

Food Shades: Online Food Application for Small-Scale Restaurants

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Abstract— The online food ordering & delivery system is increased exponentially over a period of time. These days the use of smartphones, especially the use of Android phones increased tremendously. It is very easy for a common man to install any good application on mobile and use it to save time. Food ordering and delivery is one such application which is used more often to order food, which will save time and serves the purpose of convenience. An online food ordering application usually simplifies the process of ordering food from a different location. This paper presents. The overall background of food ordering apps, the procedure of the food ordering system and proposed new food ordering application for small-scale fast-food restaurants in Kolhapur city areas.

Index Terms—Food order, mobile application, food order application, online order, small-scale industry.

I. INTRODUCTION

An online food order system is a procedure in which food is either delivered at home or collected by customers in person. Here customers usually pay with their banking cards or through UPI. This system is becoming popular these days, especially among youth. This system is also beneficial for those people who don't have time to wait in restaurants, there is a tremendous increase in the use of the internet & smartphones in the last 4-5 years awareness of online ordering, and online purchase is increased exponentially. There are several opportunities available in the world of the web to start a new business and grow it. Most of the young generation or food lovers, want to try different food tastes from different restaurants. It will be easy for such people to order food online. It saves their waiting time for food preparation. It is always a good idea to develop or create such a food order mobile application with which customers can order food online (Small restaurants, fast food restaurants, or small eatable food points with a different menu are getting popular these days.) There are many food ordering and food-delivering apps present but these are different from each other in terms of pricing, promotions, order history, searching techniques and extra features[1][2].

On the background of covid-19 background here we propose an online food ordering app for small-scale restaurants/fast food restaurants in the Kolhapur (Maharashtra, India) city region. With the help of this application, customers can order food online, pay online and then just go personally and collect the food. We have not considered the delivery of food part as customers would like to collect personally to maintain hygiene and think that food should not be handled by some third party delivery person.

II. LITERATURE SURVEY

Initially, mobile phones were used for just receiving phone calls and messages. Nowadays mobile phones are full of different purpose applications. Especially during the pandemic to maintain social distancing and contactless services mobile phones played a major role. These days the food ordering service is one of the most commonly used services in fast food restaurants. Here we received some of the existing food ordering systems.

A traditional system – The existing system is a combination of the digital system and a document-based system. Many restaurants take one-to-one orders and use notepads for writing them. Then the order paper is sent to a restaurant kitchen. Even many restaurants have printed menu cards. These days online menu card usage is increasing due to the safety major of COVID-19. The restaurants which manage order one to one requires more time and also it is difficult to modify menu card[3][4].

The fast-food restaurant in the hotel industry is paper-based. In this pandemic, there is a slight change in this scenario. Where 90 hotels with good setups have started QR-Code Menu but the majority of small-scale restaurants are still paper-based. In these restaurants, paper is used for displaying menu cards, writing down orders, billing, and storing records. In a paper-based system, it is difficult to maintain records and also lots of paper gets wasted. Also, in the current scenario, online ordering saves time. A few such apps are reviewed in this section [5][6].

There are many apps which are partners with different restaurants which provide Home Deliveries like Zomato and Swiggy. By using these apps, we can order from different restaurants. On the other hand, there are some restaurants like Dominos and Pizza Hut which provide takeaway services using the QR-Code method and Web-Browsers [7].

In paper [8] describes Artificial Intelligence-based multi-platform applications. This application proposes an automatic facility in the college canteen especially if the premises are huge and have multiple complexes in it. Here end-user is either a student or a teacher who will register online and select a food plan and order accordingly. It will be easy for canteen management to handle many orders simultaneously

In [9] X.Wang proposed a system based on AI and semantic understanding. AI is basically used for recognising speech. In this system, the author used voiced recognition with the help of AI based on the Iflytek AI-UI platform. Here also they have considered personalized preferences to give better service to a regular customer, with the help of their order history.

Albin Antony et al [10] proposed food delivery automation in restaurants with the help of robotics. The authors proposed a central system to coordinate multiple robots which are used for serving food in restaurants. Here they used the navigation algorithm and shortest path algorithm to find the shortest path.

In the paper [11], the Author reviewed various online food delivery application food ordering applications in Jordan. These Apps use various innovative techniques to attract customers and also try to provide good service and different usage bonuses. Here authors analyse the impact of Mobile Food Delivery applications on customer satisfaction and also considered the reuse of such applications. The authors propose an integrated model based on an extended unified theory of acceptance and technology use is also considered. This is useful while implementing any mobile food ordering app.

Here author proposed [12] proposed food ordering system with customer real-time feedback. In smartphones necessary applications, the interface is provided to the customer to order food, check the food update and provide feedback in real-time. In the Covid-19 Pandemic, there were many restrictions on restaurants like working hours and the capacity of customers. Here author [13] proposed an online reservation and booking system. This system also has the option to pick a menu using personal phones and pay online

III. DATA ANALYSIS AND DISCUSSION

Restaurants expect new solutions to keep pace with the market needs. Therefore, mobile application has become a certain tool to start in business. Customers are concerned about the clarity and approachability of ordering services that should be provided with just an individual click. Fast and superior interaction is something two together sides are looking for. Restaurants are requesting the benefits of their apps as they establish successful communication channels for presentation and marketing. In to understand the consumers' awareness of mobile food applications Observations: In terms of respondents, from a total of 300 people, 285 of them were aware of the online food app and knew the food apps. This means that 95% of people are aware of food applications.

In [14] Nearly 81% of users who order by way of Food apps reply they do it for benefit, according to a survey by Social Engagement Platform Local Circles (Times of India). Another 14% pronounced it was due to discounts given by these apps, while 5% for better choices.

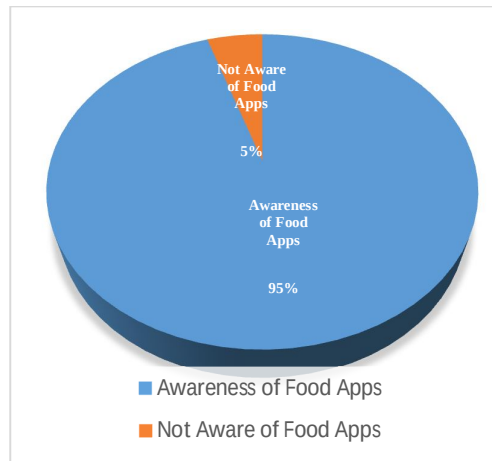


Fig. 1: Awareness of Food Applications

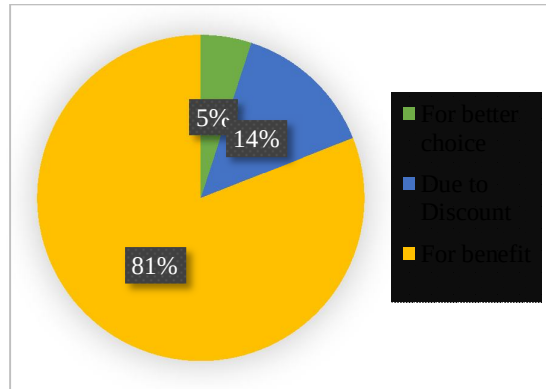


Fig. 2: Interest of Consumers

In [14] Nearly 70% of people use android mobile applications that order foods via food order applications. The Remaining 30% use Websites and other iPhones according to a survey by the Times of India.

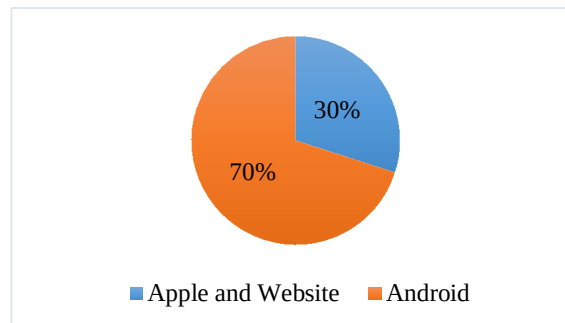


Fig. 3: Android Users vs iOS Users

There are around 1500 restaurants in Kolhapur including small restaurants and food stalls, out of which 204 restaurants use the Swiggy and 295 restaurants use the Zomato. Around 1000 food stalls / small cafes are not listed on online food delivery apps. They prefer takeaway deliveries rather than using food delivery apps.

The benefits to the customers are:

- Ordering online is fast and one is not put on hold to speak to the salesperson to place an order.
- It is easy to order online well in advance. There is no possibility of misinterpretation of orders since it is not verbal.

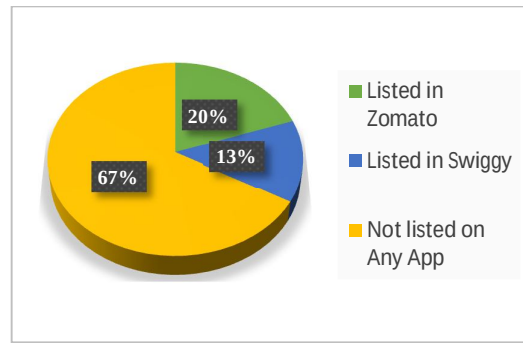


Fig. 4: Count of Restaurants Listed on Different Platforms

- The customer has the menu in front of him to choose from.
- The customers have the advantage of promotional deals and discounts offered.
- Like any other e-commerce business, customers can accumulate loyalty reward points which can be redeemed by them for subsequent orders.

IV. PROPOSED SYSTEM ARCHITECTURE

This paper proposes an online food ordering service. Many of the existing applications such as Zomato and Swiggy are food ordering and delivery systems. This system is the only food ordering system which is beneficial for small-scale fast-food restaurants. Here customers can order online and collect orders personally from the restaurant.

Over the years online ordering and delivery business has increased almost 300% faster. Customer preference also changes in recent days. All restaurants try new marketing strategies and provide new facilities to customers to keep pace with current situations. These days almost 70% of mobile users are smartphone users. In smartphone users, 60% are Android users. After serving all these facts, here we have proposed android based food ordering system for fast food and small-scale restaurants. The following Fig. 5 shows the overall architecture of the proposed system.

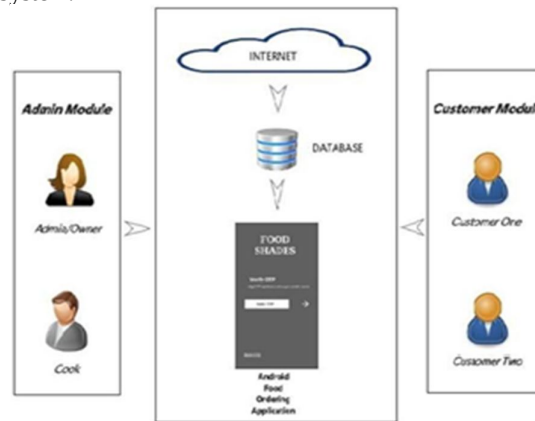


Fig. 5: Proposed System Architecture

A system consists of mainly two modules one part is present at the restaurant end which will act as the Admin module and the other part of a system (actual application) installed at the customer end will act as the Customer Module

A. Admin Module

In the admin module, they will get a normal login option, once they enter admin credentials like email id and password. The details of the admin module are shown in Fig. 6 They will get options like modifying cuisine by adding food, deletion of foods, or updating cuisine. Once they modify food items it will be displayed in the client-side app.

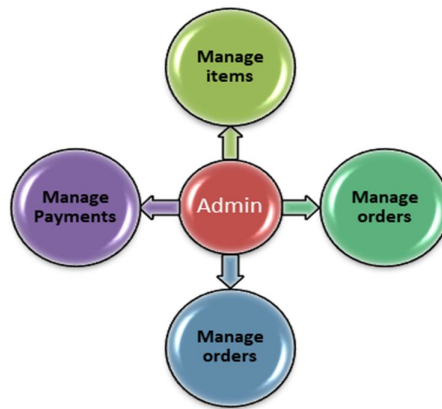


Fig. 6: Admin Module

B. Customer Module

In the customer module, the customer must enter his/her credentials like ID & Password. After that it will be confirmed by the system then the customer can place an order of food with its required quantity. Figure 7 shows details of the customer module.

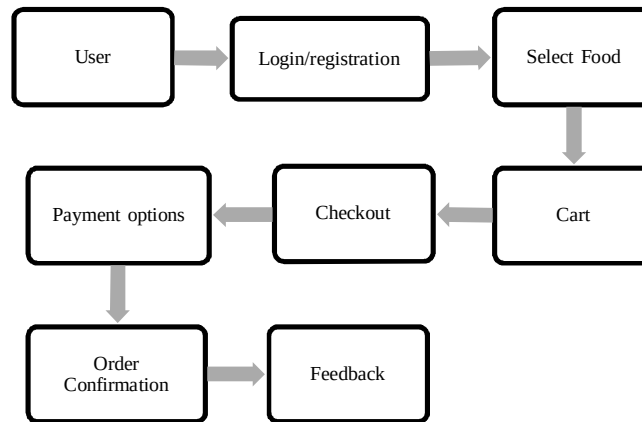


Fig. 7: Admin Module

Once an order is placed, the system will display the order number, food name and quantity. After displaying the order information, it is redirected to the payment window where the total price is displayed. After that customers can select a payment method of their choice and customer will receive a message of order confirmation.

VI. CONCLUSION

An online food ordering system is developed, which can be used in small family restaurants as well as venues such as college cafeterias. This project could be scaled up in the future. With online ordering here, the Application will enrich your services by making the process of 'ordering foods' a lot smoother. It demonstrates that the owner value customer's time. By removing the messy procedure of communicable orders, online ordering will increase your profit. It will assist customers in planning and executing a regulated shopping campaign.

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