TOUCHSCREEN BASED ORDER INTAKE SYSTEM IN THE RESTAURANT

S.Gowsika, G. Sangavi, I.Maia selva sujitha

Abstract— In human life automation has gained more importance. But still some fields are using the traditional methods. One of such field is the menu ordering system in restaurants. In most of the restaurant's menu ordering system is available in paper from that the customer should select the menu items. Then the order will be taken by one of the waiter who takes the order from the customer, which is a very time consuming and also a long process. Here, we are going to implement a fully automated food ordering system in which the paper based menu ordering system is replaced by a more user friendly touchscreen based menu card. On the other side at the billing place different columns will be created automatically according to the table number and the total cost will also be calculated automatically and is displayed on the

Screen for the user conveniences. The list of orders that are taken from the customers are stored in the database with the table number from which it was ordered and will be displayed on the computer screen according to that the cooking department will prepare the food and place it for the customers.

KeyWords: graphic LCD, RFID.

1. INTRODUCTION

The ordering system has different details and methods which will be useful to handle the customers. Food ordering system may be done manually or it may be computerized. It helps the customer to select and order their food items by their own which is also known as self-ordering system. The customers self-ordering system can be defined as a computerized system that is being used by customers to place their own orders in the restaurant and allow the orders to be tracked, in order to prepare and deliver the ordered items to the customers. Living standard of the people has also improved. Many people are willing to spend money on food in restaurants, because of which competition in the catering industry is becoming increasingly intense. These industries need to come up with new innovative ideas .Also India being an overly populated country, very often people find themselves standing in long queues to place their orders in fast food restaurants. After placing their order, the customers need to wait until their order is ready near the counter. To overcome these issues the new idea of touch-screen based

S.Gowsika, Assistant Professor, Department of Information Technology, M.Kumarasamy College of Engineering, Karur, Tamil Nadu, India. (E-mail: gowsikas.it@mkce.ac.in)

G. Sangavi, UG scholar, Department of Information Technology, M.Kumarasamy College of Engineering, Karur, Tamil Nadu, India. (E-mail: sangaviganesan97@gmail.com)

I. Maia selva sujitha, UG scholar, Department of Information Technology, M.Kumarasamy College of Engineering, Karur, Tamil Nadu, India. (E-mail: Mariailjs22@gmail.com)

order intake system in the restaurants have been introduced. Our main aim is to introduce a user friendly touch-screen based menu card which is placed on every table at the user side. Now the customer needs to select the menu items by touching the items that are displayed on GLCD. The order is then received from the customer to the cooking department. When the order is completed then the menu items will be displayed on the monitor with the table number to the cooking team. The columns for every table will be generated separately at the billing place.

2. METHODOLOGIES

2.1 Process

Customers come and seats at a table in restaurant. From the menu card present in the table, the customer should select the food item and submits his/her order. This selected item is then transferred to the cooking department for further process. The persons in the kitchen department prepare the food and the ordered items are delivered to the customer through waitress and the delivery is notified.

2.2 System Components

The components that we used in this process are:

2.2.1 Plate

To deliver the order plates are used. These plates are made with RFID chip which have an identity that can be tracked through the system and we can know whether the order to a particular table has been delivered or not.

2.2.2 Table

In this system we use smart table in which it is embedded with Wi-Fi and enabled touchscreen board with an RFID. This helps the customer to select the menu and submit an order. The RFID is used to identify the delivery of the ordered items using the plates.

2.2.3 Monitor

In the kitchen the order monitor will be placed which shows the current orders that are placed by the customers.

2.2.4 Server

The server plays a major role in the system, it manages the data produced or exchanged by the components.
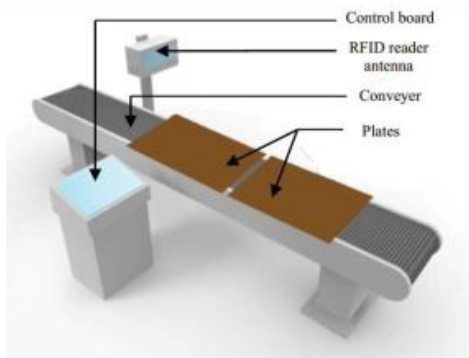
Figure 1:Delivery Assignment Machine

3. PREVIOUS PROCESS

The existing system happens to be a non-computerized operating system were all operations are done manually by the waiter carrying paper and to take down the order of the customer or making an order over the counter. The mistakes may occur by the waiter because the waiter might not understand different orders that are given by the customer. The manual system uses papers, pens and direct human language communication by mouth to manage the order from the customer. This delays information transmission in the hotel. The order process is transferred manually to the filling department for compilation of the customer. The latest method in menu is the handheld tablets that hold the menu card and the guests can browse through that tablet and look at the photographs of the dishes i.e. the customer can select and place their order. Then the customer orders are taken by the servants working there, and according to that the dishes was been served. Due to manual process being employed by the fast food restaurants in these days, it is very difficult to satisfy the needs of the customers.
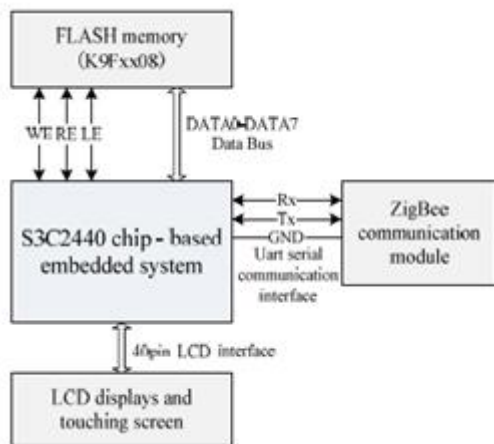

Figure 2: Communication Process

4. WORKING & RESULTS

The main aim in designing and implementing the completely automated menu ordering system in restaurants is to provide a user-friendly ordering environment. A touch-screen along with Graphic Liquid Crystal Display will be placed on each table. Now the Graphic LCD will act as a menu card displaying all the items available in the restaurant. According to his requirement the user will select menu item and quantity. Transmitter section of the system transmits 3 modules which make the communication between system at table and system at cooking department. The micro controller which is at the receiver section takes the order which is displayed on LCD along with user table number. The columns for every table will be generated separately at the billing place. When we end the ordering process then the total amount (bills) will be generated automatically to that particular customer and given to them. This also solves the problem of people waiting in long queues in fast food restaurants.

A customer comes in the restaurant and seats at a table. The table offers him/her a board through which he/she can browse the menu of the restaurant. The customer selects the dishes and submits the order which is wireless routed to the kitchen for procession. The kitchen team treats the order and the waiters carry the order to the customers table then the delivery of the order is notified in the system and creates a new column for that particular table for billing process. The smart tables consist of a table equipped with an embedded Wi-Fi enabled touch screen board with an RFID reader. The software allows the user to browse the menu and submit an order. The RFID reader is for the purpose of identifying orders and notifying the delivery and it also used to sense the customer's presence.
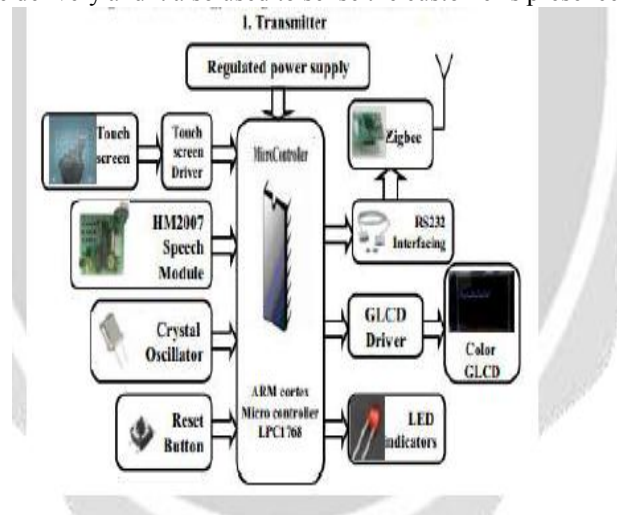

Figure 3: Working

5. ADVANTAGES

a) The key technology supporting our proposed system are the RFID technology, it is one of the main enabling technology used in IOT.

b) The lowest consumed time during the lookup process.

c) When the user selects the touch mode the touch module enables the user to select the food item displayed on the screen.

d) The middleware server, the tables and order monitors are connected via Ethernet and the smart tables are connected via Wi-Fi through the access point.

e) The simulation principle is applied for the delivery lookup process.

REFERENCES

1. Snehal S. Dambhare, Mangesh A. Pm:iane, Dhananjay M. Deore," Touch Screen based menu ordering and displaying system for restaurants", International Journal of Computer Engineering and Technology Volume 3, Issue 2, July- September (2015), pp.297-307

2. Y. Xiang, W. Zhou, M. U. Chowdhury, "Toward pervasive computing in restaurant", Proceedings of 1st International Conference on E-Business and Telecommunication Networks, pp. 312-317, August 2004.

3. Soon Nyean Cheong, Wei Wing Chiew, Wen Jiun Yap, "Design and Development of Multi-Touchable E-Restaurant Management System", in 2010 International Conference on Science and Social Research [CSSR 2010], December 5 - 7, 2010, Kuala Lumpur, Malaysia.

4. Shweta Shashikant Tanpure, Priyanka R. Shidankar, Madhura M. Joshi, "Automated Food Ordering System with Real-Time Customer Feedback", in International Journal of Advanced Research in Computer Science and Software Engineering, Vol. 3, Issue 2, February 2013.

5. Touch Panel Based Restaurant Automation System usingZigbeehttp://www.ijsr.net/archive/v4i5/SUB154313

6. Real-Time Fully Automated Restaurant Management and Communication System Retro: http://www.ijret.org

7. Electronic Menu Card for Restaurants: http://www.slideshare.net/ijreteditor/electronicmenu-card-for-restaurants

8. V. Swapna, M. Firdouse Ali Khan, "Design and Implementation of Ordering System for Restaurants", in International Journal of Engineering Research & Technology [IJERT], Vol. 1, Issue 10, December- 2012.

9. F. P. Lousame and E. Sanchez, Multicriteria Predictors using Aggregation Functions based on Item Views. Proceedings of 10th International Conference on Intelligent Systems Design and Applications, 2010.

10. Khairunnisa K., Ayob J., Mohd. HelmyA.Wahab, M. ErdiAyob, M. IzwanAyob, M. AfifAyob, "The Application of Wireless Food Ordering System", in MASAUM Journal of Computing, Volume 1 Issue 2, September 2009.