

Smart Restaurant System: A Review

Prof. Manohar V. Wagh¹ Priya Meshram² Rutuja Mahajan³ Utkarsha Kulthe⁴

¹Assistant Professor ^{2,3,4}UG Scholars

^{1,2,3,4}Department of Electronics & Telecommunication Engineering

^{1,2,3,4}SIEM, Nashik (MH), India

Abstract— Nowadays people are looking forward for advanced system that will satisfy their needs more comprehensibly. Most of the restaurants industries are looking for how to increase the profit. In restaurant waiters keep the record of customer orders and then order goes to kitchen for preparation. But when the number of customers increases then workload on waiter also increases. Therefore, by using advanced technology we can replace the way of taking order by pen and paper i.e. traditional approach. Various technologies are being developed nowadays for implementation of this system. Various papers discussing the techniques are discussed in given paper.

Key words: Smart Restaurant, Touch Screen Display, IoT

I. INTRODUCTION

In 21st century smart restaurant system is rapidly growing technology. The country is said to be developed, when the standard of living in that country is improved. We can improve our life style day by day using automation in each and every sector by using technology. We reduce effort of people. There is traditional method of taking order by using paper and pen as in traditional restaurant system.

To resolve the issues discussed here observed in various papers reviewed here, we have come up with a new technique called as “IOT BASED SMART RESTAURANT” system to make smart module. The customer can sit anywhere in restaurant and they can select the order for display provided each and every table. The order details from the customer’s table are updated and subsequently sent to kitchen section. The corresponding LED will glow at the kitchen section and then buzzer will indicate order of customer is selected.

The paper initially discusses the problems occurred in traditional restaurant system as far as their drawbacks are concerned along with the technique proposed for implementation to solve such problem. Middle part of the paper discusses the summary of all papers reviewed. And the later part focuses on our proposed system architecture to solve the various issues discussed in review papers.

II. LITERATURE SURVEY

In the paper entitled, “INTELLIGENT RASTAURANT WITH A TOUCH SCREEN BASED MENU ORDERING SYSTEM [1]”, the authors Mamta Mahajan¹, Ashwini Bankar² briefed that the restaurant is a place where the customer has to pay the sitting charges and waiter serves on the tables in traditional restaurant system orders are taken by a waiter and they served the food when it is ready. After eating the food customers pay the bill at counter of a restaurant. But the drawback of such system is that, the manpower is used to handle the customer services, inquiry, ordering system, placing order on table. Therefore, the main

question is to improve the service quality for customer by using advanced technology.

Our intelligent restaurant is all about getting all of customer problems and solve it. In this system we replace the paper pen which is used by waiter while taking the order of customer. Intelligent restaurant is created to reduce the work load of waiters and to improve the efficiency. This system work on android tablet. This application access database and downloading a real time restaurant menu list. The customer can browse the menu and order it.

Using the software, customer can call the waiter by pressing a button and waiter comes to confirm the order and count the bill. The order given by customer displayed in the kitchen section. When food item ready it informs to the waiter as well as cashier by mark them as done.

In the paper entitled, “SMART RESTAURANT WITH E-MENU CARD [2]” the authors Mayur Jakhete¹, Piyush Mankar² implemented the system using the android Smartphone/tablet as a solution and the customer table contains the android application with all the menu details. In this technique, the customer uses the tablet which is directly connected to the kitchen display through Wi-Fi. This wireless application is user friendly. The main advantages of this system are improve restaurant efficiency, accuracy and also saving time. It also reduces the human error. In restaurant the personal digital assistant (PDA) has adopted into restaurant system to replace the conventional way taking order using paper and pen.

Introducing an application loaded in Smartphone/tablet containing the menu details limitations can be overcome in this system. Android application is software for mobile device that include operating system and key application. This system connected to Wi-Fi, Bluetooth and Wireless data. Android application provides wide range of useful libraries and tools that used to build rich applications. Android application includes a full set of tools which built from ground up along with the platform and deep insight in their application.

Our project mainly aims to design completely automated menu card in the restaurants includes Smartphone using Wi-Fi and LCD to provide user-friendly environment. There is no need for each and every person to take the order from the table in the restaurant. The menu card will automatically displayed on customer Smartphone application based Wireless Ordering System (WOS) including systems architecture, function. Each table in the restaurant will be accompanied with a smartphone. The device will be loaded with an android supporting application containing food menu details at that restaurant.

In the paper entitled, “E-RESTAURANT MANAGEMENT SYSTEM USING ZIGBEE [3]” the authors Harish Phapale¹, Prashant Patil² stated that, in the restaurant the waiters keep the record of order for the customer. Then this order goes to the kitchen section for

getting ready and finally the calculated total amount of billing is done by the cashier on the counter.

The main drawback of the system is observed when the number of customers increases. In such situations the workload on waiters also increases which may lead to the order misplacement. Hence quality of service may get degraded.

Therefore, using Advance technology replace the older way of taking order. Using enhance technology like touch screen menu display. This system on table using touchable menu list and fingers of customer gives order to server of restaurant. In recent days, using computer system to control traffic flow of order, for proper billing, reduced waiter time and also reduced human mistake and this operation easy to degrade the workload of waiter. In advance technology we can improve the service quality. In recent days using wireless device such as touch screen menu card display. By using computer system done perfectly invoking any human error.

The customer place order by using their fingers and order will transmitted directly to restaurant server in real-time. At that time waiter can forget to add a precise item, make disremember to give order to kitchen that time customer have to wait to take their order for waiter. The delay of customer order also call frequently to find out the status of their order and waiter also need to check that order is in process. In case waiter doesn't know about that order is ready this cause the food got cold. In order improve quality of service for business of the hospital industry by using this technology. This system all information fetches from a data base. The customer table using android application and all restaurant details which is given in the tablet. The customer table, kitchen display and cashier counter connect each other using Wi-Fi. E-restaurant system using Zigbee in this system self-service ordering information system uses Zigbee based wireless technology. The complete review is summarized in the table given below.

Sr. No.	Title of paper	Name of authors	Technology used	Drawback
1.	Intelligent Restaurant with a touch screen based menu ordering system	Ashwini Banker, Mamta Mahajan	Android, LCD	Slow Service
2.	Smart Restaurant with E-menu card	Mayur Jakhete, Piyush Mankar	ARM Controller, Android	Component handling is risky
3.	E-Restaurant management system using Zigbee	Harish Phapale, Prashant Patil	Android, Zigbee	Need of special app to display menu card

Table 1: Summary of Literature Survey

III. PROPOSED SYSTEM

As in above given literature survey, each technique has certain advantages and drawbacks. So we have proposed a new smart module model in which initially the customer comes to the waiting room and book a table using Smartphone. Then the customer goes to table and see the menu list on the touch screen display chooses the menu and give the order. Then this order is transmitted to kitchen section for preparation. After finishing customer has to display the amount of bill. Customer paid bill then gives one OTP then customer will can move to outdoor.

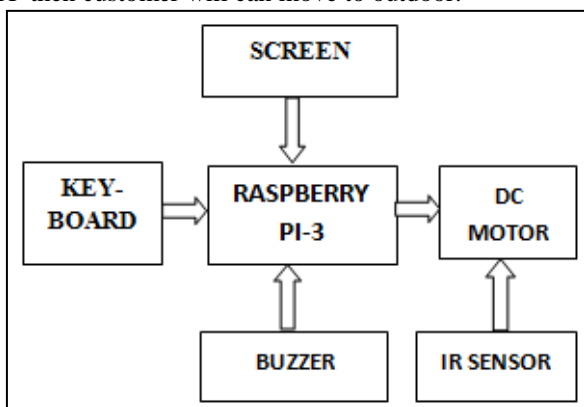


Fig. 1: Proposed System Model

complete flowchart of the system and flowchart of table section to be implemented is as shown in the figures given below.

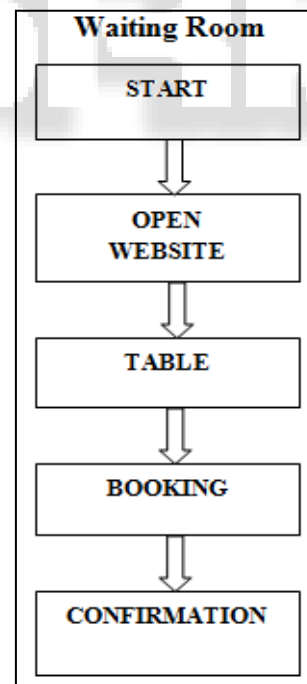


Fig. 2: Flowchart of the Proposed System

IV. FLOW CHART

The flow chart of the proposed system will initiate from entry of the customer into the restaurant till his exit. It includes all the processes starting from giving order, getting order for eating and finally paying the bill at the last on table itself. The

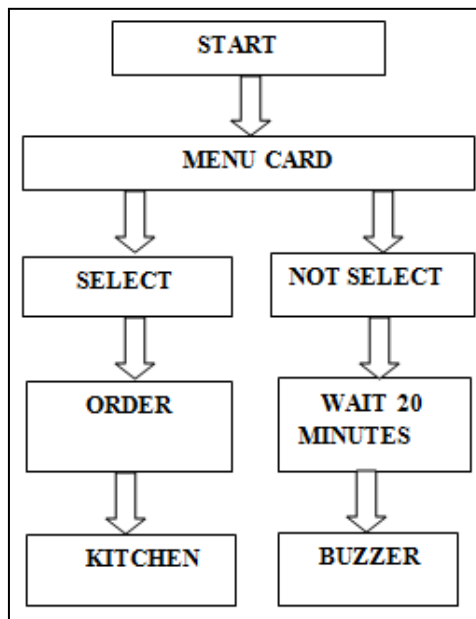


Fig. 3: Flowchart of Table Section

V. ACKNOWLEDGMENT

It gives us great pleasure to submit this paper for the project on “Smart Restaurant System: A Review” as a part of curriculum. We express our sincere gratitude towards our project guide Prof. Manohar V. Wagh for his valuable guidance

VI. CONCLUSION

The Proposed system will help in reducing the number of staff used in restaurants. Hence, we will help in reducing cost of restaurant management as well as reduction in human mistakes thereby increasing the level of customer satisfaction

REFERENCES

- [1] Sakari Pieska, Markus Lliuka, Juhana Jauhiainen, Antti Auno “INTELLIGENT RESTAURANT SYSTEM SMART MENU”, 4th IEEE International conference cognitive infocommunications, 02nd-05th DEC-2013 Budapest Hungary.
- [2] Khairunnisa K “THE APPLICATION OF WIRELESS FOOD ORDERING SYSTEM”, in MASAUM Journal of computing Volume 1, Issue 2, SEP. 2009.
- [3] N. M. Z. Hashim “SMART ORDERING SYSTEM Via BLUETOOTH” in International Journal of computer trends and Technology (IJCTT) – volume 4, Issue 7- Month 2013
- [4] Sushmita Sarkar, Reshma Shinde, Priyanka Thakare, Neha Dhomne, Ketki Bhakare (2014), Integration of touch Technology in restaurant using Android IJCSMC, Volume.3, Issue.2