Online Table and Menu Booking System for Restaurants

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Abstract — **The project is based on an Android Application that can be used by customer to book the desired table and menu of their choice from a restaurant as per their convenience. Previously table reservation was manual which is ending up progressively in well-known restaurants but now a days people are getting into digital era of reservation of restaurants, and suppliers are considering to choose a digital system of booking. In manual system, everything depends upon waiter & booking diary and there is no automated system for keeping the records. The general objective is to build a reservation system for table and menu to assist workers with solving basic issues with their manual reservation system. For example, utilization of time and cash. Today's generation encourages high tech services especially over the Internet. Hence the project is developed proficiently to help restaurant owners automate their business operations. In proposed reservation system, we provide facility to the customers to reserve table or menu or both according to their convenience. On booking menu the customer has to pay 50 percent amount in advance. The customer can cancel the booking if failed to arrive on time and hence book the table in the next possible time slot provided that the booking is cancelled before 30mins of the selected timeslot else the advance paid will not be refunded.**

Keywords—Android Application, Table Booking, Menu Booking

I. INTRODUCTION

This application is a convenient self-service table & menu booking system. With this system the booking process can be customized, manage restaurant availability & reservations. The admin-portal is being managed by the owner to check the booking and make the availability for the customer. The services provided are menu & table booking managed by the customer through the system. Main objective is to provide ordering and reservation service to the customer. The built-in reservation management system allows admins to add, edit and delete reservations, manage client data and availability.

The major goal of this task is to enable the owner of a restaurant to deal directly with the clients. In addition, it can place client's requests to discover free tables as indicated by their own need of particular required number of seats in his choice area. This idea is discovered by keeping in mind the fact that people consider it a pain to go to the restaurant because of sheer amount of time required to find a desired one. Also it's difficult to get a booking and equally time consuming to browse through the table menu and order the dishes. Managers have to analyze hundreds of paper receipts therefore this application may help the managers in a digital way by keeping track of the bookings through the admin portal provided.

The customer has to become a member first then he can access the later part of the application for which first of all registration is a compulsion. The customer can check availability of seats at a particular timing and book a seat if available. The customer is also given with the facility to view the booking details and can cancel the booking if required. In case of any confusion regarding location the customer can access the location map of the respective restaurants provided within the application and can also clear the queries via mail or contact details provided.

II. EXISTING SYSTEM

In manual system, everything depends upon waiter and diary also there is no automated system for keeping the records in the restaurant [1]. The menu which is accessible on the restaurant is paper based. The request taken by the waiter as well as the bill is paper based. Hence we realized that this paper based system is easily vulnerable to get harmed because of several reasons and it leads to different problem i.e. waiters couldn't have arranged records of clients. Moreover it results in wastage of time and paper and if there is a need of little changes in the menu then supervisor need to print the entire menu cards again. It is not conceivable to print the entire menu over and over because of little changes [2]. For each little request we need to call the waiter for a number of times and it may result in some misconception from waiter side. So we found it a necessity to roll out some improvements in the current system to wipe out the above issues.

A. Disadvantages of Existing System

- It was totally paper based.
- Wastage of time, cash and paper.

III. LITERATURE SURVEY

In the past few years, it is experienced that customers are desirous to find a handy application for reservation of tables and menu or any other services to avoid physical walking to the hotel or contacting by call or reserving through a middle man [1]. Therefore it is aimed to develop an application for table reservation and online menu booking. The growth of mobile and wireless technology is making a large impact on our lives in the present condition as compared previously. Nowadays people are looking for an application that

satisfies their needs even more precisely. Even the restaurant industries are looking for any mobile application that enhances the dining experience as well as increases the profit which in turn is not only an advantage for restaurant industries but also for the customers to choose the restaurant of their desired choice and location. This application will save time, cash and paper by converting the manual reservation system to an automated system.

IV. PROPOSED SYSTEM

In proposed system, we provide facility to the customers to reserve tables for dining and can book the menu in advance. At the same time this online table and menu booking system will help the restaurant owner to manage their services including food. This system will be managed by two main android applications, first one would be available for general customers for viewing and booking of table and menu and the second one would be used by the admin to update and manage the services within the restaurant. The admin-portal is being managed by the owner of the restaurant to check the bookings and make the availability for the customer. This system wake to provide service facility to restaurant and also to the customer [3]. The services that are provided is menu booking and table reservation by the customer through the application. This project serves the best way of maintaining customer's information and cater their needs. It is a convenient self-service table booking system. It can create a customized booking process, let people book a table through their android app, manage restaurant availability and reservations.

A. Requirements Specifications

a) Functional Requirements: The main function of this application is online booking of tables of a restaurant.
- Table Booking: The user can book any table through this application any time and from anywhere.
- Menu Booking: Booking of menu along with the table is the customer's choice that means the customer can only book the table or table with menu.
- Cancel Booking: The user can cancel the booking if the customer is not able to reach during the booked time slot.
- Contact Us: User can contact with hotel admin at any time using this application.

b) Non-Functional Requirements: A non-functional requirement defines the quality of a software system. A non-functional requirement is essential to ensure the usability and effectiveness of the entire system [4]. In order to assess the performance of a system the following must be clearly specified:
- Usability: It shows the ability of a software to perform tasks. The system is designed with effective and user-friendly UI.
- Reliability: It specifies how much the system is reliable for long time without any problem.

- Performance: It is the systems response time towards any task.
- Supportability: It is the ability to install, configure and monitor the software.
- Scalability: It is about the capability of the system to run with same efficiency in 2secs for 100 users or 2secs for 200 users.
- Maintainability: It is about the quality of the code to be understandable by someone else instead of the application maker.
- Security: It is one of the most important step in which we ensure the security of the system. The application is developed with security at each instance.

c) Hardware Requirements:

- Processor: Minimum 2 GHz
- Hard Drive: Minimum 32 GB, Recommended 64GB or more
- Memory: 8GB or above
- Internet Connection with a speed of 4 Mbps or higher.

d) Software Requirements:

- Android Studio
- Java
- MySQL
- XML

B. Advantages of the Proposed System:

- Rights are reserved at customer's fingertips.
- During the festive seasons, tables get booked in a short span of time, in such cases clients can make advance booking for utilization of time.
- It saves client's time looking out for restaurants. Also it saves business assets and costs.
- It discourages the involvement of a middle man by providing a direct interface of customers to their service providers.
- It avoids to customers to pay heavy commission.

V. METHODOLOGY

A. Sequence Diagram

Figure 1 showing the Sequence Diagram of the system. The user can log into the restaurant and check the availability of the table, as per the user requirements user will select the table and menu then confirm the seat. The confirmation message is sent to the user. A notification will also be send to the restaurant manager about the table booking and customer data [1].
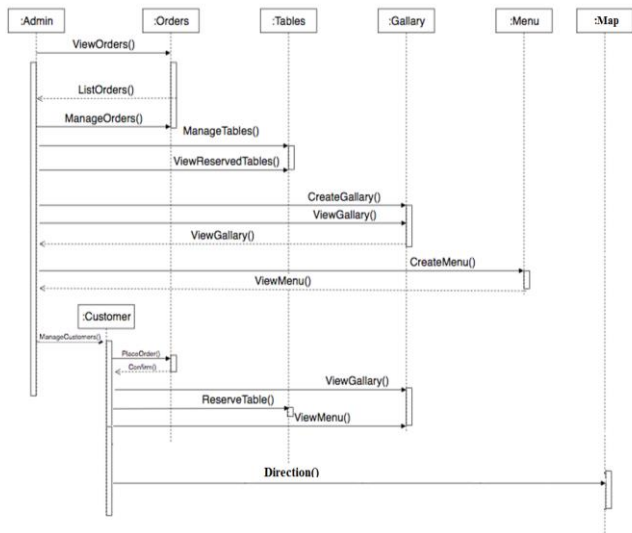
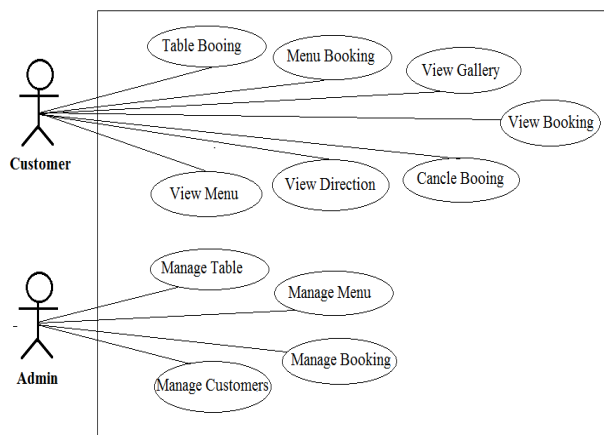Fig. 1. Sequence diagram for overall system

B. Use Case Diagram:

Fig. 2. Functional requirements of overall system

Figure 2 showing the functional requirements of a system. Functional Requirements are the system's core requirements, without this system cannot be completed. Mainly it includes booking of table and menu by the customer [1].

VI. RESULT

The user or customer enters the credentials required to login the application. After which the desired table number according to the customer's convenience is selected. If required the menu is also booked in advance. On booking of menu the customer has to pay 50 percent of the amount and then confirm the booking. The results and output screens are shown in the following figures:
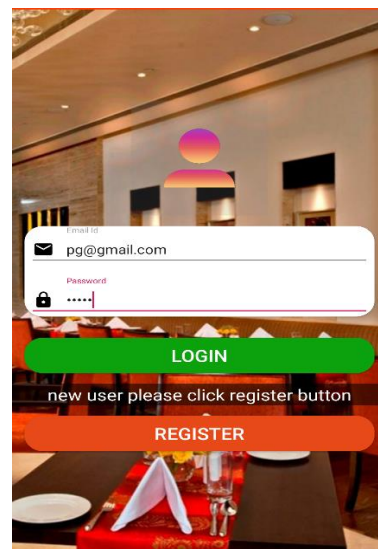
Fig. 6.1. Login Activity
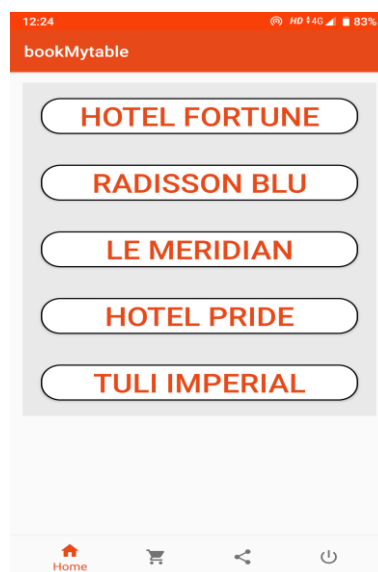
Fig. 6.2. Hotel List Activity
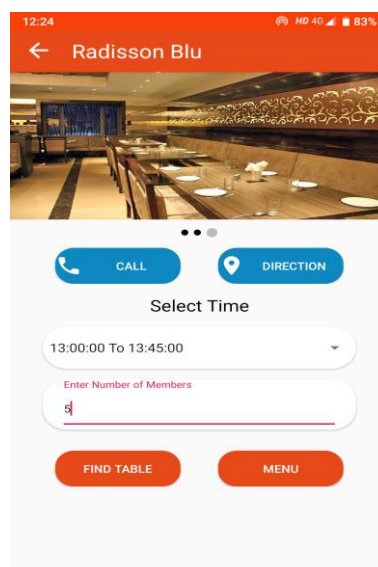
Fig. 6.3. Time Select Activity
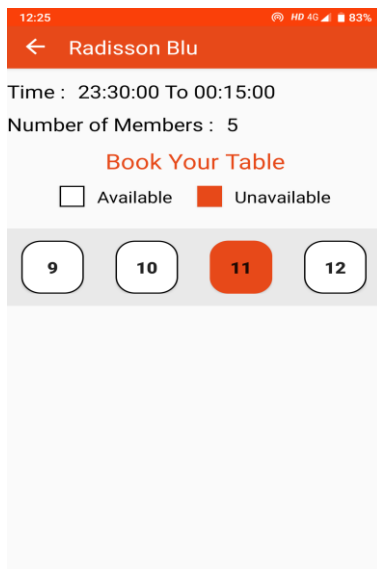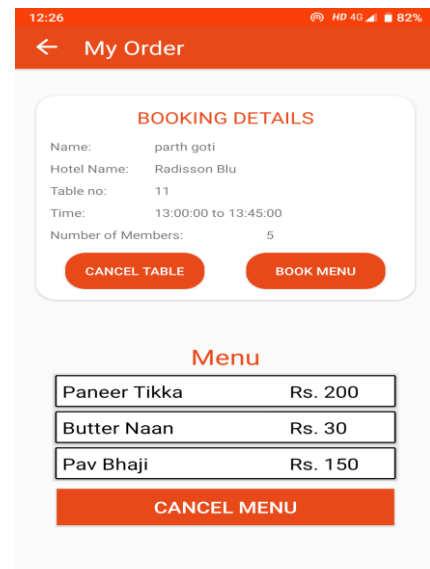
Fig. 6.4. Table Select Activity
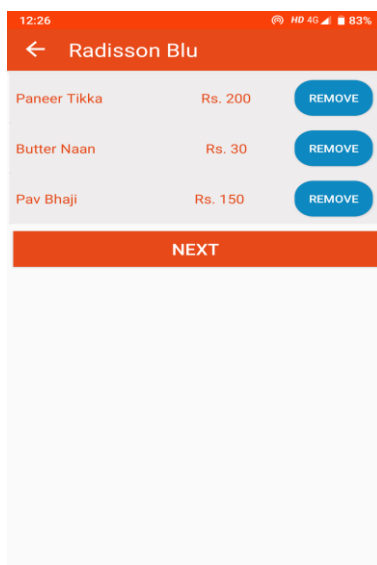
Fig. 6.7. Booking Detail Activity
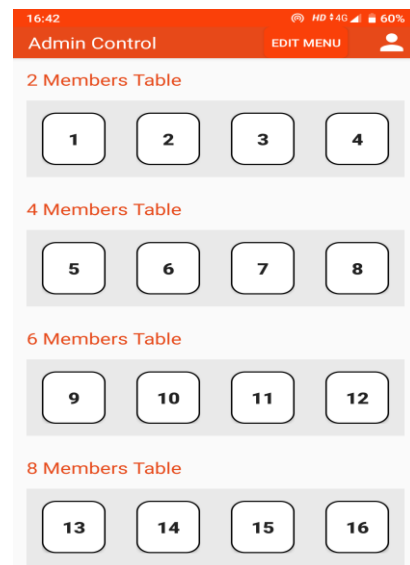
Fig. 6.5. Menu Select Activity

Fig. 6.8. Admin Table Management Activity
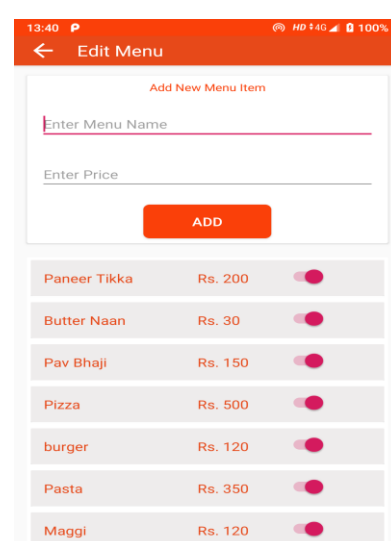
Fig. 6.6. Menu Booking Activity
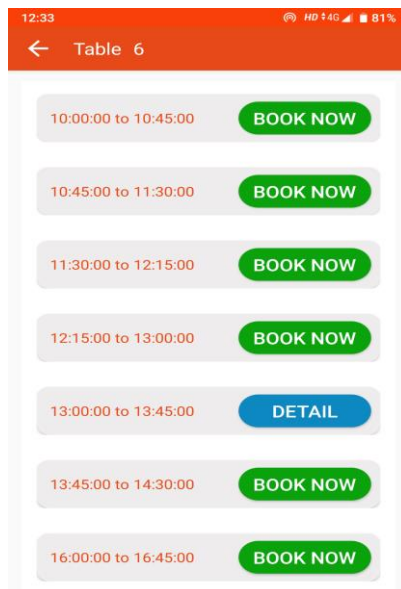
Fig. 6.9. Admin Add/Edit Menu Activity
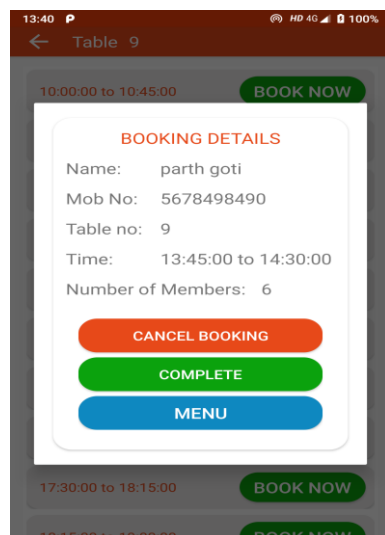
Fig. 6.10. Table Time Detail Activity

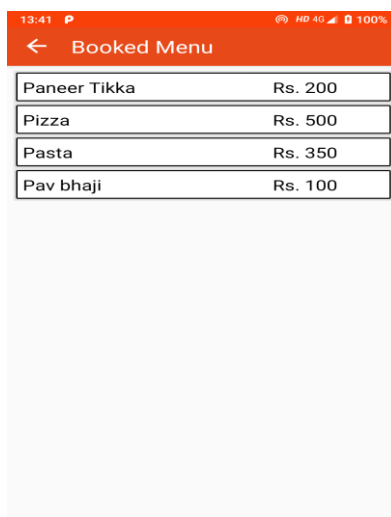Fig. 6.11. Admin Side Booking Detail Activity

Fig. 6.12. Admin Side Booked Menu Detail

VII. CONCLUSION

The project has concluded that if a customer is willing to visit any restaurant and finds no table is available for the meal then the customer has to wait long for the table availability. With the help of this application the customer can choose the desired table according to the location. E.g. Table can be reserved as according to number of members. Moreover, the customer can easily see pictures of interior from the Application. Keeping in view the demand of proposed project that gives a series of services and provides the customer to book a table and menu without waiting for a long time through an android application. This application will get its importance as day by day people are getting into android and fast life.

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