



An Innovative Approach for Online Food Order Management System

By Anjali Baranwal, Anshika Srivastava & Bindu Rani

Abstract- Restaurants are one of the favorite premises. An online food ordering is a integrated process in fast food Restaurants to offer choice of food from menu, cooked and served or packaged hot to satisfy customer to immediately make orders on their ownelves. Customers can also call the restaurant to pack in advance or to deliver the food item but sometimes restaurants run out of certain items. The existing system lacks the feature to use Remote GPS tracker such that restaurant managers are auto updated about the location of the customer before reaching the restaurant. We propose a complete system to easily manage online menu where items update as per the availability of food and prices. The Customer views the products, register and place the order. The system administrator adds and manages user accounts and the Manager manages product and orders. The Kitchen meal deliverable deals with pending deliveries .The proposed system is developed using Android platform which is open source software and built in data connection modules. It also decreases labour rates to replace mobile phones to book order and table unlike employees who come to take order and payments. In advent of food consumption problems like obesity, overeating etc., he proposed system will show food items with nutrition based searches showing ingredients of the food items.

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An Innovative Approach for Online Food Order Management System

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Abstract Restaurants are one of the favorite premises. An online food ordering is a integrated process in fast food Restaurants to offer choice of food from menu, cooked and served or packaged hot to satisfy customer to immediately make orders on their own selves. Customers can also call the restaurant to pack in advance or to deliver the food item but sometimes restaurants run out of certain items. The existing system lacks the feature to use Remote GPS tracker such that restaurant managers are auto updated about the location of the customer before reaching the restaurant. We propose a complete system to easily manage online menu where items update as per the availability of food and prices. The Customer views the products, register and place the order. The system administrator adds and manages user accounts and the Manager manages product and orders. The Kitchen meal deliverable deals with pending deliveries .The proposed system is developed using Android platform which is open source software and built in data connection modules. It also decreases labour rates to replace mobile phones to book order and table unlike employees who come to take order and payments .In advent of food consumption problems like obesity, overeating etc. ,he proposed system will show food items with nutrition based searches showing ingredients of the food items.

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I. INTRODUCTION

In the proposed system both the owner and he customer will find it easier to eliminate manual operations like ordering food and providing bill. There is also chance of minor errors and it also takes time. It aims to implement online orders helping customers to wirelessly order food using E-menu sending I straight to the cook-room. The server fetches the order and compile the data based category. Starters and main course orders are usually taken together. Drinks and desert orders may be taken separately. Kitchen staff sees the dish orders on their screen. There is a status shown at the client table which updates customer the time when the cook in the kitchen gets the order, starts preparing food till food served at the customers table [1].

The categories of users include Customers to order food and pay in return, Chef who gets the placed order and cooks the ordered food and if cook has not

started cooking means action to cancel the order may be taken by the manager. Another category include Admin who adds, cancels, alters the order placed by the customer, manages the staff also .Staff include waiters and helpers who help in restaurant management.

The objectives include reducing the paper work.It automates the whole process including transactions and customer management.Also faster retrieval of records with less overhaed to manage user friendly and flexible records in files and papers. The general objective include to stand out from others in food industry. Specifically providing customized menu, Status check if the order was placed correctly Reduction in food wastage, more accurate system with faster servicing, more customers and huge profits. Also Restaurants know what food items the customers want in advance, eliminate long queues shortened purchase time and more secured order placement process. It also eliminates the difficulty in tracking past history as all bookings at a user account get saved easily. Also the feedbacks are recorded from each user account to get deliver better services. There is no need for restaurants to answer calls to take the orders. Customers can easily scroll menus, add more orders to order list.

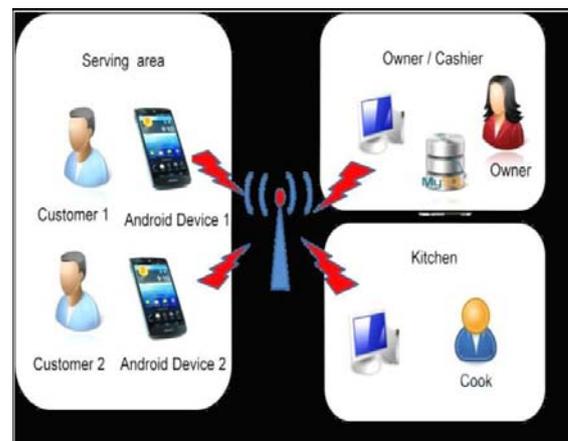


Fig. 1: Working of android devices and wireless order track

The different modules in this proposed system are as follows:

1) Module -1 (USER Tablet)

Category of customer-Normar day to day customers. Firstly customer will do an online registration and based on account login all details are stored in

Author ^{α σ ρ}: IT Department, IPEC (A.K.T.U.).
e-mails: anjalibaranwal9@gmail.com,
srivastavaanshika1496@gmail.com, bindu.rani@ipec.org.in

central database of the customer where he/she can place in orders, give necessary feedbacks, pay money.

2) Module-2(Manager's Tablet)

This screen is generally for the use of manager of restaurant. The manager will be able to control the whole activity of the restaurant from a single screen/desktop. He should be able to make any changes to the menu using the Tablet /Laptop. Manager can also make modification in price of food item concerning its demand and market.

3) Module-3(SMS Integration)

At the time of registration customer has to enter their Phone number and other detail which will be stored in the restaurant database. So that when any new offer or extra credit information can be sent to the customer through the sms to attract them towards the restaurant.

4) Module-4(Menu Recommendation)

When customer selecting food item on the basis of their previous food order other food item are recommended which customer can also select for the order.

5) Module-5(Customer Feedback)

This module provides the customer to give their feedback regarding our food and services and what makes customer more happier with the restaurant.

6) Module-6(Report Generation)

System will generate complete report on weekly and yearly basis.

This application consists of three different applications. Through this proposed application, customer can search. For restaurants looking for a suitable meal, rating, other previous customers' choice, price, quality and quantity of food. After clicking a restaurant, customer views a digitized menu and thus selects items by using check boxes. Once the order confirms, customer proceeds to pay. Customers can also book their tables in advance before they reach. Using an animated 3D-view, customer views the sitting arrangement of tables in a restaurant[2].

The second application is useful for the kitchen cooking chef units of restaurants. The kitchen staff can view placed details of current orders, cancelled orders and table numbers which are waiting. After a customer goes for payment to a particular restaurant, all the information is fetched by the central working database. Kitchen staff receive the necessary information which they require. Using these details, kitchen staff easily can proceed to their work.

The third application is useful for the managers at restaurants where they are sent notifications when a customer selects item, orders and makes payment to the restaurant. Further, manager can update sitting arrangement of tables in the restaurant, if there comes a change. Managers may also easily update the menu,

if there have been any update or add in the ordered meal, prices or quantity.

a) Registration

Customers are aided with the facility to easily register themselves upon which the customer gets his own profile/account, with which the customer can look back his previous transactions, and also give feedbacks in the form of stars or rating, and also personalize their accounts by adding diet control charts.

b) Suggestion

We made useful recommended user friendly algorithm that suggests matching dishes based on previous orders, diet controls. It is easier for the customer to get order and view more liked dishes and/or offers that other customers prefer in the restaurant. Moreover, various dimensional filters according to taste and preferences like price, taste, diet habits, quantity, etc. are added to suit the taste of customers.

c) Related Work

In today's scenario restaurant system is paper based. Menu cards in the restaurants are paper based and waiters use to write orders on the paper. There is always a chance for paper based record is to get damaged or lost due to fire or any accidents. This all includes wastage of time, money and paper. Small changes in menu require reprinting of all menu cards. Customer needs to wait till attendant comes to take the order, also customer calls the attendant a number of times or might be possible that customer is served undesired food item due to misinterpretation by the waiter.

II. LITERATURE REVIEW

a) Previous Food Ordering Process

i. Full Servicing Restaurant

Previously food ordering process used in most full-service restaurants where a waiter brought the menu to the customer, and customer see through the menu and order their selected food items. The whole process requires that customers come to their restaurant and then assist the restaurant waiters to bring the food. And the complete food ordering system is a paper based system where customers go through the paper based menu and give the which is noted by attendant on the paper. But the paper based system doesn't provide any dynamicity to the ordering system, time consuming process and require enough amount of human effort.

ii. Self Servicing Restaurant

In this process customer has to go to the counter and give the order of food item by seeing the paper based menu or graphical posters. For this

process customer has to decide earlier before going to the cash counter.

iii. *Automated food Ordering System*

Development of multitouch technology made possible to run food ordering application.

iv. *Multitouch Technology*

Multi-Touch technology works with TrackPad (or TouchPads) and touch-screen interfaces, like those found on laptops, smartphones and tablets. It allows users to interact with their devices in a multitude of ways, by expanding the number of interface options. Rather than simply swipe and tap, Multi-Touch allows for zooming, Automatic system reduces the service cost and provide dynamicity to make changes which enhances the customer experience. The automatic system used to search the restaurant book the table or order the food through the electronic touch screen devices like phones, tablets or laptops which present you the booking option and menus. First customer can book the table or choose the home delivery and select the food item to order and make payment. The Touch screen device present the menu and the customer gives the input of food items. Then the technical team passes this ordered item detail to the kitchen through the waiter. A customer who ordered for home delivery can track the delivery option. And if customer booked the table on his arrival within a certain time limit their food to be served. Also Finance department can manage the sell and purchase through the application.

With the improvement in computer technology and advancement in devices like scrolling, selecting, and more. It is designed to provide touch-screen interfaces with the same sort of flexibility and usability that a traditional mouse and keyboard provide, while also providing for a more intuitive and seamless user experience.

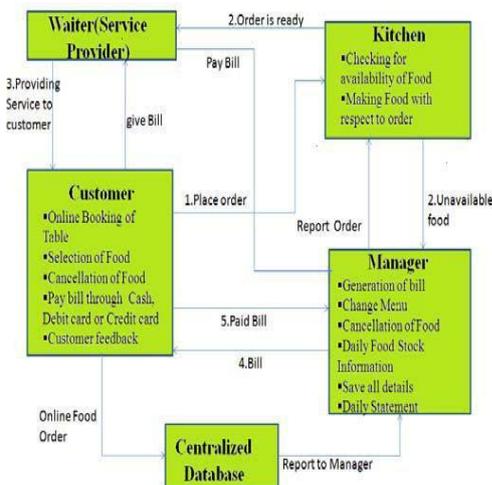


Fig. 2: System flow diagram

III. *SYSTEM ARCHITECTURE*

The architecture consists of the three main parts of restaurants which is Server, Kitchen, and Cashier counter. Catering orders from customers online to the Kitchen staff to prepare that particular order in minimum time. Keeping track of the orders placed and fetched information into the server application. Order updates, cancellations, add ons are detailed at a central database. The above tiers of the system are connected via wireless technology. Food Android application finds out the location based on latitudes and longitudes.

IV. *SYSTEM MODULES AND SYSTEM DESIGN*

Owners to manage the application will log in to the system ,update the details of the food like GST rate hikes ,better surplus, free discounts .Generally Festive season brings out a wide variety of catering add on such as to invite more customers and more huge profits. Different categories of food and different interests of customer find a better choice to get huge customer. Customer selects a list of items in order, and can easily add one or more items in no time ,can easily cancel items which is not required and find a good choice. The customer can click to view the order status and can easily cancel the order. Customer feedback are stored to provide the customer with the best services.

V. *SYSTEM SPECIFICATION*

a) *Table Booking*

It will allow customers to book table of his/her choice in advance by browsing the animated view of the restaurant accordingly.

b) *Customer Feedback*

Customer owner can easily analyse the changes if needed and can check on the quality of service.

c) *Click-and-Add Menu*

Customer can browse for a food item according to name, nutritional value, price, category etc. He/She will click on the food item to add it to the menu item.

d) *Offers for Customer*

Seasonal discounts, Free surplus food items are displayed to the customer will ordering to help in getting food at a reasonable cost.

e) *Attractive Profile*

The images of food items to make good and clear view of food to the customer about the food which is to be ordered.

f) *Time to Serve*

The manager easily calculates the time the customer will take to reach in a way provides ease to the customer to get food served as soon as possible.

g) *Find Friends*

Customer can easily search nearby friends in order to encourage more customers to the particular restaurants.

h) *Diet Count*

The Diet count, nutritional count, calorie intake, sugar intake is recorded in the customer account. It allows alert notification to the health conscious customers at their login account to take care of customer health.

Operating-Environment

Android based Operating system is an open source operating platform with programmers aiming to make it more better. Thus, Android is one of the fastest growing technology in the market with Android phones in every customers pocket making Android more secured. It brings more refined interface designs to suit in the interaction with the customers . Apple charges people who want to develop applications for the App store \$100/year, while Google only charges Android developers \$25. So android prevails.

VI. SCOPE AND LIMITATION OF PROJECT

Restaurant Food Ordering and Billing System is an integration of different operations: ordering, pricing and billing systems. Customer input orders directly into the computer system, which communicates the customer's order directly to the Kitchen. The fixed terminal number identifies which customer ordered items and Staffs print bill of the food order. Additional orders may have to be cancelled by the kitchen only if the bill hasn't been Printed. The other limitations include the user must be Computer Literate. There should be LAN/WIFI.

VII. FUTURE ENHANCEMENT

Anything cannot be ended with a single step. It is the fact that nothing is permanent in this world. So the utility requires to have some future enhancement's in the evergreen and booming in the IT industry. Change is inevitable. The project entitled "Online Food Ordering System" is successfully designed developed and tested. The system and the architecture should a compatible one.

VIII. CONCLUSION

Thus, we propose an automated food ordering system with features of feedback and wireless communication. This system is convenient, effective and easy thereby improving the performance of restaurant's staff. It will also provide quality of service and customer satisfaction. Thus, the proposed system would attract customers and also adds to the efficiency of maintaining the restaurant's ordering and billing section.

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