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Internet of Things Based Module for Food Ordering System in Restaurants

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ABSTRACT: A design methodology for restaurant menu ordering system is proposed in this paper. The system proposed in this paper is developed to be useful in all kinds of restaurants who maintain a menu system. And also it should be affordable to even a small restaurant. The 802.15 ZigBee technology is used as wireless communication standard in this paper. The system proposed in this paper will consist of two sections, one is a hand held device placed on every table in the restaurant and another section should be placed at billing section and supply section. The system also having a touch screen and graphical LCD interface for providing a smarter user interface menu ordering. The paper describes about the algorithm used in implementation of advanced menu ordering system by with a wireless communication technology ZigBee and the steps involved in its protocol stack. The proposed system is intended to use by all kinds of restaurants for all classes of people. The graphical LCD used in it enables the feature of menu display with the graphical representation that will be easy to understand by illiterate people also.

KEYWORDS: Zigbee, LCD

I. INTRODUCTION

1.1 Introduction

Zigbee based hotel menu card ordering system involves developing a prototype for customer self-ordering system in restaurants. Ordering is a process of the customers specifying what they want, so that the order can be recorded by using a note form, or computer system and many others, followed by passing it to the relevant department for processing and finally the delivery of services or products to the customers based on the order. Self-ordering system is very successful when applied in different restaurants in many countries and it is proven to benefit most of the investors. This system cuts down the manpower for taking the order from the customer. Touch screens as a popular user interface are more and more common. Applications span from public information systems to Customer self-service terminals. Thus, as a Logical step, more and more devices today Feature this kind of user interface, e.g. Bank Automatic teller machines (ATMs), personal Digital assistants (PADs), mobile phones and displays. A touch screen is a display that can detect the presence and location of a touch within the display area. Let's one do so without requiring any intermediate device, again, such as a stylus that needs to be held in the hand. Such displays can be attached to computers or, as terminals, to its networks. Therefore it is very suitable for restaurant & time saving. It enables one to interact with what is displayed directly on the screen, where it is displayed, rather than indirectly call the waiter & ordered the menu. These devices also allow multiple users to interact with the touch screen simultaneously. Touch based interfaces have been around for a long time in consumer electronic devices, and even longer in research labs, but it has only been recently that the wider public has taken a keen interest in this mode of human-computer interaction. The touch screen is an assistive technology. This interface can be beneficial because it is time saving. The purpose of this system is to introduce a wireless Zigbee based ordering systems for restaurants. Compared to traditional restaurant system, by using this system customer get faster and better service, restaurant staff cooperates more efficiently with less working mistakes and enterprise owner thus receives more business profit. GLCD-Touchpad Based Restaurant Ordering & Automatic serving System is a concept with a new innovative idea in the field of Hospitality Industry. The concept of this system has conceived in mind on observing take away fast food outlets, M.C. Donald counters, Subway counters, Punch screens at various fast food restaurants etc The concept is we can browse the menus/sub-menus by just fingertip. Automation is the Technology Concerned with Application of Mechanical, electronics & computer

based systems to operate & control production. Due to advancement in technology we have seen atomization of many things. We have seen an atomized vending machine which will serve a hot or soft drinks, Chocolates & many things. There is automation of tickets on railway station. So into day's world due increased demand and competition we need to serve the people as user friendly as fast as possible. In restaurants menu cards are available on each table. We can refer it & place our order to waiter. But we never noticed disadvantages of this conventional method. You need to wait for the waiter to attend to you. Even it becomes difficult for the restaurant manager to keep the changing prices on menu card. At the same time adding the new menu to the same card becomes tedious job for anyone who is responsible for this job since changing menu card within less time may result in cost rise.

II. RELATED WORK

1] The journey for getting up to the peak of joy and facilities that we are presently experiencing started with initial footstep of a wireless technology. The introductions of basic proposed systems and consequent developments have been mentioned here. In the existing system, order is taken from the customer manually by a written note or by an i-pad which needs a person to go near the table, show the menu card and ask for the order. After placing the order, the person will pass the information to the concerned section and the order is delivered accordingly to the customer.

2] The analysis shows that the scarcity of wireless ordering system for the medium-sized hotels directly leads to promote slowly. Through comparing with different grades of E-Menu ordering systems, the key difference lies in selection of ordering terminal and wireless communication. In this paper, the development of wireless handheld terminal is based on the Software-hardware platform of ARM7 (LPC2148) and, using ZigBee short-range wireless communication technologies. "ZigBee Based E-Menu Ordering System" In This paper a new design scheme of the E Menu ordering terminal applied to middle and small hotel is proposed.

3] The "Development of wireless ordering system for hotel". This work presented in-depth analysis on the technical operation of microcontroller and zigbee module based Wireless Ordering System (WOS) including systems architecture, function and limitations.

4] In this system "Automated Restaurant Management System" which works as a link between waiters to provide optimum quick and effective and almost effortless services to the hotels and restaurants. [5] Touch screen based ordering system & displaying system for restaurant. Intention of this proposed method is to promote a cost effective system

III. METHODOLOGY

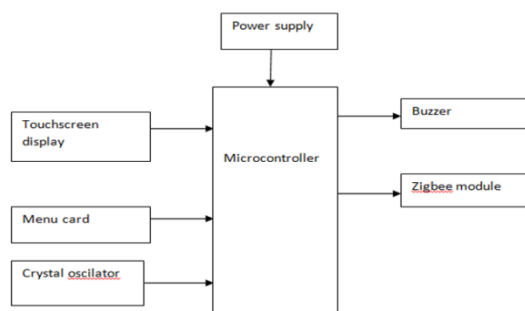
1. To bring a change in the ordering of the desired menu in a hotel or a restaurant we have decided to generate a system called as the zigbee based lcd screen wireless hotel ordering system.

2. This is the method by which any person can select the desired items by their choice which are present in menu display & place an order for it by a single touch on the Switch menu display screen.

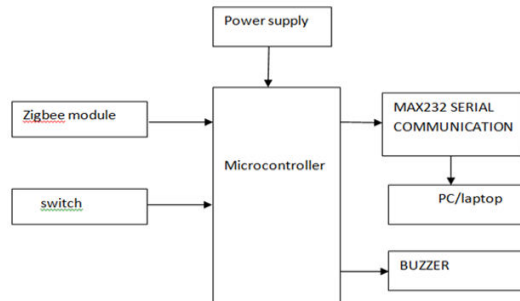
3. This order will be transferred to the kitchen section with the help of the zigbee module and announced & further it will also be provided to the manager section for the billing of the order.

4. A feedback will be provided to the customer section from the kitchen section and the ordered menu will be provided to the customer.

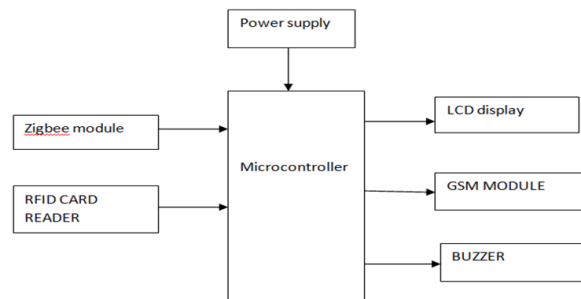
1] Table Unit:



2]kitchen Unit:



3]Counter Unit :



IV. EXPERIMENTAL RESULTS

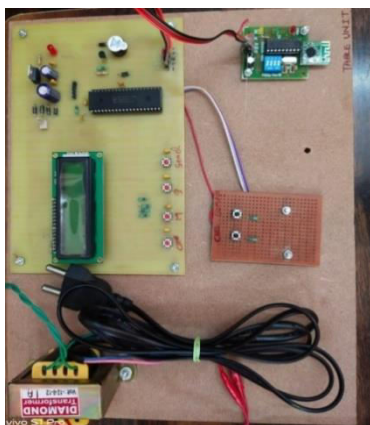
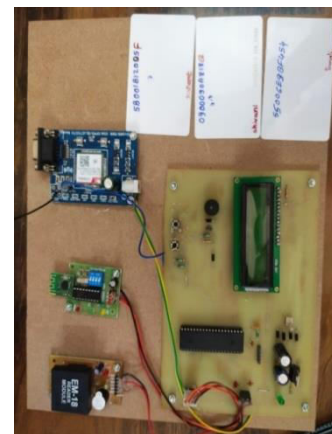


Table Unit



Kitchen Unit



Counter Unit

V. CONCLUSION

Integrating features of all the hardware components used have been developed in it. Presence of every module has been reasoned out and placed carefully, thus contributing to the best working of the unit. Secondly, using highly advanced IC's with the help of growing technology, the project has been successfully implemented. Thus the system has been successfully designed and tested.



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