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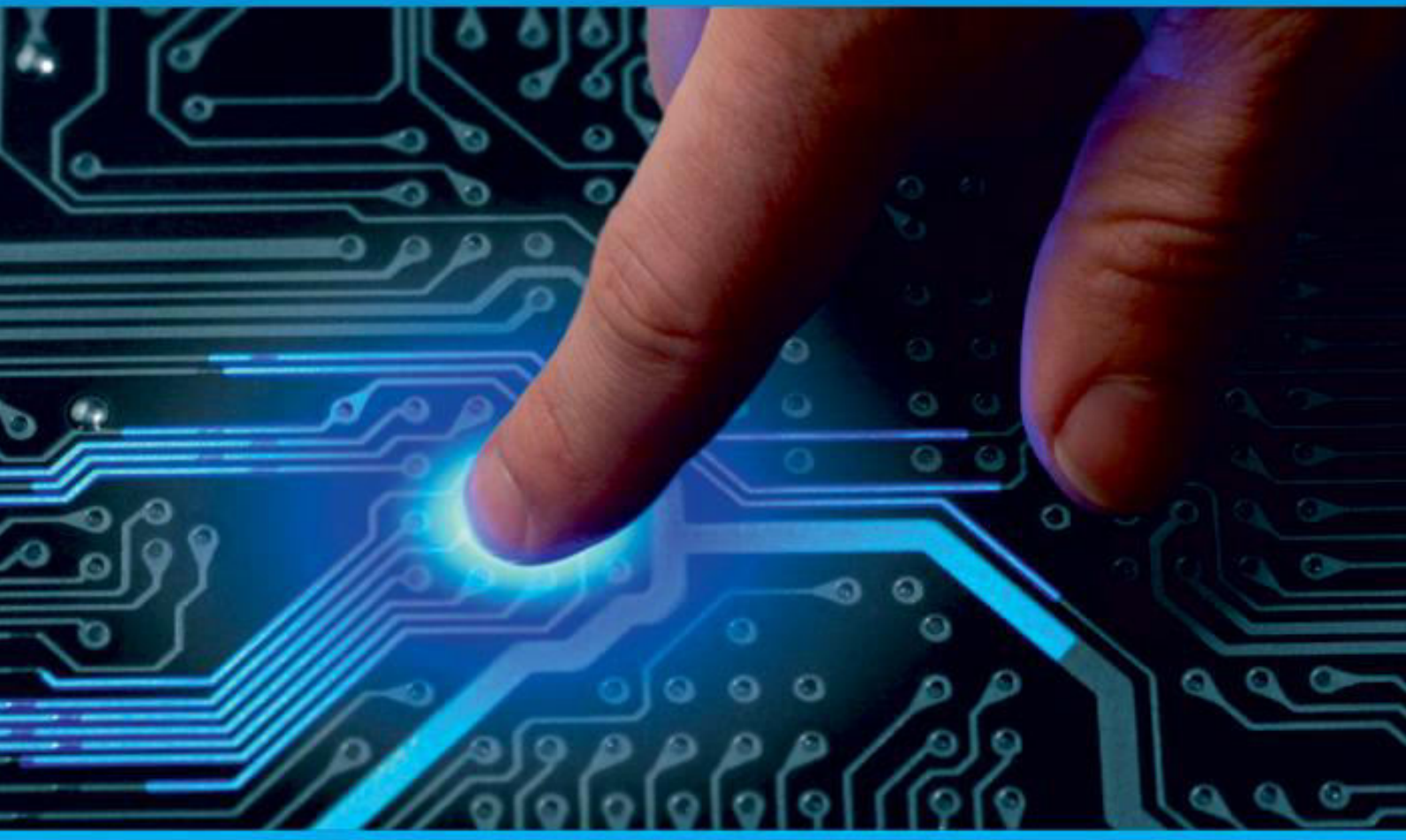

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A Smart Restaurant Menu Ordering System-A Brief Review

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ABSTRACT: The major issue faced in restaurants and hotels is the quality of service provided by them especially ordering of food. Traditionally, it used to take a long time for food ordering as waiter used to note down orders, place it kitchen and the food was prepared. It also involved traditional pen and paper method and the process was time consuming. It also involved a lot of wastage of paper. Hence, we have designed the smart restaurant in which the orders will be placed paperless using Arduino UNO, TFT touch display connected to the kitchen chef directly using RF Transmitter. This acted as the transmitting side. At the receiving side, the order placed is seen on LCD screen and indication of buzzer with the help of RF Receiver and I2C Module confirmed the placing of order to kitchen. Hence, the workers focused on billing and other work process and provided better quality services. We found out that this method is useful in many ways like- It not only saved the wastage of paper but also reduced the burden on the waiters and workers to great extent. Time management was also done as more and more customers could be handled by taking their orders and provide quality service. This setup is quite practical on basis such that this system can be implemented for small startups hotels and restaurants. The investment cost is also one-time investment as it requires less maintenance. The only fact it requires is to update the system as per our convenience and new offers. It also required average skilled labor to operate. Hence, we can conclude that this system is eco-friendly as it saves the paper usage by directly giving the order to kitchen and chef. The second grasping factor is that the waiters can involve them in other process of billing and other process. Hence it promotes the multi-tasking process. Third factor covered is that fresh food can be served at a faster rate to the customers due to this table-kitchen friendly process. It even eliminates the errors occurred due to traditional methods and also involves constant upgradation and upliftment of the system helps in better customer end services.

KEYWORDS: Restaurant, labour hotel, smart.

I. INTRODUCTION

In today's time when we go to restaurant, there, we have to wait for long time just to place our order because there are already so many customers waiting to place their orders and there are only few waiters present to note down the orders. Also, exactly same thing happens during delivery time. That's why one has to wait for long time to receive the ordered item. In order to solve this issue, we have introduced the concept of automated restaurant, the restaurant in which you don't need to wait for so long, you can easily place your order from your mobile phone and get it deliver with help of Line Follower Robot. Automated restaurant is a restaurant which works automatically in order to provide exciting, satisfying and hassle-free experience of dinning. The technologies used in this project are ultrasonic sensor to make gate to open and closes it, QR code to scan the menu and order it through mobile phone so that placing order will be contactless, faster and easier. Last is Line follower robot to make an order deliver from kitchen to customer's table by following its specific line.

The country is said to be developed,when the standard of living in that country improved. we can improve our life style by using automation in each and every sector. By using technology we can reduce the efforts of the people. Now a days IOT is a popular technology which enables us to exchange information though the internet. By using IOT we can replace the traditional method of taking orders using paper and pen as in traditional restaurant system. In IOT based smart restaurant as the customer enters restaurant the door will automatically open. The customer can sit anywhere in the restaurant and they can select the items from display provided at

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each and every table. The corresponding LED will glow at kitchen section which is in the site of chefs. The members in the kitchen section will place the food items on the LINE FOLLOWING ROBOT.It will stop at the corresponding table based on IR sensor at each and every table. The advancement of information and communication technology has led to an increasing number of industries to use electronic media and corresponding application for information exchange.

II. RELATED WORK

MieszkoWalerych [1] proposed a system supporting hotel management, which significantly helps to administration this type of building. It is designed for both sides of system users:
hotel employees and guests who want to make reservation. The system has several kinds of accounts (guest, reception, administrator, employee). To have access to the guest resources one should correctly complete the registration. This kind of account gives us ability to book online, check personal information, accommodation and reservation. The most important feature is of course, the possibility of booking online. First is "Customers". Thanks to this option receptionist has access to information about guests' personal data. The receptionist has the ability to check the status of a particular customer. Second part is the data that tells whether a person has a reservation for today. Another type is an administrator account. it gives access to the advanced functions. Antti Auno [2] proposed an intelligent restaurant system Smartmenu. These kinds of systems may change the everyday life in restaurants in the future. The system covers the whole order process of a restaurant including the applications of the customer, the waiter, the kitchen and the cashier. In this paper, they first present related work concerning the development of restaurant systems and service processes with advanced technology, such as digital menus, radio frequency identification (RFID). We then introduce our intelligent restaurant system Smartmenu which diverges from the current digital restaurant ordering systems by its expandability features. Smartmenu is not limited only to the electronic menu application but it can be extended to be a total intelligent restaurant service platform. MontriWiboonrat [3] proposed a system where cloud systems have been included for management. Cloud solution is ideal for a small or limited service hotel. Cloud services are faster and more efficient which improves customer service by decreasing waiting times and providing a more personalized service on arrival. Cloud systems decrease the cost of entry to hotels and provide an extended arm of computer power which makes the service unilaterally accessible and can be summarized through these primary benefits. This research deliberated on how the cloud computing technology reform the budget hotel chains for doing business by used a case study of Thailand budget hotel chains.

III. METHODOLOGY

The system consist of microcontroller, which is interfaced with input and output modules. The controller acts as an intermediate medium between both of them. Hence the controller acts as control unit. The input module is nothing but the touch screen sensor which is placed on TFT display to have graphical image display, which takes the input from the user and provides same to the microcontroller. The RF module is output module which makes a communication between system at a table and a system at a ordering department. The controller also takes the responsibility to display the menu items on a graphical LCD. The selected items will be displayed on along with table number at the receiving end. These selected items will be confirmed by receiving section where and the costumer will be acknowledged. The costumer will also be updated about the progress in order. Also the customer will pay the bill using his authenticated RFID card. The order will be placed at kitchen section after the customer pays the bill. The bill will be paid with the help of RFID card. The customer needs to swipe the RFID card at the billing module then the amount or the total cost of the selected items will be deducted from the user account. And only after the deduction of amount the order will be placed in the kitchen section where it will be confirmed and the customer will be acknowledged with the confirmation of order.

IV. CONCLUSION

The concept that has been brought by us is mainly focused on changing the traditional methods of taking orders in food ordering and serving areas in hotels, restaurants, cafes, etc. thus making life easier and effective for both customers and restaurant owners in a cost-efficient manner. With the help of IOT technology an Automated Restaurant based on digital Smart system for the restaurant is proposed to overcome the traditional method of pen and paper. The benefits of technology in business cannot be overemphasized. We incorporated this model

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well; automated technology forms the base for good service. While the robots take care delivering meals to the customers, there is one attendee to interact with customers to give them an all-around experience. At the same time, they can order food by just scanning the QR code and pay for the same with QR code only.

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