Restaurant management system Android application

Sucharita M. Samantaray
sucharita.madan13@gmail.com
Bharati Vidyapeeth Institute of Technology,
Navi Mumbai, Maharashtra

Karan Dhoke
karandhoke@gmail.com
Bharati Vidyapeeth Institute of Technology,
Navi Mumbai, Maharashtra

Pranay Pawar
ajinkya.pranay333@gmail.com
Bharati Vidyapeeth Institute of Technology,
Navi Mumbai, Maharashtra

Rina Mishra
mrina4368@gmail.com
Bharati Vidyapeeth Institute of Technology,
Navi Mumbai, Maharashtra

ABSTRACT

The main target of this paper is to conduct a thorough and in-depth analysis of the vast field of Software engineering and at the same time explore the opportunities and the conditions that could lead into building a successful Android app. The simplicity and ease of access to a menu is the main component that facilitates ordering food in a restaurant. A user-friendly menu completely changes the patron's dining experience. Existing programs provide an app that restaurants can use to enter their menus into Android-based tablets and make it easier for the diners to flip, swipe and tap through the menu. This system is used to provide the restaurants with a tablet menu that would recommend dishes based on a recommendation algorithm which has not been implemented elsewhere. This system uses a cloud-based server for storing the database.

Keywords— Restaurant management system, Android App, E-commerce, Food ordering system

1. INTRODUCTION

The traditional system is a restaurant paper menu and ordering system is replaced with an electronic medium i.e. a digital tablet. Due to a digitalized system, the risk of manual errors is eliminated, thus eliminating the communication barrier. The tablet displays all the information the customer needs to know about the order he has placed. This self-service fast food restaurant will be equipped with a user-friendly touch screen, a credit/debit card reader, and software for completing the process at the backend.

For this system, there will be a system administrator who will have the rights to enter the menu with their current prevailing prices. He/she can enter anytime in the system by a secured system password to change the menu contents by adding or deleting an item or changing its price.

Now when the customer enters the restaurant, he will place his order with the help of the touch screen using the intuitive graphical user interface, right from the selection of language till the payment confirmation. He will select from the food options according to his choice and the system will display the payment amount he has to make once he has finished with his order.

2. WORKING OF EXISTING SYSTEM

The current system is paper-based. Papers are used in restaurants for displaying the traditional menu cards, writing down the orders of customers, storing the records of customers. The disadvantages of the paper-based system are that papers can get easily damaged by stain marks; they can be lost due to fire or accidents or can get lost in general. Hence, time and money are wasted.

As traditional menu cards are paper-based, any changes that need to be made in the menu will require reprinting of the entire menu card, leading to wastage. For small changes, reprinting the entire menu card is impossible. Changes in the menu card cannot be made dynamically. It is inefficient to access a particular record from the stack of papers. This system is time-consuming. One has to call a waiter a number of times till he notices it and wait for him to arrive at their table to take their order. Also, the waiter can misinterpret the customer's order since he is writing the order on paper, and the case of serving a wrong dish is possible. For placing any orders customers have to visit hotels or restaurants to know about food items and then place order and pay. In this method time and manual work is required. While placing an order over the phone, customer lacks the physical copy of the menu item, lack of visual confirmation that the order was placed correctly. Every restaurant needs certain employees to take the order over the phone or in person, to offer a rich dining experience and process the payment. In today's market, labor rates are increasing day by day making it difficult to find employees when needed.

3. MODULES

Module 1: Registration Module

This module is displayed to the visitors if they need to perform some order placements and a new registration for restaurants who want to do business with us on our online restaurant management application.

Module 2: Add/Update/remove Menu

This module is for admin. Admin has rights to insert, update (modify) and delete the data in the database as per his/her necessary requirements.

Module 3: Account Management Module

There will be an account manager who will manage all the online order transaction and he/she will be responsible for issuing a printed copy of customer's payment receipts.

Module 4: Station Tracking Module

This module describes the current location of any particular area over the usage of internet connectivity and GPS. This module is useful to find the location of an order placed and for estimated time delivery.
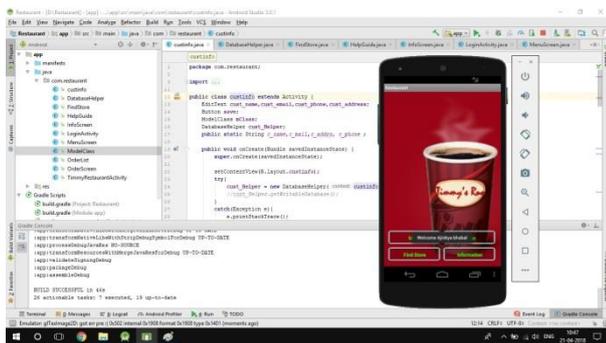
Module 5: Logout Module

The last module describes that after placing an order or performing some actions on the application the customer will click logout profile.
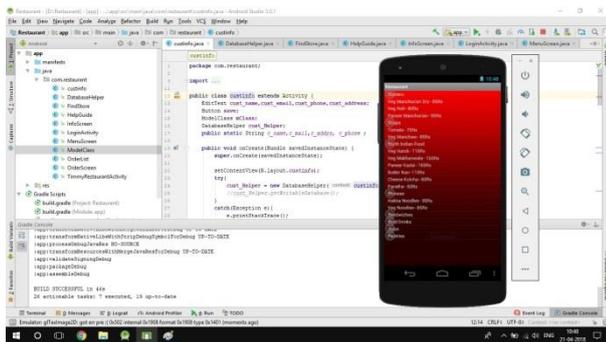
4. SCREENSHOTS
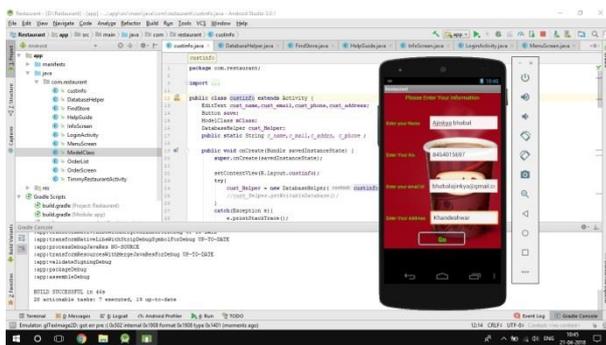
(a)

(b)

(c)

(d)

(e)

Fig. 1: Screenshots of the proposed work

5. ADVANTAGES

- This will minimize the number of employees at the back of the counter.
- The system will help to reduce the cost of labor.
- The system will be less probable to make a mistake since it's a machine.
- This will avoid long queues at the counter due to the speed of execution and number of optimum screens to accommodate the maximum throughput.

6. DISADVANTAGES

- Status and feedback of order are not obtained.
- Limited distance (Generally confined to a hall).
- The system may not work properly if the tablet/Smartphone suffer a defect
- Also may become a drawback if end users are not able to use the tablet/Smartphone devices.

7. FUTURE DEVELOPMENT

The system implements the following functions: the waiter takes order from the customer into his tablet, the customer can visualize the order and bill, the administrator has the authority to change the menu and has authority to view daily, a weekly or monthly report on profits and lastly the kitchen staff can prepare and serve the order. More features could be added like online booking of tables and ordering of food items. There can be a provision that accepts feedback from the customers and a registration form so that next time the customer can order his previously ordered food item.

8. CONCLUSION

Here the need for tablet food order is analyzed and its advantages over the traditional food ordering system in restaurants are studied. The proposed online restaurant management system is time-saving and error-free as compared to the traditional system. This system attracts customers and also adds the efficiency of maintaining the restaurant's ordering and billing. Hence it is the modern way to grow up the business

using E-commerce. Here implementation of an advanced restaurant menu ordering system using a smart android mobile phone. This system entirely reduces unnecessary time.

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