-economic development of the country, particularly in the area of commercial activities.

Bureau of Internal Revenue (BIR). The proposed system will increase economic growth; benefit the bureau, government through the collection of taxes.

Competitors. The proposed system will help them in improving their marketing strategies. This will challenge them in building customer relationship, learning sales and convention techniques.

Researchers. The proposed system will enhance and deepen our knowledge in programming and system development. This will improve our skills in analyzing and solving problems which may we apply in the real world.

Future Researchers. The proposed system will benefit the future researchers by making this as their future reference in conducting similar studies.

Related Literature

This section presents the writing of different personalities conducted by the proponents during their research, which have relevant to the present study. It involves quotation of the author of the books and reference materials that may serve as the basis for sorting out and solving some problems that may be encountered in the development of the proposed study.

Laudon and Laudon (2011), E-commerce as the process of buying and selling goods and services electronically involving transactions using the Internet, networks, and other digital technologies.

Sunny (2012), the primary reasons for marketing your ecommerce business online is to remain fasten.

In the research conducted by Allied Business Intelligence, Inc. (2011), it is clear that mobile technologies will transform the enterprise. The simple math is that if information and communications are available at any place and any time, business users are more productive and can serve customers better. In a study performed by ABI Research, one company realized a productivity cost savings of 95 percent when its workers switched from an unconnected device solution to a connected mobile solution.

In the survey conducted by Bailey (2011), more and more of our interaction online occurs on mobile devices. Over five billion mobile subscribers about 77 percent of the world’s population are online. This new type of simple access for consumers is catching on with a staggering amount of smart phone owners purchasing goods and services from their phone 41 percent to be exact.

Webopedia (2011), Mobile applications help users by connecting them to Internet services more commonly accessed on desktop or notebook computers. While opportunities abound, we have identified three advantages of using mobile apps for your business: speed, volume of information, and advertising.

In the benchmark study conducted by Aberdeen Group (2012), as mobile devices become more powerful and more prevalent in the workplace, mobility is increasingly serving as a key enabler for the acceleration and optimization of existing business processes and operations.

Related Studies

Ordering systems are a trend in companies nowadays. Based on newest researches, we have come up with systems that are quite the same with the system we propose, although they are not exactly the same in features and functionality with ours as the needs of the companies the system has been implemented are different.

Figure 1 presents of the iMenu360.com. iMenu360.com brings restaurants online. Its a US web and mobile company that lets users find delivery and carry out restaurants near them and order online. iMenu360 currently has menus for thousands of restaurants and allows users to order online from restaurants nationally and internationally. The iMenu360 solution is easy to use, requires no new technology investment and is inexpensive to implement. iMenu360 is a system that is branded for the restaurant and allows restaurant owners to control their customers’ online experience.
MenuDrive empowers restaurants and caterers to provide their own branded online ordering system. Their cutting-edge technology allows restaurant operators to seamlessly add e-commerce to their businesses, so that customers can order online for pickup and delivery, driving sales beyond the four walls of their stores. MenuDrive comes packed with many features to help restaurants and catering companies increase their sales, efficiency, and accuracy when taking orders. Open payment system, customer data capture, interactive menus, and intuitive reporting are just a few of the features of their online ordering system for restaurants. With an email and texting program and advanced coupon toolset, MenuDrive will also help your business market automatically.

Methodology

Requirements Specification

A software requirements specification (SRS) is a comprehensive description of the intended purpose and environment for software under development. The SRS fully describes what the software will do and how it will be expected to perform.

Operational Feasibility

Figure 3 shows the fishbone diagram of the proposed Web and mobile-based ordering system for food businesses.

Manpower in the diagram refers to the people who will be using the system. Customers refer to any person who would like to order food in a food business. The food businesses are the one who will avail our services. The administrator is the person who will manage both the food businesses and customers requests.

Materials refer to the raw materials, information, and so on that is used to develop the system. In our case, materials will be a website and an android application. Website is where the clients can attach and send their companys information. Android application is where the customers can place an order.

Machine refers to the equipments used in order for the system to run. The equipments used are database, server, computers and android phones. Database is used to store data taken from the inputs and outputs of the system. A server is used to hold the database so that all the personnel involved in the system can acquire access to the database.
Methods are based on how the system will be performing to meet the desired goal. The goal of the researchers is to develop a web and mobile-based ordering system for food businesses to make ordering faster and easier.

Management refers on how the acquired data should be managed. It involves, managing customers order for delivery and pick-up, management of clients and customers accounts.

**Functional Decomposition Diagram**

Figure 4 to 5 show the Functional Decomposition Diagram of the proposed system.

---

**Object Modeling**

Object Modeling Language is a modeling language based on a standardized set of symbols and ways of arranging them to model (part of) an object oriented software design or system design.

**Use Case Diagram**

In software and systems engineering, a use case is a list of steps, typically defining interactions between a role (known in UML as an "actor") and a system, to achieve a goal. The actor can be a human or an external system.

Figures 6 to 11 show the use cases of the proposed system.

---

![Figure 4: Web Functional Decomposition Diagram](image)

![Figure 5: Mobile Functional Decomposition Diagram](image)

![Figure 6: Admin Management Use Case](image)
Figure 7: Food Business Management Use Case

Figure 8: Branch Management Use Case
Figure 9: Customer Management (Web) Use Case

Figure 10: Customer Management (Mobile) Use Case

Figure 11: Food Business Monitoring and Generation of Reports Use Case
Activity Diagram

Figure 12 shows the Activity Diagram of the proposed system.

![Activity Diagram](image1.png)

Entity Relationship Diagram

Figure 13 shows the Entity Relationship Diagram of the proposed system.

![Entity Relationship Diagram](image2.png)

Test Plan

The primary focus of this test plan is to ensure that the system provides the useful and accurate information and details. It is often difficult to make an accurate approximation of the test schedule since the testing phase involves many uncertainties. But until defects are fixed, re-testing of test cases are deemed unnecessary, then the system is ready for deployment.

This test plan encloses the test item and test data for the system.

Test Data

The test data is very important in testing system application. Test data is the input feed for testing the system application which is needed to

- Check that the outputs are derived correct.
- Test Data varied for different scenarios in testing (valid/invalid).
- Test Data help the developers to find the problem during maintenance.

Testing

Unit Testing

Ensuring that every piece of code runs, meets its design, behaves as intended and is fit for usage, unit testing is implemented. Possible errors are detected before modules are integrated for integration testing. Modules are tested repeatedly until they are error-free. This will reduce redundant revisions on the source codes. The goal of unit testing is to isolate each part of the program and show that the individual parts are correct.

Integration Testing

Every module are merged and tested as a group. After it has been tested, the outputs are then ready for system
testing. This form of testing is to verify functional, performance, and reliability requirements of each module.

**Acceptance Testing**

An acceptance test is a particular type of functional test. Acceptance tests are created to mirror the user stories created by/for the software's customer. If the acceptance tests all pass, it means the software should meet all of the user's requirements.

**System Testing**

This part tests the whole application integrating all the modules. This also ensures that each function of the system works as expected and that any errors (bugs) are noted and analyzed. The focus of this test is to test the design and behavior of the system. It is also intended to test up to and beyond the bounds defined in the software/hardware requirements specification(s).

**Conclusion**

The study concluded that the proposed system is very helpful to food businesses as well as to customers. Through this system, food businesses can improve their ordering systems since they don't have to answer calls from customers, they just have to view the orders placed and process them. This will also enhance their operational activity, marketing techniques and productivity. Time efficient for customers in placing or taking their orders because they can save time in calling food store just to place an order. Food ordering are made simpler, faster and easier for they can order food through online site, Facebook and mobile as well.

**Recommendation**

Based on conclusions, the researchers strongly recommends that the study should be advertised, marketed, and implemented for some food businesses.

**BIBLIOGRAPHY**

**Books**


**Website**
• http://www.princeton.edu/achaney/tmve/wiki100k/docs/Object-modeling-language.html

• http://www.academia.edu/1114196/Software-Requirement-Specification

• http://en.wikipedia.org/wiki/Use-case

• http://www.imenu30.com/

• http://www.menudrive.com/