CHRIST
(DEEMED TO BE UNIVERSITY)
BANGALORE · INDIA

Restro - an E menu Web App

BY GROUP 2

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CERTIFICATE

This is to certify that the report titled Restro - an E Menu Web App is a bonafide record of work done by Student Name (Reg Number) of CHRIST (Deemed to be University), Bangalore, in partial fulfillment of the requirements of 5th Semester Master of Computer Application during the year 2021.

Head of the Department **Project Guide**

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2 . Date of Exam : **12/11/2021**

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1. INTRODUCTION

The time from order registration to delivery is one of the most significant issues in many restaurants that rely on customer orders, product preparation, and delivery to customers. Reducing this time will enhance customer satisfaction and, as a result, business. This means that when the diner has settled at the table, the waiter presents a product list and returns a few minutes later to take the order. If the customer is unsure, the waiter must return after a certain amount of time to get the order (some restaurants leave the ordering to the customers, which is inconvenient for them). The customer must wait according to the appropriate time for order preparation after receiving the order and transferring it to the catering staff. In terms of management, order preparation time is critical because it is directly tied to customer happiness. The waiter delivers the order to the customer's table after it has been prepared. Following the meal, the consumer goes to the fund to pay the bill, bringing the business cycle to a close. By removing several stages of traditional ordering, the processing method of ordering in restaurants promotes efficiency and saves energy and time by using QR codes instead of waiters at the table. As we've all experienced, if a café or restaurant wishes to make changes to the menu, they must either create a new menu or overlap with the new item or pricing. Thus, to overcome this problem, our web application will have e-Menu so that we can change whenever needed. They can pre-order, which saves them time because they will not have to wait. It will have payment functionality, you can pay through UPI, credit/debit card, and cash as well.

1.1 Purpose

The main purpose of this project is to design a user-friendly system that will surely satisfy the guest service and to develop a system using QR code to avoid any mistake happening while ordering the food and paying the bill by the guests and provide a system to pre order and home delivery seamlessly.

1.2 Scope

The scope of this project divided into 6:

- Admin: will be able to manage all the restaurants who are registered.
- Guest - Customer/User Guest able to check the food that is available in the restaurant. Guests scan the QR code on the table to order the Food.
- Staff - Staff serves the food to the table ordered by the guests. Staff can update status and be able to know whether the guests have received their order or not.
- chef - chefs will be able to prepare food which was ordered by the guests on priority basis (in order, preorder, home delivery)
- delivery agent: will be able to collect order from the restaurant
- merchants- Hotel/Restaurants/Cafe/Stall owners can add new menu, delete menu, and update the food menu merchants can view the report and status orders that have been updated from staff, delivery agent and chef.

1.3 Definitions, Acronyms, and Abbreviations

- **QR Code -** QR stands for "Quick Response." While they may look simple, QR codes are capable of storing lots of data. But no matter how much they contain, when scanned, the QR code should allow the user to access information instantly – hence why it's called a Quick Response code.

- **e-Menu - eMenu** (electronic menu) is an interactive restaurant ordering system and an innovative alternative to traditional paper menus. With new digital menus your Guests can quickly look through all the items and make their choice. Placing orders has never been so easy. Tap "Send order" button and eMenu will instantly print the order at the kitchen and notify your waiter. **eMenu** improves overall efficiency of your business and brings restaurant service to the next level. No more long pending orders. No more frustrated Guests endlessly waiting to be serviced. eMenu restaurant self-ordering system will make sure that all of your Guests are satisfied, and average bill total is constantly growing. You can learn more about eMenu here or browse our other products.

- **HTML -** Hypertext Markup Language (HTML) is the set of markup symbols or codes inserted into a file intended for display on the Internet. The markup tells web browsers how to display a web page's words and images. Each individual piece markup code (which would fall between "<" and ">" characters) is referred to as an element, though many people also refer to it as a tag. Some elements come in pairs that indicate when some display effect is to begin and when it is to end.

1.4 References

- https://www.ijser.org/researchpaper/IMPLEMENTION-OF-SMART RESTAURANT-WITH-E-MENU-CARD.pdf
- https://www.researchgate.net/publication/343512929_Designing_Electronic_Menu_Applications_for_Restaurant_Businesses
- https://www.technoarete.org/common_abstract/pdf/IJERCSE/v5/i5/Ext_34756.p

df

- http://umpir.ump.edu.my/id/eprint/27068/1/Food%20ordering%20system%20using%20QR.pdf

1.5 Overview

The menu is one of the most important communication, promoting and selling tools of a food and beverage business. Technological advances and an increasingly competitive environment are driving food and beverage businesses to advance and administrate differentiation. One of the best examples of this is the introduction of digital menus. Digital menus are two types, one is touchscreen and another one is non touch screen. But here we are using non touchscreen as we all know the pandemic is going on and people are afraid to touch or come in contact, so everything is going touchless and non-touch screen is the best option for the current scenario. We can use QR code so that they can scan, and I can see the menu of the particular restaurant, they can use the given link too.

2. THE OVERALL DESCRIPTION

From above description, we conclude that restro e-menu app is one of the good options as it is touchless, it saves our time, easy to use no need to wait for long and long time, it's totally based on how you are using our app. It is providing three kinds of ordering options, preordering, post ordering and home delivery which will be beneficial for the customer. Their preferences matter to us.

2.1. Product Perspective

The product "restro e-menu Web app" helps users in many ways like it is touchless, easy to order. It's a totally independent product. It works as a third party which helps to create a bridge or a connection between the customer and the restaurant digitally. When we try to change the traditional menus then it looks messy, and we are supposed to overlap, or we need to create a new menu which is expensive. So, when we are using a digital menu then no need to spend money on printing the new menus. Thus, it saves our money. As before we talked about the three option to order,0 pre order, in-restaurant and home delivery, when we are going for pre order then you can order from home and you can provide the time when you will reach the restaurant so that we will prepare your food based on your preference, so that u won’t waste your time on waiting and you can just come and eat the delicious dishes which we ordered from your home. Thus, it saves your time too. We will suggest which dishes are the best one based on reviews given from the customers which have experience from that restaurant.

2.2. System Interfaces

When a user visits our website, they will find information about it, how to contact us and support for this website. Users (merchants, chefs, staff, and delivery agents) will have a login and registration from the main home page.

2.3. Hardware Interfaces

- Processor: Intel Core i3 8th gen and up or AMD Ryzen 3 3100 and up.
- Processor speed: 1.5 to 3.40 GHz
- RAM: 4 GB and more

2.4. Software Interfaces

- Operating System: Any OS
- Database: Firebase
- Front End: HTML, CSS, Bootstrap.
- Back End: JSON
- Code Editor: Any editor is fine, but preferably Sublime.
- Browser: Chrome or Firefox or Internet Explorer or Microsoft Edge

2.5. Communication Interfaces

There are no specific communication interface requirements. Existing OS and network infrastructure will be leveraged for communication

2.6. Memory Constraints

Memory constraints will come into play when the size of the database grows to a considerable size.

2.7. Operations

The product shall have operations to protect the database from being corrupted or accidentally altered during a system failure

2.8. Product Functions

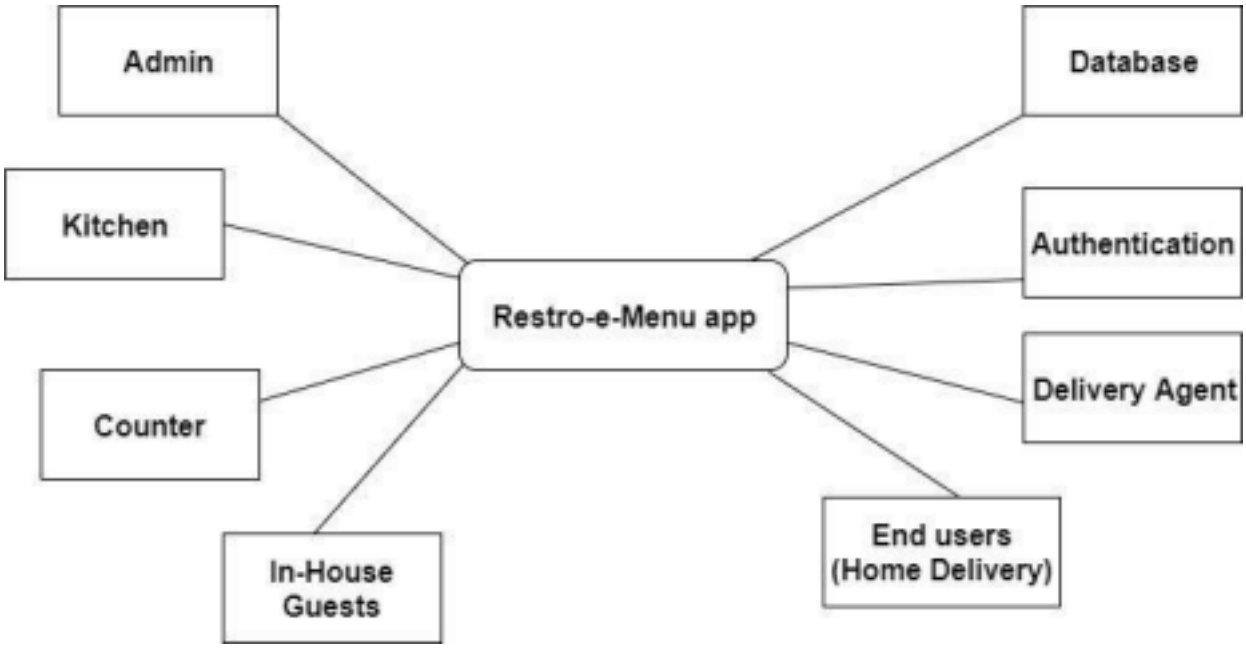

Fig. 2.8 Product functions

2.9. User Characteristics

2.9.1. Admin

Admin will have all the details from restaurant to delivery agent, to order, and to payment. Admin will be able to check all the profiles that have been registered from the product and all the kitchen details like order and everything then it will have the details of in-house guests, aur end-users' delivery agents and who will be using the product. It has the menus of different restaurants too.

2.9.2. Kitchen

In this section, they will have the detail about order that is order ID table number item name quantity and duration etc.

2.9.3. Restaurant Counter

Restaurant counter will have to login or sign up then a dashboard will open. He can go to fetch the details about orders, PG order list, reports, users and so on. Your user refers to the the role they are playing i.e., chef or billing counter or waiter or delivery agent. **2.9.4. In-Home Guests**

They can login or sign up to the product and a dashboard will appear, they can set their profile, they can select the item from the menu and how they want to pay the order are given the payment gateways and in cash.

2.9.2. End Users

End users mean who wants to get home delivery. They will also have the same feature like in home guests but that will be the additional feature to track the order.

2.9.3. Delivery Agent

In this, those agents can login or sign up and we'll get a dashboard where they can add their profile. They will get the information about the order they have to deliver, and they can go for the customer support.

2.10. Constraints

- Using this system is simple and intuitive. A user familiar with basic browser navigation skills should be able to understand all functionality provided by the system.
- The system should work on most home desktop and laptop computers which support JavaScript and HTML5
- The system will be intended to run on Firefox 4 and above, Google Chrome 10 and above and Internet Explorer 8 and above.
- The system is limited by its operating server in terms of the maximum number of users it can support at a given time.

3. SPECIFIC REQUIREMENTS

And extend the use of the intelligent systems to areas where they were so far neglected due to their insistence on comprehensible models. A separation of the machine learning model selection from model explanation is another significant benefit for expert and intelligent systems. Explanations unconnected to a particular prediction model positively influence acceptance of new and complex models in the business environment through their easy assessment and switching. A complexity of business dynamics often forces decision-makers to make decisions based on subjective mental models, reflecting their experience. However, research has shown that companies perform better when they apply data-driven decision-making. This creates an incentive to introduce intelligent, data-based decision models, which are comprehensive and support the interactive evaluation of decision options necessary for the business environment, in the terms of business perspective that is for store owners and business stakeholders.

3.1 External interfaces

In the external interface, only we need to provide an input dataset of the store, in which you want to find out the forecasting/analysis/comparison.

3.2 Functions

- The system will provide the details about the menu of the restaurant and users can place the order from it.
- They can order in three different ways: in-house guest, home delivery and post order.
- There is no need to remember the email or password. They just must enter your mobile number and an OTP; they will get in that number. They just must paste it in that.
- They can see which table is reserved so that they can select the other one.
- They can pay the amount because Aakash or any payment gateways
- It will suggest the dishes which have good reviews so that it will be easier for the new ones who have no clue which are good, and which are not. This information will be helpful for them.

3.3 Performance Requirements

The performance of environmental control will be consistently relative to the network speed accessible, and the throughput will be at extreme if the network speed will be at megabits/second.

For encountering better performance of the system, we need to have a good internet facility and uninterrupted resource for getting to the application. This real-world business-to-business sales data set utilized is globally available. Interactive what-if analysis for the evaluation of decision options.

3.4 Logical Database Requirements

Database will be used to store the details about users, orders, menus. The data will be fetched from the login/ signup form, and the order placed by them, when user makes their profile, that data will be also stored in that database.

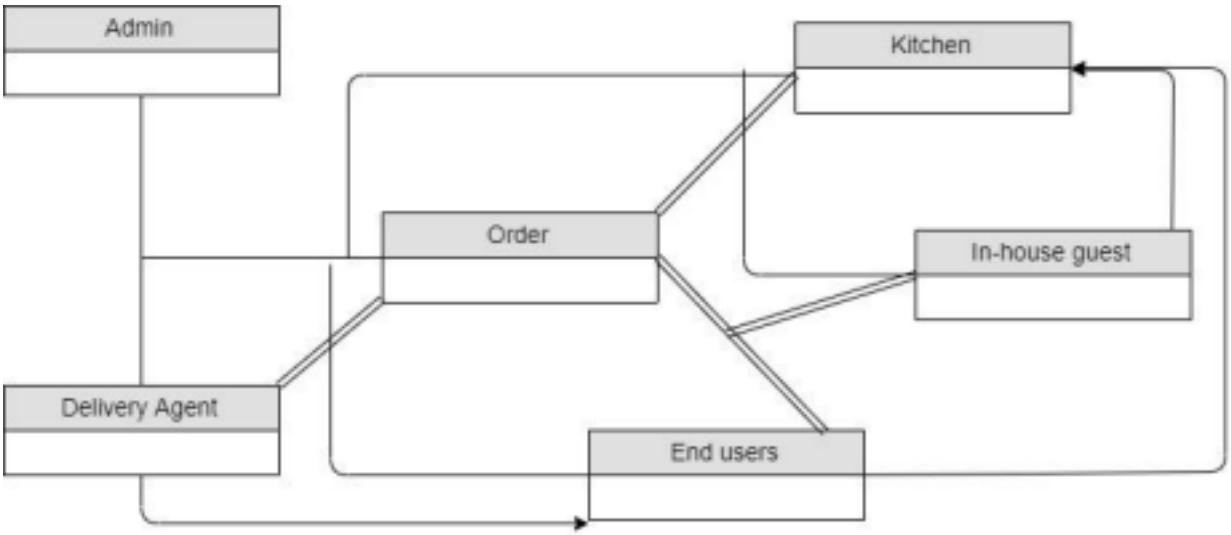

Fig. 3.4 Logical Database

3.5 Design Constraints

3.5.1 Standards Compliance

- System should have enough memory and processor.
- All the devices and systems should be very reliable.
- All the tools should be compatible with the embedded system on the device.

3.6 Software System Attributes

3.6.1 Reliability

This application can be useful for all the types of stakeholders who just want to know the functionality or those who are into the domain, in both case this will work; we are also addressing all the types of stakeholders through this application; this provision is done by user friendly interface; by implementing different login authentication methods.\

3.6.2 Availability

The framework has a high pace of acceptance whether there is a power source and a steady internet connection, all that will work without a hitch

3.6.3 Security

The application will also be secured with authentication. As for everyone, its compulsory to login, so due to this authentication process, it is secure.

3.6.4 Maintainability

Best performance and precision and so the initial establishment cost will be high. But the maintenance cost will be less once setup, afterwards maintenance cost is less.

3.6.5 Portability

The project can be effortlessly executed in any kind of operating system as long as the system requirements are met. The application can be gotten to from portable or tablet additionally; can without much of a stretch be set up and the tasks can undoubtedly be carried out.

3.7 Organizing the Specific Requirements

3.7.1 System Mode

The systems provide different kinds of users, therefore the system behaves differently depending upon the different users and it provides different interfaces for them, by considering all these points, interfaces and performances are dependent on mode of users.

3.7.2 User Class

The systems provide different sets of functions to different classes of users. There are six different classes of users. The first class will be the admin one, it will have the details about everything from profile to order. The next will be the kitchen class which will have the details about order, and it will tell the duration recommended by the customer, next class will be the counter class which will have the details about order with the the amount and user details. The other class will be in house guests, who will come to the restaurant and place the order. The next one will be the end users who are placing orders for home delivery. Next will be the delivery agent which will have the details about the order for home delivery.

3.7.3 Objects

The proposed system interacts with different users, as we mentioned in the previous, therefore the different users are considered here as different objects, each stakeholder can be categorized into the different object as the example of that, consider the scenario where the restaurant owner as the user / stakeholder therefore the restaurant owner will be the one object, this is how we objects are considered in this project

3.7.4 Features

Fig. 3.7.4 Features of Product

- **In-app ordering**

  You can place orders through the app as it is having the menu of the registered restaurants.

- **Table reservation**

  As it has a way of ordering that is post order, they can place the order and are able to select the table and based on their given duration their table will be reserved.

- **Online menu**

  It has a menu option so they can select the menu item from that and place the

order.

- **Home delivery**

  Through this application you can place an order for home delivery 2 tu an based on your details, it will show the calculated amount of time to complete and deliver your order at your doorstep.

- **Multiple payment modes**

  Customers can pay the amount in multiple modes of payment such as in-cash or UPI etc.

- **Push notifications**

  They will get notified for review, or offer, or completion of order.

- **Loyalty program**

  It's a fully trustable product as it is not asking any details about you till you are choosing home delivery. Even in home delivery, the data is fully safe on the database.

- **Referral schemes**

  They can refer to our product and will get some referral points which can be used in future order.

- **Real time order tracking**

  Customers can track their order from this and will get to know about the time to get his/her order at his/her doorstep.

- **Customer reviews**

  Customers can give the reviews based on their many experiences of that restaurant and our app.

- **Chatbot support**

  Customers can use customer support for any queries or any issue they are getting while using the product.