Mechanism of Food Ordering in A Restaurant Using Android Technology

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Abstract. A Restaurant is a gathering place for many people to taste the favorite foods are int here. The restaurant which visited many people sure will increase the attraction of them to visit it. Of course, the owner will get more benefit. However, what happens when a restaurants famous still uses a service without technology, such as making orders using pens and paper, inspects the food stocks manually, and delivering orders to the kitchen using manpower, and more. Therefore, it designed a system that can accelerate the ordering and processing food in the restaurant. This system replaces the use of pen and paper with digital devices such as tablets/smartphones based on Android. Not only that, order data can be sent through a wireless network which connects tablets/smartphones with the kitchen's computer. It can be read by kitcheners and showed directly on the LCD screen. By the application is expected to reduce the level of error in the processing of the consumer's order.

Keywords: Food Order, Wireless Technology, ICT Restaurant

1. Introduction

The evolution of technology is increasing rapidly. This is evidenced by many things can do using technology such a mobile device. The mobile devices such as smartphones, tablets, and PDAs, can be integrated with other devices like Laptop or LCD screen, may use to establish a network of information and communication technology.

The steps of menu order, in the restaurant, generally will gain some problems, for examples: take along time because the food order is written use a pen and paper, there is a possibility that it exchanged with the others consumers have, and no information about the stock of food whether available or not, that causing the waiter return to consumers and ask it again the replacement.

This research aims to explain how to implement an application that can be used to make the food order in the restaurant digitally. The procedure starts when the consumers are served by the waiter using a tablet/smartphone. Then, the consumer’s order is inserted through that device. After the ordering finished, it sent directly to the kitchen through Wifi Hotspot which connected to a kitchen's computer server and also the tablets/smartphones held by the waiters. In order to make easy kitcheners, it is displayed via LCD screen, so that the possibility of incorrect the order process will minimize. After it is over, kitcheners will post a status for the number of table's ordering that ready to serve to the system. Finally, the waiter will pick up the ordering and bring it according to the list of the number of the order that is in the system.

2. Objectives

The purpose of this research is to make simple the processing of the food order as well as speed up the ordering meals that generally use a paper and pen changed to be Android's application. As for the goals to be achieved in this study, are:

a. Making easy and saving the time of the waiter to process the food order
b. Avoiding ozone depletion
c. Helping the chefs in knowing the consumers' order fastly
3. Literature Review

The restaurant is a favorite place to hang out with family and girlfriends. But, in the restaurants sometimes have a major problem such as taking a long time to serve the food order because getting a lot of orders. It can be confusing chefs in sorting which orders have to be processed first. Delays in serving food which has requested by the consumers can disappoint and not satisfied them. That thing can make a bad image of the restaurants so that their appeal is reduced. This obstacle can be minimized by establishing a system which speeds up the process of it using a mobile technology. The system named is DORSUA [2]. It may help the management of restaurants by enabling them to make themselves order via tablets which have given. The order's data sent directly to the kitchen area that viewed on a server computer through an internet network. After that, the order can be processed immediately by chefs.

Many of technologies can be applied in restaurants. One of them is a combination of technology internet network and mobile. By those technologies, the consumers may order a dining table and menus before visiting the restaurants. Of course, it can help and easy to process the management in there because the order can be done in long ways. Ease of this technology sure may make to convenient them and speed up the serving of food. There are three points in this study among are [4]:

a. Able to make the order from long ways
b. The order's data get in immediately to the kitchen area
c. The manager of a restaurant can track the whole transaction

The growth of restaurants lately more rapidly. The use of information and communication technology sue the owner restaurant for installing the technology. The application of ICT is intended for increasing the consumers’ appeal so resulting in the increased revenue. Such as research which builds a smart restaurant. It may exchange the use of pens and papers which used to write the food order. Besides, time of service applied is no wasting because they may reserve directly by accessing the system through smartphones based on Android. In other hands, there are facilities in the system among a list of an empty dining table, instant e-billing, and the service of fast parking [5].

4. Research Method

In designing of a system needs a methodology. It has a role for analyzing and detecting the way of system processes. The methodology which used in this system is SDLC (software development life cycle). SDLC is the process stages used to develop an information system has a goal to explain the activities related to project management [1]. The steps will give information to analyst and programmer how the system's works. The SDLC has four phases are: planning, analysis, design, and implementation.

![Figure 1. Four Steps of SDLC](image)

The elucidation of the figure 1, above as follows:A planning phase is used to know the reasons why has to build a system and also to understand a structure shaped in a project. While, for the analysis phase has some of the purposes among who will use the proposed system, what the system does, where it is going to be applied, and when it begins to design. Then, for design phase is purposed to conceive the way of how the system is going to work to face the problems. Last, the implementation phase gets a role for delivery the system. that means how to make end users become understand in operating it. Besides, this phase must focus to support things in order the system can run completely.

5. Proposed System
This study only designed a system that can facilitate the waiters in making food orders in a restaurant. Orders inputted to the system by using tablets/smartphones, then submit it to the kitchen with a wireless network. It connects the tablets/smartphones device to the server computer located in the kitchen. The incoming order data is displayed on the LCD screen to make it easier for the chefs to detect it. After the order is processed, then the kitchen informs them by updating its status through the system. The status indicates that it is ready to be served to the consumers and they immediately pick up and delivers it. The previous elucidation is the mechanism proposed in this study. Many things the system can do in the restaurant business using ICT. However, this paper is limited to designing systems for ordering food and order processing in the kitchen.

The system starts the kitchen's area has to log on into it. If successful then displayed the main menu. But, if not then the system will re-request the user id and password until correct. After getting access, it can update the food stock and saved directly to the system. This is necessary in order to maintain stock of food is not empty so the consumers can order it. While waiters must be connected to the system before they are in the restaurant. Here, the waiter needs to enter the server IP and user id and password. The main page for the waiter can be displayed if their verification is correct. It is intended to speed up making the consumer's order. When they come, they look the restaurant menu. Waiters can insert the customer's order. But if the food they want is not available, the system immediately informs it and the waiter can immediately notify it to them. Orders did, be submitted directly to the kitchen. Furthermore, Kitcheners can directly display the orders on the LCD. The list of incoming order can be directly processed. Completed orders, can be informed by Kitcheners to the system by updating the status. The waiter can view order status to the system using tablets/smartphones. Orders that are already to be served can immediately pick up and sent by the waiters to the consumers.

6. Conclusion
This study only analyzes how food ordering mechanisms in restaurants use mobile-based technology. The ease produced is to replace the use of paper and pen to digital devices when making orders. In addition, this system can synchronize the server computer in the kitchen with digital devices such as tablets/smartphones that order data can be directly displayed on the LCD screen. Sure, this can reduce the level of errors that occur in the kitchen at the time of processing the consumer's order.

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