Campus Canteen Food Ordering Mobile Application

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Abstract *– Though it has almost permeated every facet of our life, modern technology is still not frequently utilized in the food industry, especially in restaurants and canteens. With the help of computerized tools, the Campus Canteen mobile application system aims to automate the existing manual system and make it fully functional software, meeting the needs so that their important data can be stored for a longer period of time with simple access and manipulation of the same. As was already noted, an Android-based canteen automation system can produce a system that is error-free, secure, dependable, and easier to manage. How to manage for improved performance and better customer services is covered in the project.*

Keywords *– Campus Canteen, Food Ordering, Ordering Services, Mobile Application, Mobile App Development*

I. INTRODUCTION

Today's technology has stepped into almost every field in our life but still, technological advancement is not that evident in the food industry. For example college canteens; In college canteens, students have to come to the canteen and have to wait for their order for a long time. This method of ordering consumes the precious time ofstudents. Not only do students face problems but the canteen owners also face difficulty in managing a huge rush in food orders and also face billing issues. Due to bulk orders, the canteen loses many orders, and many students don't get their orders. To avoid this problem, we decided to make this application The purpose of the Campus Canteen Food Ordering Mobile Application is to create a seamless application that will make ordering food from the canteen easier and to automate the existing manual system with the help of computerized equipment and full-fledgedcomputer software, fulfilling their requirements, so that their valuable data can be stored for alonger period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with. Canteen Automation Systems using Android, as described above, can lead to error-free, secure, reliable, and fast management systems.

A Mobile App consists of a set of instructions that run on Smartphones and perform a specific task. Developers built mobile applications for different purposes. Mobile applications are easy to use, User-friendly, Inexpensive, Convenient to carry, have a Powerful development framework, are simply downloadable, and run on most mobile phones. Several Apps are pre-installed on Smartphones and other Apps users can easily download, and installed on smartphones. Mobile food ordering and food delivery are one of the most popular areas of mobile application development.

It might help the user concentrate on their other tasks rather than record keeping. As a result, it will aid organizations in making better use of their resources. The company can keep computerized records updated without making duplicate inputs. This implies that in order to access the data, one does not need to be sidetracked by irrelevant data. The goal is to automate its current manual system using computerized hardware and comprehensive computer

software, meeting their criteria, in order to keep their important data and information for a longer period of time with simple access and manipulation. How to manage for improved performance and better customer services is covered in the project.

II. LITERATURE REVIEW

We researched multiple research papers from various journals and found various bits of information relevant to our project.

[1]The feature isthat it provides an attractive and fast method of interaction between all the facets of the restaurant.The Major drawback is the cost of installation of the system and the time to learn the system.

[2]Its primary benefit is that it offers a wireless food ordering system based on online services. The limitation is that the methods used are outdated and can be created more efficiently.

[3] It provides an up-to-date method of ordering food using a mobile application. The major drawback of this paper is that it doesn't show the application being implemented

[4] It provides an analysis of the various implementations of a food ordering application. Its drawback is that the proposed system was not implemented.

[5] The main feature of this paper is that it provides an efficient method for ordering food for students in canteens and cafeterias. The limitation of this paper is that it hasn't been implemented in real life [5]

III. METHODOLOGY

The methodology for this study is divided into two stages. Stage I and Stage II. Stage I explains the type of data that has been collected regarding how exactly the food delivery system works and what are the working apps in the market presently. Stage II explains how mobile application development takes place.

I. STAGE I- DATA COLLECTION

In this stage, we have worked out detailed information regarding the needs of students as well as the mess of the food providers and vendorswho are the two role players in the business of food delivery. Some of the modern apps available are Zomato, Swiggy, Uber eats, etc. which provide food delivery but their consumers are regular people. There is no special feature that pays attention to daily needs through the mess or canteen for students. If ordered regularly from this app, students won't be able to afford it. During the research that was undertaken before building this app, we came to know that the mess and canteens are not listed on this app as they are not treated as restaurants. Considering this situation we concluded that we could build an application for food delivery to students through canteens and mess.

II. STAGE II- MOBILE APPLICATION DEVELOPMENT

Mobile Application Development is the process through which we create software that runs on mobile devices to take advantage of its hardware and software. The process of mobile application development is done on a different development platform as compared to traditional websites.

Mobile Application Development ensures that the mobile application is developed systematically so that it provides optimal results for mobile developers and users. One of the main advantages of mobile app development is that there is no prerequisite for its usage other than the operating system.

Now, to accomplish the goal of our project, we have to customize the application in a manner where it displays all the information in the best possible UI.

Firstly, We planned the basic design of the application. A simple UI was designed in Adobe XD. Adobe XD is a platform that helps users to design UI for applications of any kind, add Imports or design their assets accordingly. The application needs to be developed in such a manner that attracts users and includes other convenient features. This

asset will be further utilized during the process of development of an application.

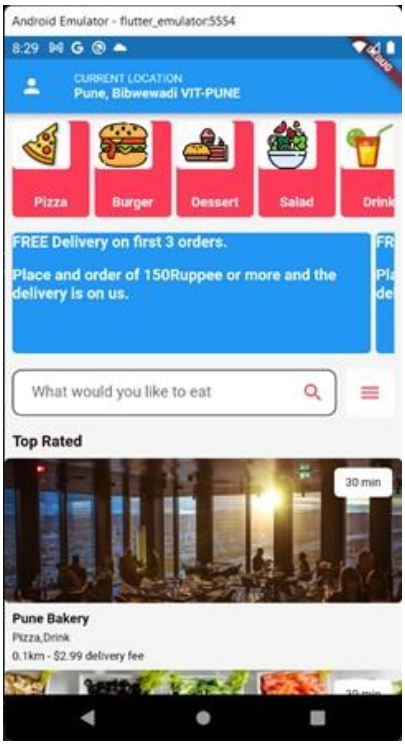
At this point, we can move on to application design and development. We will design the application to look simple without consuming too many resources to ensure a simple architecture. This will ensure that it will be easy for the user to learn how to use the application. We will alsoensure that the main text and graphics are globally recognizable to ensure that users do not spendmore than 5 minutes learning how to use the application. All the icons imported representingdifferent types of food items must be indistinguishable. These icons are in an animated form that can attract users and give them a better User Experience (UX). Various basic features suchas filters, vouchers, delivery, etc are to be providedin this application.

After deciding on the application first, we create .dartfiles for required screens and features such as Home_Screen. dart, Restaurant_Lisitng, dart, and a lot more. Respectively files required for importing assets for these screens are created. Repositories, Bloc, and Widgets are designed and created according to the requirement of this application. The route of the pages is also decided in Route. dart and the theme of the application can be coded into the theme. dart.

The development of the application will be done on Vs code using Flutter and the programming language Java Programming. While creating the best possible UI, Details of UX were also kept in consideration while building this application.

After making the application, it will be rigorously tested through parameters like battery consumption and compatibility with other applications. This will ensure that the application is usable. After the testing, to ensure that the information in the application is always correct, it can be updated to bring the element of continuous improvement.

Fig 1



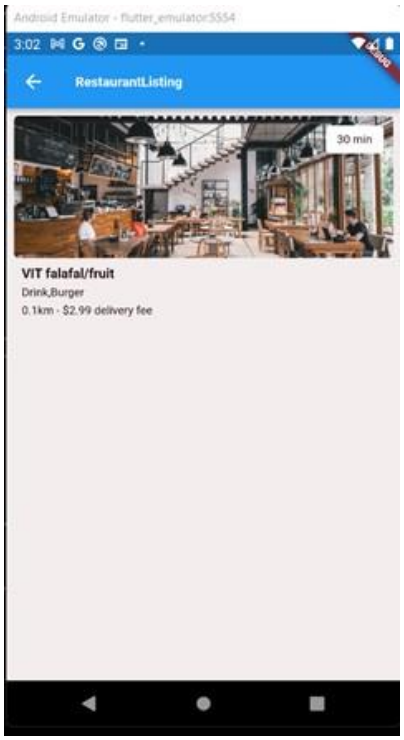


Fig 2

Fig.1 Shows the home screen of the application. You will see the address of the user in the app bar. Secondly is the food category row. After clicking on one of the tags such as pizza, the burger you will see the page that shows the restaurant listing according to the selected tag as shown in F ig.2. The Thirdelement on the application is the Scrolling Billboard where we can highlight the most exclusive offers to the user. The fourth element is the Search box where you can search for food items. The search box has a simple text asking the user 'What would you like to eat?'. Beside the search box is the filter button after clicking on which youwill be transferred to the filter screen. Below thatis the section of top-rated Restaurants in the scrolling view. On selecting the restaurant user will be sent to the Restaurant page showing all the menu items(products) as shown in Fig.3 below. After selecting the items and clicking onthe basket button the user will be sent to the Basket screen where selected items from the menuwill be displayed as in fig.4. Users will get the option to select cutlery, Apply vouchers and the total sum will be displayed at the bottom-most row.

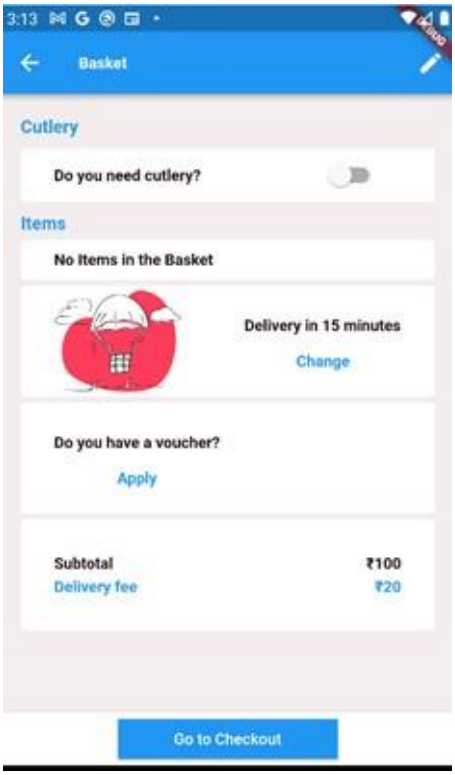


Fig 3

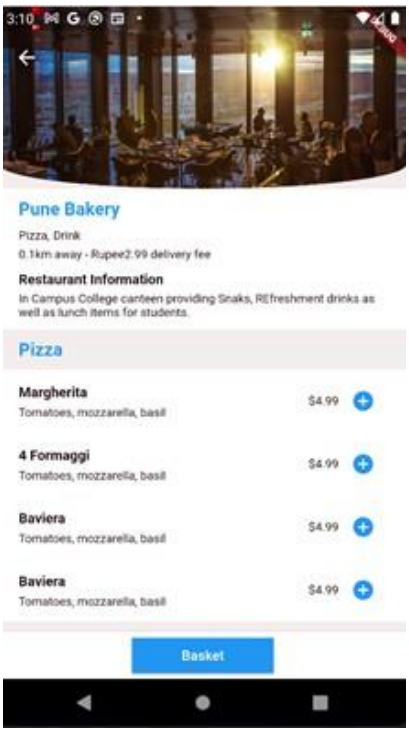


Fig 4

IV. RESULTS AND DISCUSSIONS

We have created a mobile application in which the major problem that college students face is therush at the canteen during break times which causes further trouble to the owner. Our application allows the students to place the orderin advance. The student can select a restaurantnear a college or even the food item they would liketo have and place the order. The food will then be prepared and the student will be able to pick up the food from the restaurant or get it delivered to their location allowing them to get the food easily and efficiently with the help of the mobile application.

V. FUTURE SCOPE

In the future, we could implement interfaces for the other canteens and add Kiosks that can be used if there are internet issues and for marketing purposes.

In the future, we can also add drone service for food delivery and vouchers for the ordered items.

VI. CONCLUSION

The proposed systems for meal ordering, food delivery, and related applications are all presented in this study. With this mobile application, students will be allowed to order food products from the canteen with ease of access and operability. This mobile application will prevent waste of time which will be very beneficial for students. Students will get their food at the proper time as per their needs.

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References

[1] XU Hongzhen, TANG Bin, SONG Wenlin, Wireless Food Ordering System Based on WebServices.

[2] Nikhil Sahani, Darshan Kadam, Atharva Kulkarni, Saurabh Shahapure, Prof. Tejal Shinde, Canteen Automation System using Android

[3] Hafiz U R Rahman, Mahmood Ashraf, Muhammad Abrar, Abid Mehmood, A Reviewof the Usable Food Delivery Apps.

[4] Shahirah Mohamed Hatim, Nur Azmina Mohamad Zamani, Lily Marlia Abdul Latif, Mahani AhmadKardri, Normah Ahmad, Norhaslinda Kamaruddin, Azham Hussain, E-FoodCart: An Online Food Ordering Service.

[5] HARRIS, H. K. S. D. F. (2014). Software Development Aspects of a Mobile Food Ordering System

[6] Bhargavagave, A., Jadhav, N., Joshi, A., Oke, P., & Lahane, S. R. (2013). Digital Ordering System for Restaurants Using Android. International journal of scientific and research publications, 3(4), 1-7.

[7] Samsudin, N. A., Khalid, A., Kamal, S., Kohar, M., Akmal, M. F., Senin, Z., & Ihkasan, M. N. (2011).