

Hotel order processing

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Abstract:Our aim to decide this project is to bring a smartness in ordering system in hotels. We seen in hotels when customers enters in the hotel, Traditional method that is commonly been used in hotels is by taking the customers order and writing it down on the piece of paper. and also when there is large crowd of customer then there may be waste of time of customer. To utilize the time of customer, we choose this project which will automate the food ordering system. This project uses Xbee as a communication medium and this will make the customer more interested while giving the order that means customer can send menu directly from its table to the kitchen, by this system which will reduce the efforts of waiter. And giving self order customer will not have to wait for waiter this will send the time. In this way our system will make the use of modern technology and will helpful in hotel

Key words : Arduino, Xbee.

Introduction :

Many times when we visit any restaurant due to overcrowded when order is being placed, it takes more time to process and increase the manpower. To overcome such disadvantage system is being implemented named as Hotel order processing. Where at the input of system that means at the table of customer there is one LCD on which menus are displayed. By reading this menu on LCD, customer can press the relevant code on the Keypad which is connected to arduino and order will send directly to the kitchen with the help of Xbee module. And at the output at the kitchen order will display on LCD, and chef will process

the order. This will saves the time of customer as there is no need of waiter to take the order and no need of pen and paper which will increases the efforts of customer. And when number of customers then, no need to wait the customer for order they can directly send the order to the kitchen. This will save the time of customer. Due to this system restaurant service will be improved as this makes customer more interested while using modern technology menu ordering system. With this system the order which is received by chef will process and when order is ready then it will be indicate by chef to know the customer that the order is ready with the help of buzzer sound and order will serve.

Objective:

The main objectives of this project are to increase customer's comfort ability with encouraging them to use modern technology. As the work for waiter reduces the paying cost for them will also reduce. And there will be no mistake by waiter in order. As the customer will order by itself then they will not waste their time.

BlockDiagram:

TransmitterSection:

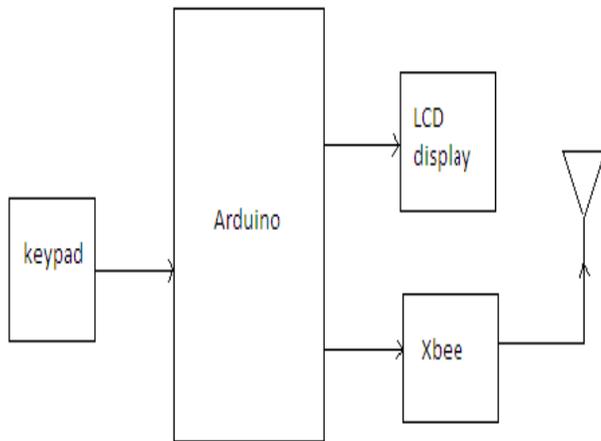


Fig: Block diagram of transmitter

The block diagram of this project consists of two sections. One is transmitter section means the circuit placed on customers table. And other is receiver section which is placed in the kitchen. Transmitter section circuit consists of arduino, LCD, keypad, Xbee module. On LCD. When the order is to be taken the hotel menu card will display on the lcd, by choosing the menu on the lcd menu card customer can press the relevant code on the keypad which is connected to the arduino. After this the menu selected by the customer will display on the lcd with their price, and by pressing the relevant code to confirm the order ,the order will send to the kitchen with the help of Xbee module as a communication medium.

Receiver Section:

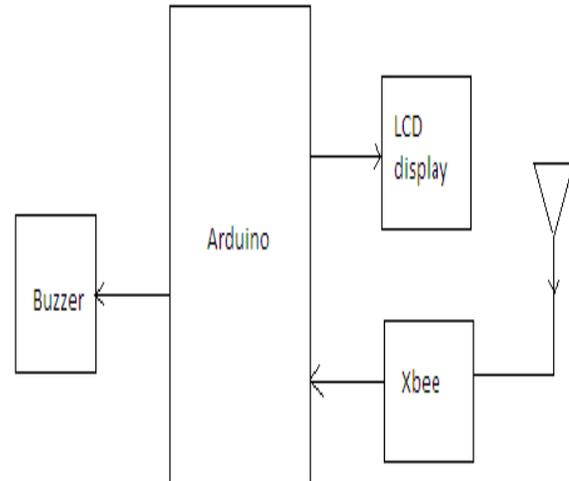


Fig: Block diagram of receiver

At the receiver section of the system means at the kitchen side there is one arduino connected to LCD display, Xbee module, and buzzer. When the order send by the customer table, with the help of Xbee module it will display on the lcd which is connected to the arduino in the kitchen. Then the chef will receive the order and process .One buzzer is connected to arduino to indicate whether order completed or not. When order will ready then the buzzer connected to the arduino will sounds on and order will send to the customer. With this the order will complete.

Hardware Description :

Arduino:



Fig: Arduino Uno

This is the important block of this project. It is a microcontroller board based on the ATmega 328p. It has 14 digital I/O pins. It contains everything needed to support the microcontroller; simply connect it to a computer with a AC-to-DC adapter or battery to get started. The Uno is the most used and documented board of the whole Arduino family.

XbeeModule:



Fig : Xbee Model

Digi Xbee 802.15.4 RF modules are ideal for applications requiring low latency and predictable communication timing. Providing quick, robust communication in point-to-point, peer-to-peer, and multipoint/star configuration, Digi Xbee 802.15.4 products enable robust end-point connectivity with ease. Whether deployed as a pure cable replacement for a simple serial communication, or as a part of a more complex hub-and-spoke network of sensor.

Keypad:



Fig: 4x4 matrix Keypad

This 4x4 matrix keypad has 16 built-in pushbutton contact connected to row and column lines. A controller can scan these lines for a button-pressed state. In the keypad library, the propeller sets all the column lines to input, and all the row lines to input. Then , it picks a row and sets it high. After that it checks the column lines one at a time. If the column connection stays low, the button on the row has not been pressed. If it goes high, the controller knows which row, and which column.

LCD display:



Fig: 20x4 LCD Display

A 20x4 LCD display is very basic module and is very commonly used in various devices and circuits. These modules are preferred over seven segments and other multi segment LED's. 20x4 LCD means it display 20 characters per line and there are 4 such lines. In this LCD each character displayed in 5x7 pixel matrix. This LCD has two registers, namely, Command and Data.

Buzzer:

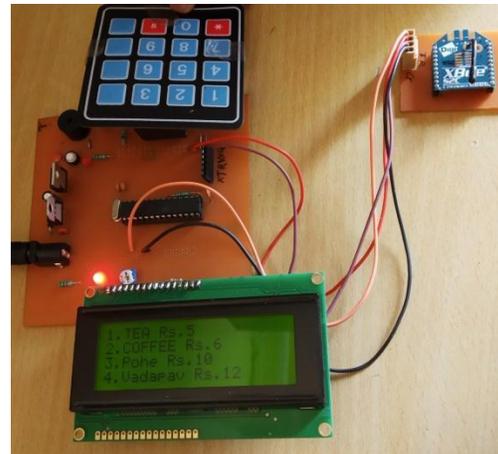


Fig: Buzzer

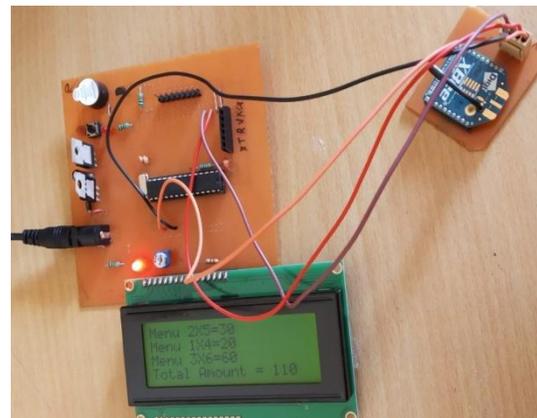
Buzzers and sounders are also known as audio alarm, audio indicators, audio transducers, beeper or audible alarm. Piezo sounders contain a piezo electric vibration plate known as a piezo element within a moulded case. Sound is emitted when a voltage is applied and the piezo element inside the case vibrates. Operating voltage range of piezo buzzer is 3-250v. This buzzer generally use less current, have a higher sound output and wider operating range.

Result:

Transmitter:



Receiver:



Conclusion:

In this paper we discussed the use of hotel order processing system, which will be helpful in hotels. In this project we are giving order from the table directly in the kitchen by making the automatic menu card. So there is no need to attend the table. The customer will give the order wireless through Xbee, and waiter will take the order directly from receiver. So this system will be helpful in hotels to reduce the efforts of waiter and to save the time of customer.

References:

1. Tan TH, Chang CS, Chen YF, "Developing an intelligent e-Restaurant with a menu Recommender for Customer-Centric service", vol. 42, no.5, September 2012.
2. K.Kamarudin, et al, "The application of wireless Food Ordering System", MASAUM Journal of Computing, vol. 1, pp. 178-184, 2009.
3. Asan, N. Bandariah, Nordin, N. Azreena, Shariff, Zulkifli, "Zigbee- based Smart Ordering System", Volume 11 Number4- May 2014.
4. Prof. Sagar Soitkar, Prof. Ashish Charbe, "Touch screen based Digital Menu Ordering System using AVR",

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