Android Based Hotel Automation for Restaurant
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Abstract:
Now-a-days internet services and networking technology is used widely for integration of heterogeneous systems and for the development of new applications. As we've seen and even have faced many times that if we visit any restaurant, cafeteria, etc. we might have to wait for some time to occupy a vacant table or place orders. Thus, to overcome this sort of problems from our day-to-day life, we have proposed an android application for hotel management systems, additionally we have also proposed a website if the customer wants to use the browser. The website is for the same purpose as that of the application for those users who do not use android platform so that, these users can also take the advantages of this application. Implementation of hotel management system digitally includes Ordering System at the Sub-Administrator side at the restaurant, online bill generation system, Client Relationship Management system (CRM) collectively. Such a hotel management system can be implemented for a number of hotels in a chain as well. This system will not only help in better quality and improved speed of services but also increase the attraction of place for a lot of customers. Implementation of this application will provide the users an efficient way to select the place they want to go to, place their order and the option for payment. This application will be developed with the help of JAVA Android whereas the backend will be working on My-SQL server database whereas HTML, PHP and JavaScript languages are used for the development of website.

Keywords: Client Relationship Management (CRM), Hypertext Markup Language (HTML), Hypertext Preprocessor (PHP), My Structured Query Language (My-SQL).

I. INTRODUCTION
There are a lot of people who like to visit restaurants and hotels. With no particular reason to visit hotels and restaurants, customers place orders and wait for the meal to be served. However, it is seen that the customers complain due to services offered by the place are not up to the mark. There are several reasons for dissatisfaction such as delay in serving of the order. The solution to this difficulty of serving late might be resolved with facility of the advancement with the help of technologies for communication. These days, the restaurants are often improved with the facility of wireless LAN. The competition at places like restaurants has increased due to advanced ordering techniques. With the help of this, the client will be able to place its order with the help of a smartphone/tablet having this android application installed in it. If the customer is not at the restaurant, then the person will be able to select he restaurant, enter the date, day and time of arrival, book the table and place the order with the help of the application itself by a smartphone/tablet or if the person is at the restaurant, the client device will be able to connect directly to the Wi-Fi provided, to overcome the delay that can be caused due to weak internet connectivity and then proceed to place the order through the application. Orders given by the customers will be notified to the Sub-Administrator monitor of the restaurant in real-time which will help to improve efficiency of recording it and reduce the human errors. And the overall system application and the website is handled by an entity known as the Administrator. The Administrator's job is to display the entire restaurants that have registered on the application or on the website.

II. RELATED WORK
In the previous models the standard menu cards at the respective restaurants are paper based mostly. Waiters use paper to write the order of customers. The records are stored on paper like most paper based systems, it is really easy for things to get damaged, or paper being lost due to an accident or simply usually lost. There's wastage of your time, money, and paper. As menu cards in the old times are paper based mostly, any change that is required within the menu card used to result in wastage. The existing system also consists Of a Smartphone/Tablet at the waiter contains the android application with all the menu details. The waiter’s device and the restaurant’s display is connected with each other through Wi-Fi. Orders selected by client are going to be instantly reaching sub-administrator end. This wireless application is that the system consists of a Smartphone/Tablet at the client contains the mechanical man application with all the menu details. The client device connects directly with one another through Wi-Fi. Orders hand-picked by the bearers and are served, improves potency and accuracy for restaurants by saving time as well as reduces human errors.

III. OBJECTIVES
The objectives of proposed work are as follows:
1) To develop an android application and website for searching and selecting from the restaurants, booking tables and placing order in advance. Or, while at the restaurant, placing order via the application itself.
2) Facility to update the order at the time of meal.
3) There will be a separate user interface for the hotel (Sub-Administrator)
4) To generate online bill at the client’s device as well as at the Sub-Administrator side.
5) To control the application and website by an Administrator.
IV. METHODOLOGY

1) ORDERING SECTION

2) Receiver (Sub-Administrator) section

3) Flow chart of the system

V. WORKING

Our primary objective is to extend the potency of the food ordering system and reduce the scale of human errors and provide best services to the customers of the restaurants. The application on the mobile phone should be ready to communicate wirelessly with the opposite devices. Fig. 1 shows the ordering section where the customer’s device will be connected to the Wi-Fi provided in at the place to place order. Fig. 2 shows Sub-Administrator section where the restaurants will be able to receive the requests, that is, the orders of the customers. And Fig. 3 shows flow chart of the working of the system. First, the customer will occupy the table that the person has booked or the tables that are vacant, if the customer has arrived without booking.

- The customer will search and select from the restaurants available.
- The client will book a table; enter date, day, and time of arrival. If the customer arrives at the restaurant without booking, then the person can occupy a vacant table and proceed for ordering.
- The customer sees the menu on the screen of the website or the application.
- The customer inputs the orders into the android device or smartphone/tablet.
- The orders are sent to Sub-Administrator via Wi-Fi.
- The Sub-Administrator section sends a notification whether the food is ready or not.
- Once the sub-admin section sends a notification that the food is ready, the waiter then serves the food at the individual table.
- The customer can also update the order during the meal.
- If there’s a necessity for modification within the food menu, the manager modifies the menu. The modified menu then gets updated on the customer’s android device.
- The bill will be generated concurrently at both client side as well as Sub-Administrator side.

VI. CONCLUSION

The planned system would attract customers as well as improve the efficiency of maintaining the restaurant’s ordering and billing sections.

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VIII. REFERENCES
