Location Based Restaurant Seat Booking Application For Android Phones: An overview

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Abstract- In today's scenario, mobile computing has given user the advantage to access all the information on a particular device. The number of people using mobile internet to get information and services from anywhere and everywhere has increased. Today people are always moving with mobile devices like laptops, cell phones, tablets etc. Location based Services help the mobile users to retrieve the information about their current location. Same information is then used to get more useful information near to their location.

The conventional restaurant service is normally passive: Waiters must intermingle with clients directly before processing their requests. However, a high-quality service system should be client focused; it should quickly perceive client personalities, favorite menus, and use records to give client driven administrations. Location based Restaurant recommender is a mobile app that could be used to find near-by restaurants. Likewise, it gives the data about accessibility of the seats and menu records to the clients. The reason for this application is to settle tedious waiting at the restaurants. The app will display information about different restaurants nearby or distant. The app will track user's current location using GPS and will provide you the list of near-by restaurants with their distance from current location, menu lists and options for current booking, advanced booking and parcels. And then users will get the notification on their phone or tablet after successful booking. Another striking feature will be providing alternative if the seats are not available in the current restaurant. Separate login for owners and managers are also provided to keep track of various restaurant profiles and manage orders. This framework helpful for service providers increment their client co-operations and give quick and attentive services.

Index Terms- Intelligent e-restaurant, Menu recommender, Mobile computing, Location based Services, GPS.

1. INTRODUCTION

RESTAURANT service such as reserving seats, handling requests, and delivering meals generally requires waiters to input customer information and afterwards transmit requests to the kitchen for menu planning. At the point when the client pays the bill, the sum due is figured by the clerk. Despite the fact that this technique is straightforward, it might altogether build the server's workload and even cause mistakes in menu requesting or in organizing clients, particularly when the quantity of clients abruptly increments during occupied hours, which can truly corrupt general administration quality. Therefore, using advanced Technologies to improve service quality have pulled in much consideration in recent years.

The advancement in information and communication technology (ITC) extraordinarily impacted the business exchanges. The implementation of wireless technology & emergence of mobile devices has led to automation in the hospitality industry. Business in hospitality industry such as restaurants can be enhanced with the mix of remote and portable innovations. The opposition in restaurant business has expanded with the headways in food ordering techniques. The earlier food ordering system was completely a manual procedure which included waiters, pen and paper. The waiter expected to note down requests from clients, take these requests to kitchen, redesign them in records and again make charge .Regardless of the way that this system is essential it may incorporate human slip-ups in observing down the requests.

2. LITERATURE SURVEY

In this paper[1, 9] , Tanpure Shweta S. And Patel Krishna M. Et al., proposed an Automated Food Ordering System with Real-Time Customer Feedback. This research work aims at automation of the food ordering process in restaurant and also improve the dining experience of customers The framework is about the plan and usage of automated food ordering system with real time customer feedback(AOS-RTF) for restaurants. The disadvantages in prior PDA based food ordering system are effectively wiped out in this framework. Proposed framework likewise is not so much costly but rather more viable than the multi-touchable restaurant management systems.

In this paper [2] , S. R. Patil Et al, proposed an E-Converse an Affordable Touch Screen Solution to Intrigue Dining Experience. In this paper the restrictions of the existing technologies are highlighted and the system called E-CONVERSE is proposed. The focus of E-CONVERSE is on low cost touch-screen development for enhancing the dining

experience. The discussion on plan and execution of a minimal effort, adjustable touch screen are likewise part of the overview. All the restaurant operations in proposed framework were computerized and overseen efficiently. Basic testing applied reveals that proposed system has potential for practical implementation and can overcome several drawbacks of existing system. All the restaurant operations in proposed system were digital and managed systematically.

In paper [3] Vinayak Bharadi Et al. proposed an approach for, intelligent e-Restaurant using Android OS. The proposed system aims at providing the restaurants with a tablet menu that would recommend dishes based on a recommendation algorithm. Proposed framework utilizes a cloud-based server for storing the database which makes it economical and secure. This system can help in providing better recommendations and user experience to the patrons.

In paper [4] Mayur D. Jakhete and Piyush C. Mankar proposed Implementation of Smart Restaurant with e-menu Card. A portion of the restrictions of the traditional frameworks and PDA-based food ordering system are highlights of this paper. They have proposed the cost-accommodating touch screen based Restaurant Management System utilizing an android Smartphone or tablet as a solution. The disadvantages in prior ordering systems are wiped out and are additionally less costly as it requires a one-time venture for devices. Smart restaurant system is developed in order to provide easy interaction between customers through wireless technology.

In paper [5] V. Swapna, M. Firdouse Ali Khan proposed an approach where Design and Implementation of Ordering System for Restaurants is discussed. The proposed approach is about designing a self-service ordering node including its software and hardware. The framework encourages touch screen shows food items for clients to include their requests straightforwardly by touching. Speech recognition module is an exceptional element of proposed framework where client can likewise ask for the request through speech commands. This framework can real-time get, store, break down, show and investigate information for every client. The adaptability and transportability of the framework have extremely wide application prospects.

In paper [6], Prof. Tan-Hsu Tan, Ching-Su Chang, and Yung-Fu Chen proposed Intelligent e-restaurant improving the way of business of the hospitality industry and administrations by combining development in today's restaurant computerized multi touch menu cards and different structures are supplanting antiquated services by fusing innovation. In today's restaurant computerized multi touch menu cards and different structures are supplanting antiquated administrations like waiters taking request from clients and serving them. This remote application is easy to

understand enhances precision and effectiveness for restaurants by sparing time gives client input and lessens human errors. This framework is less costly as it requires a one time venture for devices.

Restaurant with a Menu Recommender for client driven administration. This research aims at implementing E-restaurant system with RFID Tags. However, goal of this E-restaurant system is a customer centered, high-quality service system; immediate reorganization of customer identities, favorite menus, and centric services provided with expenditure records of the customer. This review incorporates database advances radio frequency identification RFID a menu recommender for building up an intelligent e-restaurant and remote local area network. The framework empowers waiters for prompt identification of clients by means of RFID-based participation cards and prescribes the most suitable menus through menu recommender for clients. The survey results have proved the effectiveness of the proposed system in providing customer-centric service, by facilitating the developments of RFID-related industry, and raised overall global competitiveness.

In paper [7], S.Firoz Et al. proposed Menu Recommender to Enhance Customer Service and Improve Restaurant. The purpose of this menu recommender is to enable service staff to immediately identify favorite menus, customer's status, consumption record, and preference by smart card and utilization of the built-in menu recommender by offering optimal menu choices to the customer and facility of paying the bills. The study aims at integrating smart card, database technologies, Zigbee, technology acceptance model (TAM), and a menu recommender for the development of an intelligent e-restaurant. For new customers Based on menu materials or meal popularity service staff can provide and to store the customer's preference in the system. This system useful for the increase in customer interactions between service providers thereby providing fast and thoughtful services.

In paper [8], Prof V. B. Dhore, Surabhi Thakar, Prajakta Kulkarni, Rasika Thorat proposed Digital Table Booking and Food Ordering System Using Android Application. This research work aims at designing and implementation of a remote food ordering system. Through such framework one can arrange sustenance before going to an restaurant book table and furthermore make installment a recommendation engine is used that prescribes menu to a client while setting request and a pressure calculation packs the measure of pictures utilized all through the application is unique feature of the system. Implementing this framework gives a cost effective chance to give clients a customized service understanding from eating to requesting to installment.

In this paper [10], Aniket Sahani Et al. proposed Online Hotel Parcel and Payment System Using GPS and Android. This system aims to provide a location based food ordering and parcel system which will help user to place order from its location and save his/her time by making him the facility of

paying his incurred amount online. Application also supports feedback and reviews which will be helpful to restaurants to improve their food and services quality.

In this paper [11], Satyam Goel Et al. proposed Advanced Ordering System for Restaurant. This research work aims at improving the quality of business of the hospitality industry and services by incorporating technology. In today's restaurant advanced multi touch menu cards and different structures are supplanting out-dated administrations like waiters taking request from clients and serving them. This remote application is easy to use enhances precision and productivity for restaurants by sparing time gives client criticism and diminishes human errors. This system is less expensive as it requires a one-time investment for gadgets.
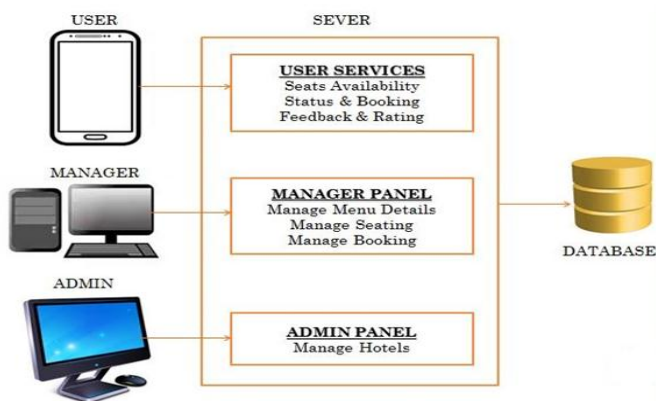
3. PROPOSED ARCHITECTURE

Fig. 1. Framework of Restaurant Seat Booking System

Fig. 1 shows a framework overview of the proposed restaurant seat booking application. This framework gives online menu requesting and reservation making capacities and a menu suggestion benefit. The proposed restaurant seat booking application enables to immediately identify customers via GPS-based location and then actively recommend the most appropriate menus for customers according to their consumption records. For new clients the administration staff gives proposals in light of feast ubiquity and afterward makes clients' inclinations to store in the back end database; to infer items preferred by customers or items close to those preferred items based on customers' preference data stored in the system.

This system, therefore, helps service providers increase their customer interactions and provides fast and thoughtful services. In this system, customer can visit various restaurants online, they can check menus, availability of seats; they can place orders, make reservation using a mobile app and then wirelessly sends the order to the restaurant. The Manager will receive notification of the order or reservation. The manager will then have duty to

manage all the orders and reservation. The managers will have access for editing menus in case if it has been changed. The restaurant owner can manage the information of the various restaurants visible to the customers. The restaurant owner has privileges to add and remove managers. The restaurant owner also uses the system to view statistics of sales records, reservations, staff information, and other information. Once the customer has finished the meal, the services for payments are available in mobile app.

4. CONCLUSION

This review built a smart e restaurant framework utilizing android, WLAN, database advancements and a menu recommender to offer client driven administration to enhance customer service quality and improve restaurant industry competitiveness. The proposed restaurant seat booking application enables to immediately identify customers via GPS-based location and then actively recommend the most appropriate menus for customers. The proposed system enhances dining table service by enabling waiters to access customer information and make orders using the mobile app and desktop application. The App-based service enables customer orders to be instantly transmitted via mobiles from anywhere. Consumption data can likewise be sent to the clerk for bill preprocessing. Restaurant managers can access the database to evaluate business status anytime and make appropriate redeployments for food materials. All requesting and use data is digitized for database storage which permits restaurant owners to consider discounts or customer promotions based on expenditure statistics. Customers can thus appreciate high quality service, which in turn highly promotes enterprise image and increases business revenue for the restaurant.

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