

DATTA MEGHE COLLEGE OF ENGINEERING, AIROLI
NAVI MUMBAI



MINI PROJECT REPORT

on

“DIGITAL MENU CARD FOR RESTAURANT”

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UNDER GUIDANCE OF
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Report Submitted in Partial Fulfilment of

Mumbai University

in

INTERNET OF EVERYTHING

(2019-2020)

CERTIFICATE



DATTA MEGHE COLLEGE OF ENGINEERING, AIROLI

We hereby certify that the work which is being submitted in this project titled “Digital Menu Card For Restaurant”, in partial fulfilment of the requirements for the award of “Bachelor of Engineering in Information Technology” submitted to Datta Meghe Collage of Engineering, Airoli an authentic record of our own work carried out under the supervision of “Prof. Jagatram Gaydhane”.

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TABLE OF CONTENTS

Sr.no	Title	Page No
1.	Abstract	4
2.	Introduction	5
3.	Schematic Design	7
4.	Literature Collection	9
5.	Architecture Design	11
6.	Implementation	12
7.	Solution Realization	16
8.	Bibliography	17

ABSTRACT

In today's restaurant Digital touch screen menu cards and other forms of digital facility are replacing old fashioned services like waiters can take order from customer and serve them. The project mainly aims in designing completely automated menu system in restaurants with the help of touch screen sensor and a LCD to provide a user friendly environment. There is no need of a person to take the order from the customer's table. The menu will be displayed automatically on the customer's table and we can directly order the menu with the help of touch screen sensor. LCD will display the total billed amount directly to the user. Touch screens provide fast access to all types of digital media, with no text-bound interface getting in the way. Using a touch interface it can effectively increase operator accuracy, reduce training time, and improve overall operational efficiencies. This wireless application is user-friendly, improves efficiency and accuracy for restaurants by saving time, reduces human errors and provides customer feedback.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Restaurant is a place where people pay to sit and eat meals that are cooked and served on the premises. In traditional restaurant system orders are taken by a waiter and they bring the food when it is ready. After eating the food customers will pay the bill. This system relies on large numbers of manpower to ordering food, placing order on table. Therefore, how to effectively improve the service quality for customers by using advanced technologies has received much attention in recent years.

This system replacing pen-paper which is used by waiter to take an order. It is requiring customer to order via touch screen device that placed on each table in the restaurant. Customers view the menu, price and make an order directly using this touch screen system. Then, their order will be sent to the cash counter computer for food preparation.

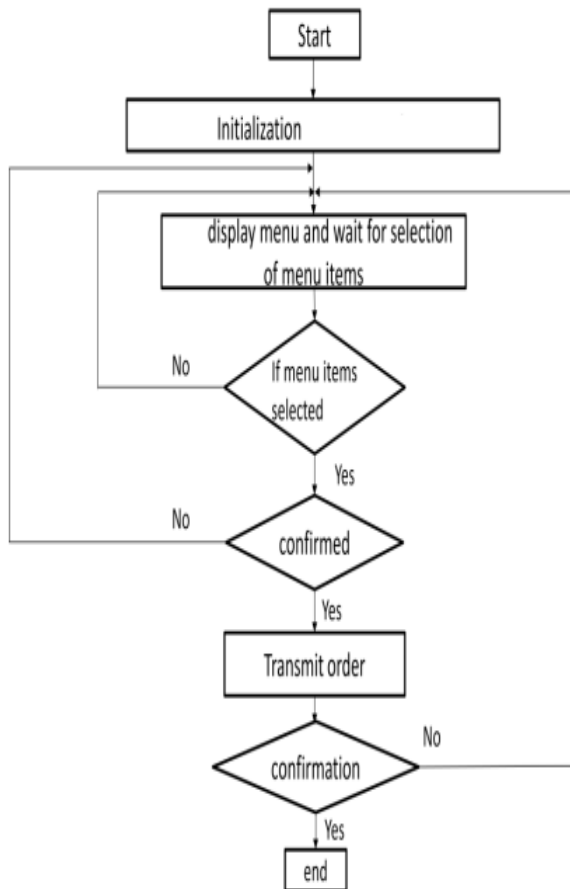
1.2 Objectives:

- The main objective of the project is to have comfort zone for the people who visit restaurant for their happy time.
- In the present process, humans are involved in taking orders from the customers and delivering on the customer table.
- This may result in few errors while taking order and placing on the right table.
- So in order to overcome these problems we have designed touch screen based ordering system.
- The proposed method is to promote cost effective system which could work in small scale restaurants

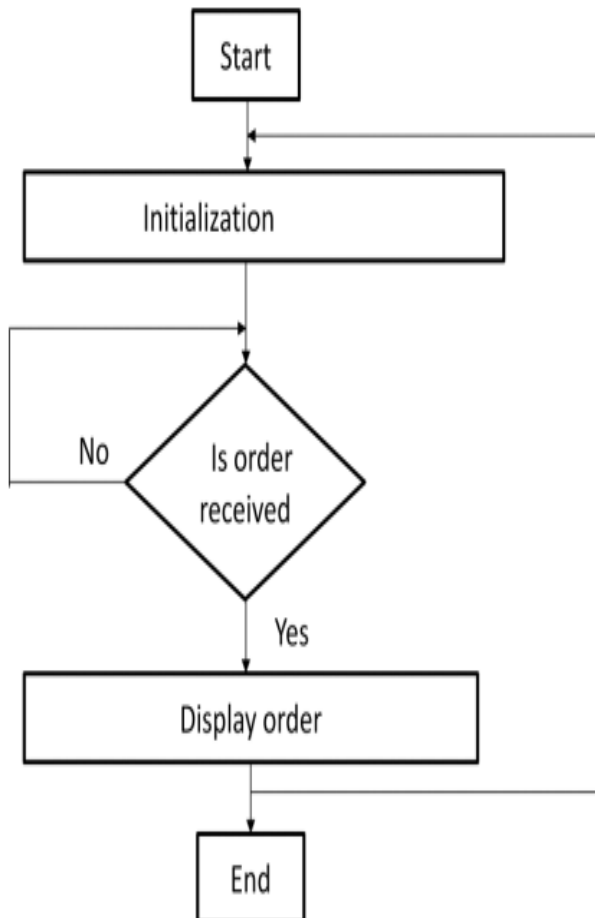
CHAPTER 2

SCHEMATIC DESIGN

2.1 Flowchart for Customer:



2.2 Flowchart for Kitchen:



CHAPTER 3

LITERATURE COLLECTION

3.1 Literature Review

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 introduction of basic proposed systems and consequent developments are been mentioned here Khairunnisa K. proposed the application of wireless food ordering system. This work presented in-depth on the technical operation of PDA based Wireless Ordering System (WOS) including systems architecture, function, limitations and recommendations.

N. M. Z. Hashim presented an approach to develop a system by introducing the integration of Bluetooth technology as the communication medium and Peripheral Interface Controller (PIC) as the hardware which implemented faster ordering system. S. R. Patil, SnehalSalunkhe highlighted the limitations of the existing technologies and proposed the advanced system, which focuses on low cost touch-screen development to enhance the dining experience.

K. A. Wadile developed a control system for autonomous mobile robots used in Hotel management. Mobile robot having minimal centralized control was developed. The work focused on the development of two basic motion control algorithms, namely a GOTO algorithm and a FOLLOW algorithm, for use in a master-slave system. These robot motion control algorithms would have wide applicability in hotel operations. AshwiniBankar, MamtaMahajan later on took one step ahead. They further extended the service with Paypal. Technologies were used innovatively in a modern restaurant such as multi-touch LCD with Arduino mega, RF module, database & line following Robot to enhance quality of services and to enrich customers' dining experience.

SushmitaSarkar presented the integration of touch technology in restaurants using android. This system was a basic

dynamic database utility system which fetches all information from a centralized database. The tablet at the customer table contains the android application with all the restaurant and menu details. SuradejSarmaputra furthermore put the enchanting concept of NFC i.e. Near field Communication for restaurant field. The solution “Food Pre-Order System using NFC Based Smartphone” introduced an alternative method for the guests to be able to create the order before they approach the restaurant. Using NFC based Smartphone; the pre-ordered items can be captured by touching the phone at the NFC attached menu poster placed in eye-catching crowded area. When the guests approach the restaurant, the saved order can be confirmed by touching the Smartphone at the Order Dispatching Station located in the service area inside the restaurant.

Kiran Kumar reddy, B.Naresh employed combination of Bluetooth technology along with android phone. An android application was designed containing food item details in restaurant. The input device was Smartphone or tablet and output section was PC. Cloud-based server for storing the database was used which made it inexpensive & secure.

Asan N. Badariah introduced Smart Ordering System which was also a fast way to order food at a restaurant. The system used a small keypad to place orders and the order made by inserting the code on the keypad menu. These codes came along with the menu. The signal would be delivered to the order by the Zigbee technology, and it would automatically be displayed on the screen in the kitchen. M. Firdouse Ali Khan and V. Swapna later on added facility like speech commands and wireless technology like Zigbee for data transmission from input section i.e. customer to kitchen section.

CHAPTER 4

ARCHITECTURE DESIGN

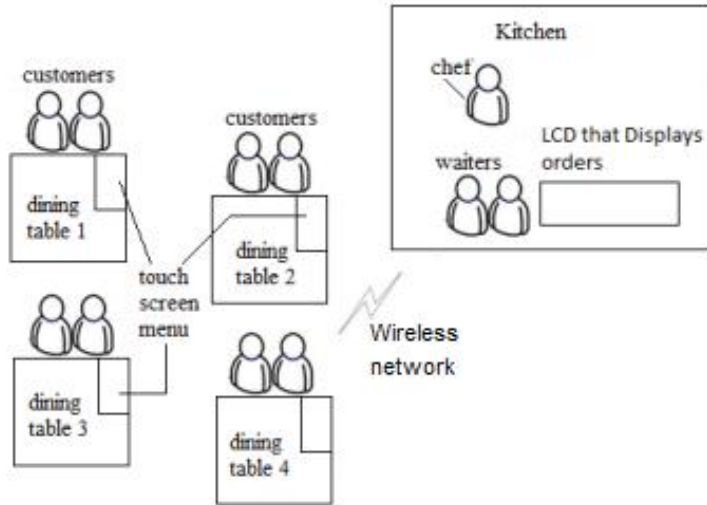


Fig. : Frame work of an Restaurant

CHAPTER 5 IMPLEMENTATION

5.1 NODE-RED

Steps for installing the Node-RED :

1. Install Node.js :

Download the latest 10.15.3 version of Node.js from the official Node.js home page. It will offer you the best version for your system.

Once installed, open a command prompt and run the following command to ensure Node.js and npm are installed correctly.

2. Install Node-RED :

```
$npm i -g node-red  
$node-red
```

3. Run Node-RED :

Once installed, you are ready to run Node-RED. You can use the node-red command:

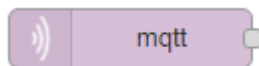
```
C:\node-red
```

4. Node-red-dashboard

This module provides a set of nodes in Node-RED to quickly create a live data dashboard.

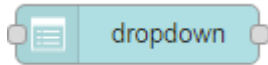
Components

Mqtt :-



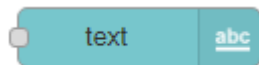
It connects to a MQTT broker and subscribes to messages from the specified topic.

Dropdown :-



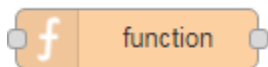
It adds a dropdown select box to the user interface.

Text :-



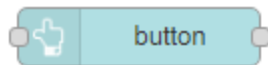
It will display a non-editable text field on the user interface.

Function :-



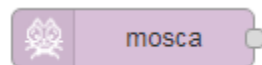
A JavaScript function block to run against the messages begins received by the node.

Button :-



It adds a button to the user interface.

Mosca :-



It is a MQTT broker, because this is implemented by Node.js, you can use MQTT-in and MQTT-out nodes without an external broker like mosquito.

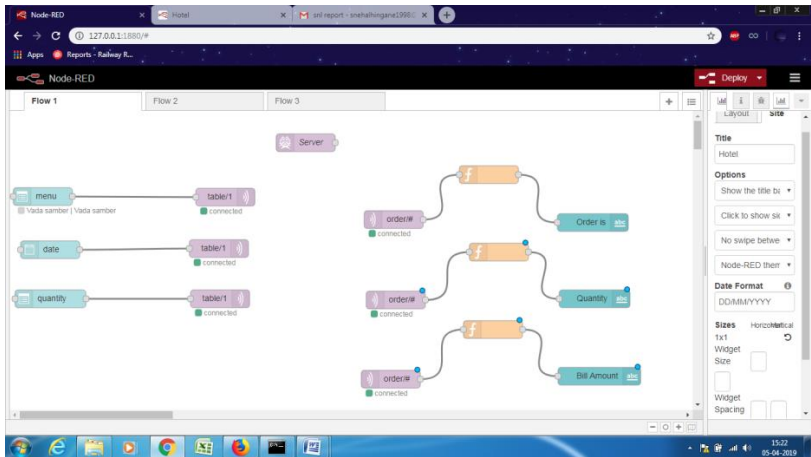


Fig. Connectivity

The image shows a web dashboard titled 'Hotel-menu'. It features a red header bar with the title 'Hotel-menu'. Below the header, there is a section titled 'MENU CARD'. The dashboard displays three input fields: 'date' (with a date picker showing '05 Apr 2019'), 'menu-table' (with a dropdown menu showing 'Vada sambar(150 Rs)'), and 'Quantity' (with a numeric input showing '2').

Fig. Dashboard of Customer



Fig. Dashboard of Kitchen

5.2 Working :-

1. On the customer side, the customer will give input as food items and quantity.
2. At this time information will be sent to the kitchen of the restaurant. All this information will be displayed on the kitchen dashboard.
3. This information will contain table number, food item and quantity.
4. After delivery of order, bill amount will be display on the customer side and kitchen side.

CHAPTER 6

SOLUTION REALIZATION

6.1 Advantages:

- It reduces customer's time for waiting. So customers don't have to wait for the waiter to take the order. Thus it saves the time.
- This project is users friendly and fast.
- Easy to install because of wireless interface
- Fast response
- Efficient and low cost design
- Low power consumption.

6.2 Future Scope:

- We can add printer to this project so users can immediately get printout of the bill. If the user wants printout then he or she can select the option to get the printout.
- For high speed and long distance data transmission we can use Wi-Fi technology.
- Many improvements can be done in the proposed system like the resistive touch screen can be replaced by more responsive capacitive touch screen.

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