

# The pre-ordering mobile application for campus using Flutter and Firebase software

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## Abstract:

This paper aims to offer an android ordering app to ease the user to receive their respective orders. As more people have lack of time constraints and use of smart phone became more dependent, the need to introduce an android app is necessary. This paper mainly focuses on controlling the rush that happens on break hours by pre-ordering foods and stationery objects. It's designed in such a way that the application is used in organization or management hence the efficiency and maintenance of the application is not limited. By the help of our online pre-ordering system, management or organization can able to take orders and pay the amount in-person. With our application, users can go through the menu items in their respective mobile phones. In case of canteen/mess/stationery shop, they receive the orders on the application and prepare according to the order placed.

**Keywords:** App, Ordering service, Mobile application, Flutter-based, Food Stationery, Android

## I. INTRODUCTION:

In this era, a smartphone could assist everything starting from chatting, gaming, finding the location and much more. Regularly, people have to call the particular hotels and tell the orders to confirm or visit hotels and tell their respective orders. There can be some human error while taking or giving order both in-person or in call. Apparently, calling or visiting restaurants are not a very good solution to place an order from for a person with busy work or lifestyles where they have become part of our world hence developing an application for essentials has become unavoidable.

Therefore, this application deals with pre-ordering. An online based pre-ordering system act as a complete sales medium between organization and students. This demonstrates that the organization or management makes use of it for increasing profits and making canteen/mess/stationery shops to work digitally and efficiently. This application can have multivendor product in a single application which can support several organizations. As a result, you can create an endless number of sellers and easily manage them from the admin panel.

On considering the other existing product ordering application before and our application focuses mainly on small scale of people and thus it can be easily manageable and efficiency will be comparable high on admin panel. It provides the user a way to order a product over the internet without waiting in a tedious queue of people rushing around. Even though the buyer has to come and pick up their products in-person, the waiting time for ordering will be considerable reduced. After customer selects their order, they submit and will be paid in-person. After the order is received on the canteen/mess/stationery shop's end, the order will be confirmed and the status will be updated to buyer. The orders will be confirmed for the buyers who are pre-ordering. In this type of system, buyers can look after the menu by using their mobile phones. The main advantage of this system is to overcome taking orders manually and avoiding the rush.

## I. LITERATURE SURVEY

This existing paper says that the following application sends an order to the kitchen ordering ticket and prepares the order before arrival of the customer. [1] It says the maintenance of the application needs more assistance but compared to traditional method it becomes ease. In this existing paper they have done a research work in reducing labor cost and making the orders, billing system in a digital manner. Just taking this idea in mind, we thought of implementing this idea in college canteen/mess. In this proposed paper, students and staffs in college can pre-order the college food in their own mobile phones. In future, digital payments like net banking, usage of credit cards, debit cards, Google pay and other online digital payment will come to use. Some discounts and tips will be generated if the user pre-orders the food in application. Labour cost can be avoided by this system. Due to rush in the canteen during break and lunch hours, the possibility of human errors in bill calculation or accepting orders, as proposed paper is fully a digital process, this kind of errors can be reduced to some level.

In this existing paper, the tablet in which every menu has been loaded previously will be given to the customer whoever comes to restaurant.[13] There will be no editing option in the tablet. Customer can order through tablets by registering. They get a unique username and password after registering. In the manager's tablet, manager can able to control all other tablets and edit the menu items, price and availability at that particular time. In the kitchen display, the tablet will be present near the chef place so that he can read customer order and prepare the foods. If the ordered items are ready, chef should update that the items are ready.4 So, in

this proposed paper there are three modules involved. In proposed paper, there is maximum number of students in college and break hours are similar to each student and staffs, so implementing tablets in canteen/mess/stationery shop will be impossible. If student can pre-order from their mobile phones, there will be no rush and they can pre-order in their comfort zones instead of coming to canteen/mess/stationery shop.

**II. METHODOLOGY:**

The brief process of this application is explained in the following. The application has several pages where each page has the specific kind of things to be done. The whole application is only meant to decrease the time of ordering the crowd of people. As this application is done for small scale of people it can only be used by the following person within the organization or campus who has access to it. On diving into the application, it should consist of two set of users where one is seller and another one is buyer. On talking about the division the seller has the access to the page where they can add the required or available products that they have the respective stores or restaurants and specific the current product is available or unavailable or sold out. On the other hand, the prominent part of the application that is buyers. They are the one who is going to order the product as per their need. They can see a cart or add button beside the product they want to order which will drive them to the order page and the order can be done respectively. Ok now let's explore page by page.

**BLOCK DIAGRAM:**

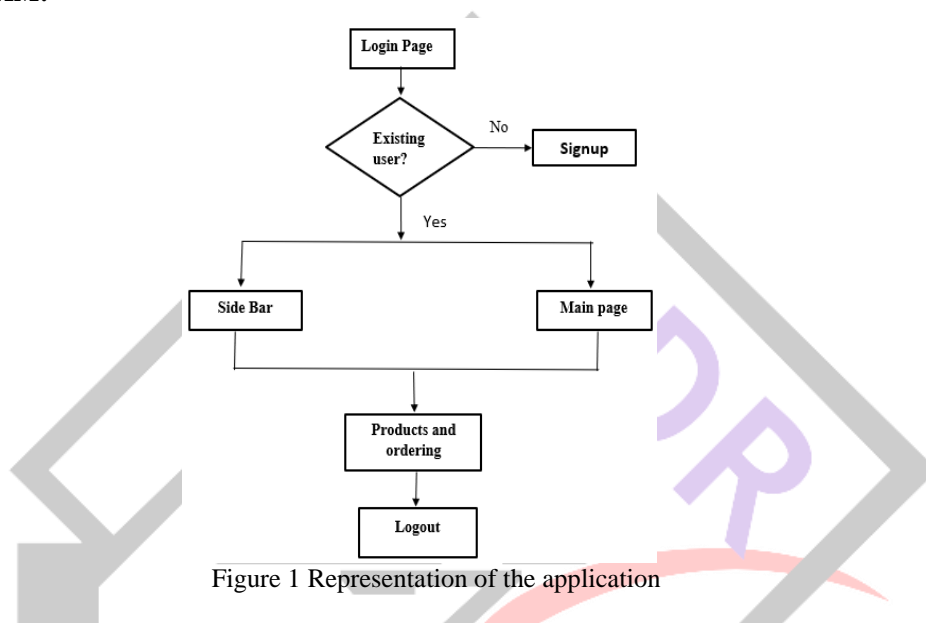


Figure 1 Representation of the application

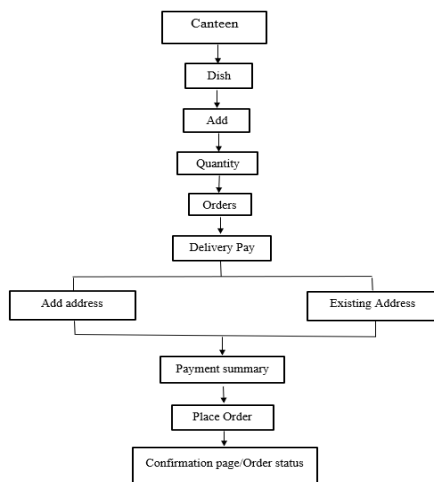


Figure 2 Buyer display

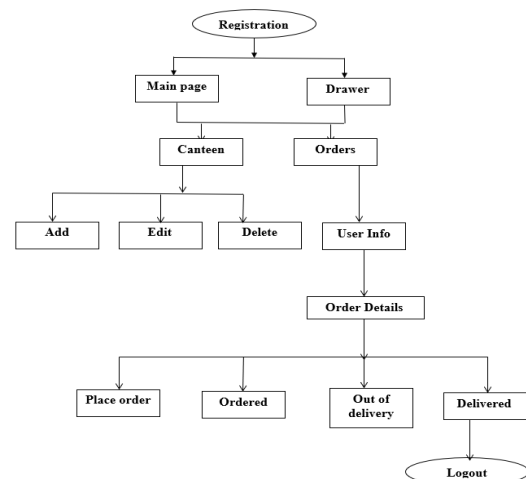


Figure 3 Seller display

**Registration:**

In order to start with the application, the front end of the application is done with the flutter software. Flutter is an open-source UI software development kit created by Google. It is used to develop cross platform applications for Android, iOS, Linux, macOS, Windows, Google Fuchsia, and the web from a single codebase. Firebase is used to develop the backend of the application. For developing mobile and web applications, Google developed a platform known as firebase. Firebase store is where the registered

Id, the products details, orders details are stored. The firebase simply acts as the cloud in this application where the details regarding the application can be retrieved. We have to register for new users. The new registration is done by signing up in Register now option. In that page, enter the respective email and create their own password. After entering the email, a confirmation mail will be sent to that respective email id. The page will redirect the user to Login page where the user has to enter their credentials and login. If the user forgets their password, the password can be reset by using Forget password option in login page. User has to enter the email in which the password has to be reset. The reset link will be sent in the mail and furtherly the new password can be created.

#### Main Page:

1. Profile page: The user should enter their personal details like their Name, department, roll number, year of passing, phone number and get submitted. The user details can be viewed in the main page.
2. Drawer: The drawer will be available in the side where it contains Profile page, Canteen page, Mess page, Stationery page, Orders page, Logout option. Where the profile page covers the details of the user either it could be seller or buyer. In the top of the drawer the detail of the user as such the name and email in which the user has logged in will be displayed.
3. For seller: In the canteen page the seller can add dishes using the add icon given. The add icon will drive the seller to the add dishes page. In the add dishes page the seller should give the respective information of the dishes like dish name, price, image, and the current status or availability. On a hierarchy the available dishes, unavailable followed by the sold-out dishes will be displayed. The seller can edit and delete the dishes. In the dropdown edit option, the seller can edit all the information given previously. The delete option asks for the confirmation before deletion of the dishes. The same will be available in other product pages. In the order page, the seller get the order that are given by the buyer. This page display the order details and the seller have to give the current status of the product. The option of ordered, out of delivery, delivered is given to the seller so that they can provide the readiness of product to the buyers.
4. For buyer: In the buyer side, the canteen page has the dishes available at the respective place. The list of dishes will be displayed in that page with the availability status of the dishes. If the buyer wishes to buy any of the dish, the buyer has to click on the add button in the side of the dish. The quantity button will appear on the dish which the count of current dish can be entered either by increasing or decreasing. After selecting the dishes, the buyer can order the dishes by using cart icon on the right top or the order option in the drawer. The order page shows the dishes selected by the buyer with the quantity. The total amount of the given order will also be displayed at the end of the page. By entering on the submit button, it will drive the buyer to the add delivery place page. In that page, the buyer should enter the place from where he/she orders. The delivery place can automatically be updated in the further orders. The payment summary option will display the complete details of the order. On accepting the order by the seller, the buyer will be notified by the popup message or the user can track the product status.

#### Logout:

The logout option can be found both in the home page and in the drawer where the users can logout of their account. The logout option has two verification that is when the user click on the logout button the popup message of **do you want to exit** will be asked then the user have to enter **ok** so that the user can get logout of the application.

### III. RESULT AND DISCUSSION:

Due to increasing mobile phone users, online food pre-ordering system is used to solve people with busy lifestyle. Problems related with mess/canteen/stationery shops will be solved using this system. It is easily communicative, time saving and efficient. Implementing our project in daily life can solve some important issues between people. According to research, we can conclude: Orders can be made efficiently; All the information will be provided while user is ordering the items.

The application is made for the users to order food from canteen/mess and also stationery things in all their respective shops effortlessly. Admins can able to modify the menu and also change the price and availability accordingly. Our application is used to order respective items efficiently and every instruction will be provided to the user while using the application. There are multiple options for ordering and delivering foods like Zomato, Swiggy and so on. This platform is used by customers to discover restaurants, order and to upload reviews on the particular restaurants or foods and is used nation-wide. On the other hand, this paper includes only pre-ordering and delivering foods, stationery items only on particular region. This paper is applicable for minimal surroundings so that it is cost efficient and easily accessible.

### IV. CONCLUSION:

Every food pre-ordering will be connected through a system which makes it fully digital. Due to the availability and efficiency of the system, it can be decided that this system will be a correct solution. The users can select food menu items in just few minutes. Our well-designed pre-ordering system provides buyers to pay amount in-person. As every step is done via application there will be no personal interaction with person in canteen/mess/stationery shops which is also used to avoid unwanted nuisance. As no persons involved while taking orders new users can adopt quickly and also leads to satisfaction.

OUTPUT:

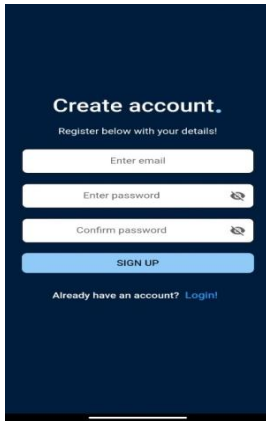


Fig 1. Registration

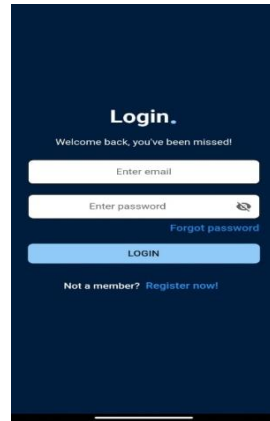


Fig 2. Login page

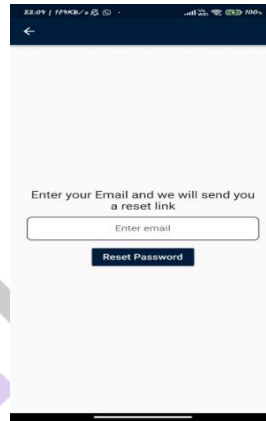


Fig 3. Forget password

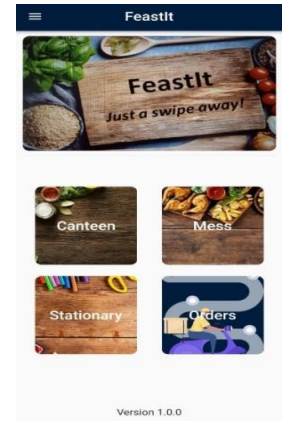


Fig 4. Main page

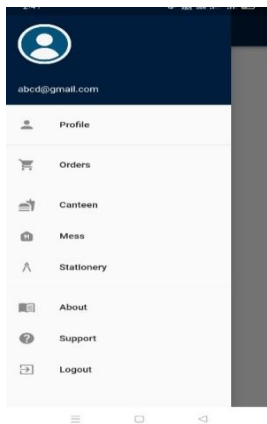


Fig 5. Drawer

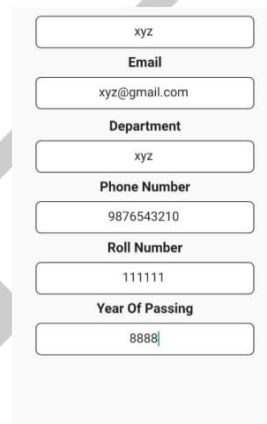


Fig 6. Profile page

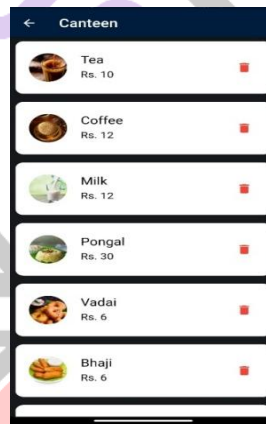


Fig 7. Product page

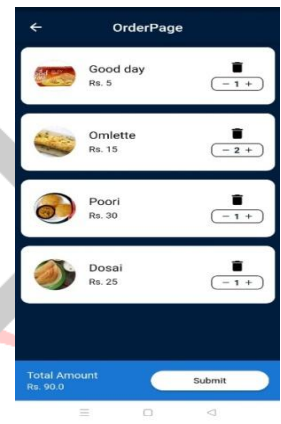


Fig 8. Order page

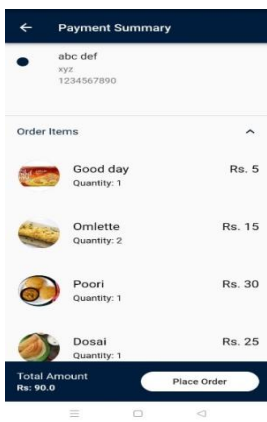


Fig 9. Payment summary



Fig 10. Confirmation page

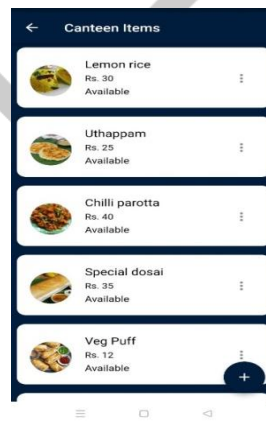


Fig 11. Product page

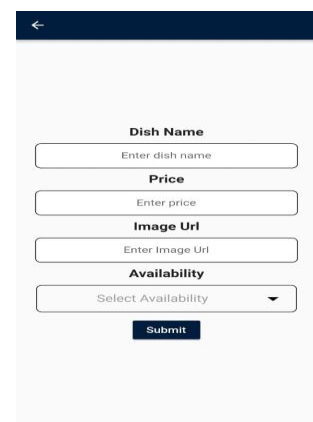


Fig 12. Add items



Fig 13. Order

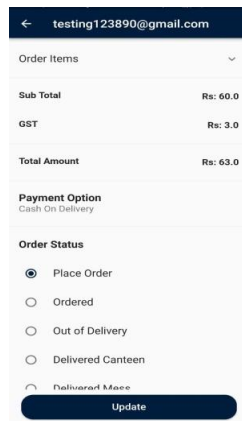


Fig 14. Order details

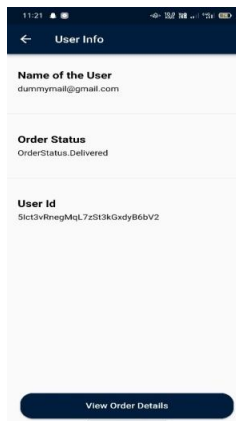


Fig 15. User info

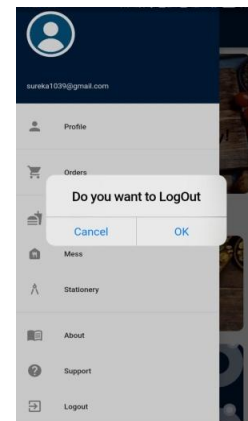


Fig 16. Logout

## V. ACKNOWLEDGEMENT:

The satisfaction and euphoria that accompany the successful completion of any task be but incomplete without the mention of the people made it possible, whose constant guidance and encouragement crowned our efforts with success. We extend our gratitude to the Founder, Late Thiru. K.L.N. KRISHNAN, K.L.N. College of Engineering and Management Members for making us march towards the glory of success. We express our sincere thanks to our respected Principal Dr. A.V.RAM PRASAD, M.E., Ph.D., MISTE., FIE, for all the facilities offered. We would like to express our profound gratitude and heartfelt thanks to Dr. V. KEJA LAKSHMI, M.E., Ph.D., Head of the Department of Electronics and Communication Engineering, who motivated and encouraged us to do this out-ri-val project for this academic year. Our profound, delightful and sincere thanks to our respected Project guide Mr. S.R. Naresh, M.E., Associate professor and our respected project co-ordinator, Mr. S. RAVISHANKAR, B.E. (ECE), M.E., (APPL. ELECTRONICS) whose support was inevitable during the entire period of our work. We thank our teaching staffs for sharing their knowledge and view to enhance our project. We also thank our non-teaching staff for extending their technical support to us. We also thank all our friends and classmates, our parents who have directly or indirectly helped us in completing this project work.

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