Implementing Online Food Ordering System With Food Customization Using Android Application

Aashi Jain, Avneesh Jaiswal, ChhalakGoelBtech 4th Year

Miss MonalisaPanigrahi (Asst. Prof. Information Technology Department)

Department of Information Technology, IMS Engineering College,Ghaziabad, India   Affiliated to A.P.J Abdul Kalam Technical University, India

Abstract

Typically in restaurant food ordering involves lots of manual process. Usually, process starts with settling down the customer, then after waiter bring the restaurant's menu card, browsing the menu card and then inform to the waiter for orders and some customization implementing on food according to taste preferences. It includes lots of manual efforts by customer. So another method for the customer is "Online Food Ordering System with Food Customization Using Android Application" in which the application it will help to create orders and can also customize the ordered cuisine according to its preferences. When order is confirmed, the order slip will automatically generated in digital form which help the customers need not to carry order slip with them.

Keywords-

- Smart phone, Android application,
- Wi-Fi, Android Mobile, Dynamic database.

Introduction-

The world is going mobile. Today we have mobility solutions for almost all the industries. Applications have made a deep space in the personal and professional lives of people. Starting with the eCommerce till fulfilling daily utilities and personal care, there's an app for everything.

As maximum opportunities are binding up with online processes, so many industries and firms are now implementing their business with relaxation due to internet. One of the major businesses that are introduced by internet is online food ordering system. In today's time period many owners have focused on bring their restaurant services online offering quick preparation 'and rapid delivery of orders as a substitute of offering an expensive dining experience.

Online ordering system is originally designed for use in college cafeterias, but just as applicable in any food delivery industry. The main advantage of this system is that it greatly simplifies the ordering process for both the customer and the restaurantend is lightened.

Within this application, all items in the order are displayed, along with their corresponding options and delivery details, in a concise and easy to read manner. This allows the restaurant employees to quickly go through the orders as they are placed and produce the necessary items with minimal delay and confusion. The greatest advantage of this system is its FLEXIBILITY.

Methodology-

Within the field of information systems there are two paradigms of research, behavioral research and design science research. While behavioral research seeks to build truth about an existing system (such as understanding the underlying phenomena that explains the usage of the system and try to make predictions), design science aims to explore a problem and build utility. Such a utility can be an artifact which can then be used to evaluate the problem and how the artifact addresses the problem[7].

In our study we made use of the design science paradigm to aid the field of software engineering and applied the build and evaluate model it describes. This was a good way for us to explore the problem to gain an understanding of the problem as we are trying to solve it. Design science goes well with the iterative mindset, which is often used in software engineering, as it also builds on a loop of build and evaluate.The key concept of design science is its iterative nature. The results are derived from the cycle of generating design alternatives and testing these alternatives.[7]

We carried out these iterations to produce an instantiation, a simple smartphone application that would let us to build orders from this application and also provide food customization for the foodies.
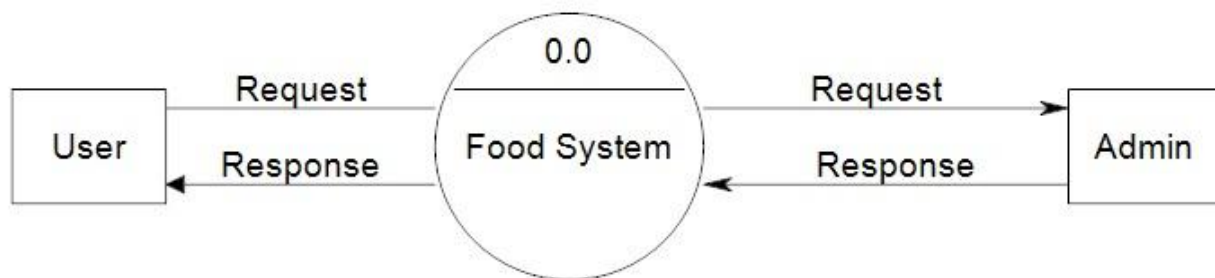

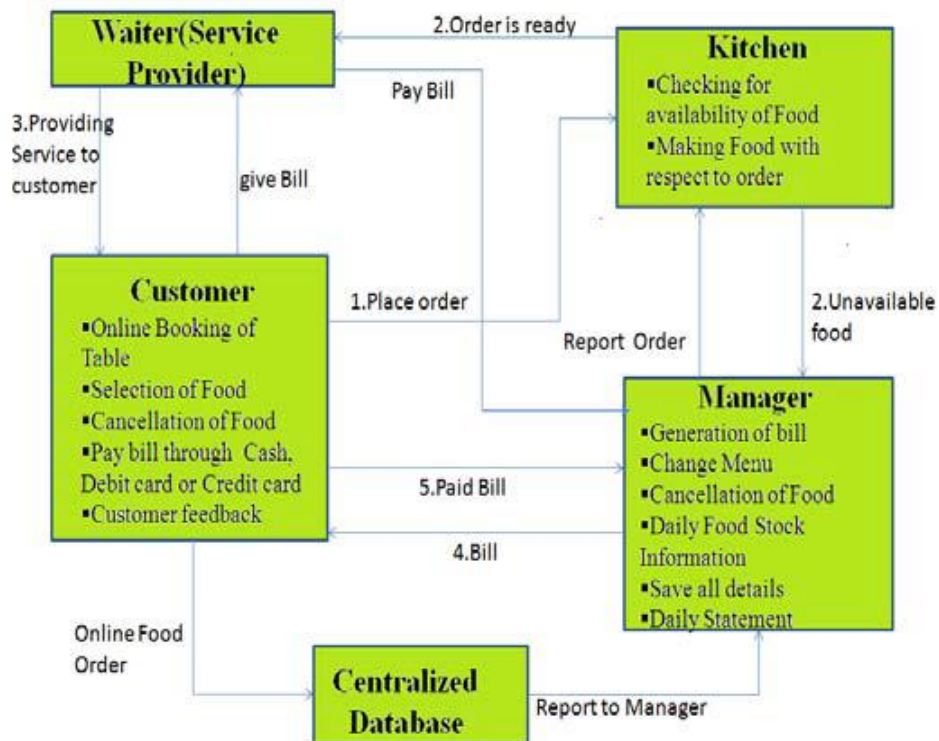Fig. display ordering process with this mobile application

Fig: System Architecture

SYSTEM MODULES AND SYSTEM DESIGN-

The restaurant owner or manager will have authority to log into the system and update the menu as per the availability of the dishes. The manager will also advertise the various offers of the day. Manager will dynamically add different catagories of food. After arrival of customer in restaurant, he or she select the information and menu from tablet then this orderis sent to the system over wireless network. The restaurant manager or ownerand the kitchen staff will receive the ordered lists from the customer tablet or system. The restaurant owner can update theorder status into the system. The customer can also view the order status and he has authority to cancel the order. The wholeapplication will already be installed and kept open on the tablets on the tables. Customer who is outside the restaurant will booktable in restaurant or he will give order from his smart phone. The turn-off or shutdown option of the application will remaindisabled for the customers i.e. the customers can not be able to turn off theapplication and do any other work on the tablets.After having the food, customer can make paymentby online or by cash and enter feedback regarding to that restaurant system facility and services. Customer contact number will be saved in database for sending massage about next offers.[6]

This project consists of 3 main modules as follows:

1. **USER TABLET(module 1)**
    *   This type of the tablets are especially made for the normal users coming in the restaurant.
    *   First customer has to be done registration after registration he/she will get password and user name then he/she can order process .Bill is automatically goes to that particular user
    *   These tablets will consist of the whole menu of therestaurant. The items in the menu are non – editable for these types of the tablets.
    *   During registration process customer has to be enterpin code .customer can give order from any city to any branch of restaurant using pin code.
    *   They will be enabled with the Wi-Fi connectivity.
    *   Customer from any layer of the society should be able to handle and operate all the functions easily.

2. **MANAGER'S TABLET(module 2)**
    *   These tablets are especially for the use of the restaurant manager.
    *   The manager should be able to control the function of whole restaurant from a single tablet.
    *   He can access any tablet and should be able to make changes to the menu.
    *   Also he can change price of particular item or disable particular item which is not available at that particular time.

3. **MOBILE APPLICATION(module 3)**
    *   If already registered then directly logged in into account.
    *   Display listings:-
        1. Recent Orders with priority wise.
        2. Display the food items recommended by other customers.
        3. Display new food items added by any restaurant.
        4. Customize the dish according to you.
        5. Booking table in any restaurant.
        6. Suggesting your friends about restaurants, food items, etc.

    The technologies which are used to implement the system are:

    *   Android version 2.2 or more for Tablets is required.
    *   We have used Android 4.2 Jellybean as the working platform to develop this application.
    *   Firebase server for storing data online
    *   SQLite for storing data in mobile

Conclusion-

The changing urban lifestyle of the average Indian is dramatic enough to be favourable for the food-on-the–go and quick home delivery models to grow at higher rates. The ever-increasing population crowded metro cities and longer travel times are drivers for the convenient, ready-to eat and cheaper options of having food and groceries delivered at your doorstep.[9] Companies that are aware of the huge potential for growth may venture straight in, but only the fittest will survive. Businesses who keep their value proposition and their brand active in consumer's minds, will take the biggest share of the Indian online food service pie.

we are using smart phones or tablet to provide necessary interfaces for customer to view and order menu.

With private login system, customers can view and make order and receive updates in real-time and collect receipts right from the smart phone itself.

It allows restaurant owners to manage orders from customers immediately whenever he or she logged in into the system. Our experience in developing digital restaurants and inter-restaurant navigation using smart phones shows the capabilities of wireless communication and smart phone

technology in fulfilling and improving business management and service delivery. This system is convenient, effective and easy so that it improves the performance of restaurant's staff.

Acknowledgement

REFERENCES

1. Sayan Chakraborty May 2016, *accessed May 2016*, http://www.livemint.com/
2. Next Big What 2015, *accessed May 2016*, http://www.nextbigwhat.com
3. FAO Repository 2012, *accessed May 2016*, http://www.fao.org/
4. Nasscom India 2015, Start-up India- Momentous Rise of the Indian Start-up Ecosystem, *accessed May 2016*, http://www.nasscom.in/
5. Research paper- The new Indian consumer: food service trends, April 2014 by KrishniMiglani and Veronica Jenvild.
6. Aditya Anand&Arita Sarkar November 2015, *accessed May 2016*, http://www.mumbaimirror.com/
7. A. Hevner, S. March, and J. Park. Design science in information systems research. MIS Quarterly, 28(1):75–105, March 2004.
8. .M. Firdouse Ali Khan, Swapna, "Design and Implementation of Ordering System for Restaurants", in International Journal of Engineering Research &Technology (IJERT), Vol. 1, Issue 10, December- 2012.
9. Sun Guiling; Qingqing Song, "Design of the Restaurant Self-Service Ordering System Based on ZigBee Technology, "Wireless Communications Networking and Mobile Computing (WiCOM), 2010 6th International Conference on, vol., no., pp.1,4, 23-25 Sept.2010.