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Digital Canteen using Android Application

Rakshanda Hedawoo[1], Srushti Narkar[2], Ashwini Thevar[3], Prof. Shashikant Mahajan[4]

[1,2,3]Students of Department of Information Technology, Vidyalankar Institute of Technology, Mumbai, Maharastra
[4]Prof. of Department of Information Technology, Vidyalankar Institute of Technology, Mumbai, Maharastra

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Abstract - *The proposed system will be a complete full-fledged app-based canteen management system which will be very feasible for the students, and the faculties to order food. On the canteen side, the staff will be able to view all the purchases from different users and analyze these purchases from his app through a tab. The app will be secured with OTP verification during registration for the different users. As the order is getting ready and is ready to be delivered, the user will be informed of it through a notification. Payment of the order is done through a prototype of an integrated payment system, so there is no need for the user to carry money in hand. If the user doesn't have an account for that particular payment gateway they can order food by paying in cash too.*

Key Words: Canteen Management system, android application, integrated payment system, role based access, OTP (One Time Password) Verification, Menu data sync.

1. INTRODUCTION

In a college canteen, there can be at the most two counters available, so in the lunchtime or the peak hour of the canteen the crowd gets bigger and students need to wait for a long time in the queue to place their order and at the same time it gets difficult for the canteen side to manage and sometimes it ends up with some error in the payment and exchanging of orders. A lot of chaos is generated in the kitchen too when the order is being told to prepare. So to make the work easy we decided to make an application in which the users need to register to make an account and then they can order their food through the app from anywhere within the campus and pay through the app or can also pay with cash. After payment, an invoice will be generated which will be unique for different orders using which the student can collect their order from the counter. From the canteen side, the user will be kept updated on their order status and when he/she gets a notification that their order is prepared, then students go to collect their order because of this student's no need to wait in a long queue to collect their order. And for staff, we have to keep an extra feature where they can mention classroom number or cabin name where they need their order to be delivered. A history of all the transactions will be maintained for the student as well as the canteen on their respective apps.

1.1. LITERARTURE SURVEY

In [1] they had proposed an android application system that would let the user order food from their house via their personal mobile phones so that they don't have to stand in long queue in the canteen to order food.

In [2] they worked on an android application system where they used E-wallet for the payment of food. They used various security algorithms to make the wallet secure .In our work we have referred their work in terms of canteen management features and integrated a payment gateway also, the feature of cash on delivery.

In [3] proposed a system for ordering food in restaurants. Here they stated that every table would have a tab through which the customers would order the food, but making tab available at each table becomes expensive for the restaurant. So, in our work instead of keeping tabs at each table in the canteen the application can be downloaded in android mobile phones.

In [4] they have proposed a system for canteen management system to be used by students. Using this system the students will save their time and also have the correct change for each order while paying it through E-wallet. They have used ElGamal algorithm for the security of their wallet and used HTML, javascript, bootstrap for making the canteen management system.

1.2. ABOUT PROJECT

In this project, we have created this application which can be used as an alternative for the current traditional system of canteen management. Opting to this alternative for canteen management the process and functioning of the canteen can be eased and to a greater extent, various features can be used and enhanced during the procedure.

Using this application there will be ease of activities including the ordering from any place inside the campus of the college, the ordering at any time which will be recorded as per the timestamp, the payment for the order which will exclude the requirement of cash allowing it to be done digitally, the role-based behavior will help to a greater extent to allow the teachers to also use an additional feature for them i.e the delivery of the order. Let us see each feature or advantage in detail to see how the functioning will be,

1) ***Ordering of food:*** For the user using this application a menu will be displayed for them to choose between items and order what they desire from any place within the campus.

2) ***Daily menu data sync:*** The application has a daily sync facility which enables the canteen to decide the menu for the particular day. As all the food items on the menu are not available all the time, this facility

of daily sync will make the users aware of the daily food items available in the canteen.

3) ***Time-stamp arrangement of orders:*** The user using the application will get a view of his previous orders in a separate section of the app which will have the orders arranged according to the timestamp i.e the recent order will be displayed at the top of the list in the orders section. Also on the canteen side, the orders will be displayed in the reverse orders i.e the oldest order will be displayed at the top of the list until it is delivered or ready.

4) ***Payment***: The application has a prototype of an integrated payment system here, Paytm where the user can pay digitally through the system from the wallet. If not, then there is an option for the cash payment at the counter. The user can switch between the two options.

5) ***Role-based behavior:*** At the time of registration, the application accepts three types of roles i.e the student, the faculty and the staff. Based on the role are the different activities that each role will perform or have. The student has basic using functionality of the application by ordering various food from the menu and viewing the previous orders and the transactions. The faculty has similar functionality as the other users with some additional functionality offered to them i.e the feature delivery of food, the teacher will be asked the delivery place within the campus and the food will be delivered to the teacher. For the staff i.e the canteen staff has to manage all the canteen side data including the food to be chosen and selected for daily sync of the menu, management of all the orders from different users and delivery of food to the teachers.

6) ***Maintenance of uniqueness:*** This feature is added for the maintenance of the uniqueness of different individual users by authenticating the user at the time of registration using OTP verification during the registration process.

7) ***Status update of order:*** The orders of the users that are viewed in the orders section of the application will also get status updates related to the order from the canteen staff for eg: the order placed will change to preparing as the staff is preparing the food and changes the status of the food from his side. In a similar way, the student will be informed of the order being ready and the faculty will get the status of its order being delivered.

2. DESIGN

The basic workflow of the project is as shown in Fig.1. The project mainly focuses on the ordering of food and delivery of the order to the respective user. The process starts at the stage when the user of the application orders food from the available menu and pays through his preferred mode of payment i.e. through the integrated payment system digitally or through cash.

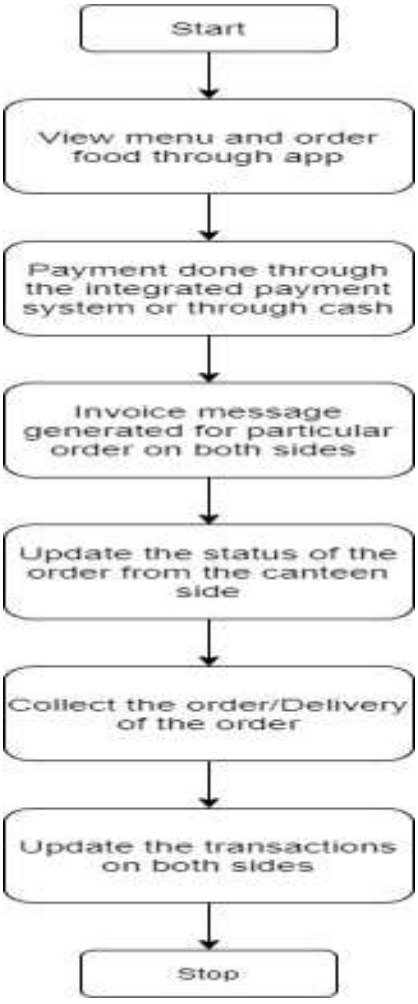

Fig.1 Workflow of the project

As the user pays for his order, he can view his orders in the application in the orders section and on the canteen staff side, all the orders from different users can be viewed. Using this generated order invoice, the canteen staff informs the user of the status of his order i.e confirmation of order, preparation of the order and the time when order is ready to be picked up or delivered. The user then receives his order and final updating of the transaction is done in the data.

The design and flow of individual system on both sides i.e the user side and the canteen staff side is as shown in Fig.2 and Fig.3 respectively:

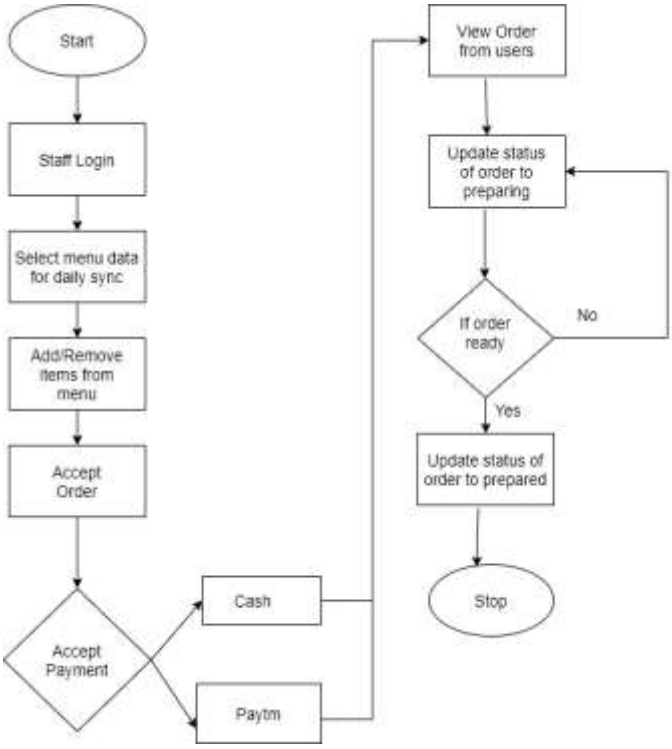

Fig.2 Staff side

All the actions done by the staff are reflected on the user side related to syncing of data and updating of the status of order.

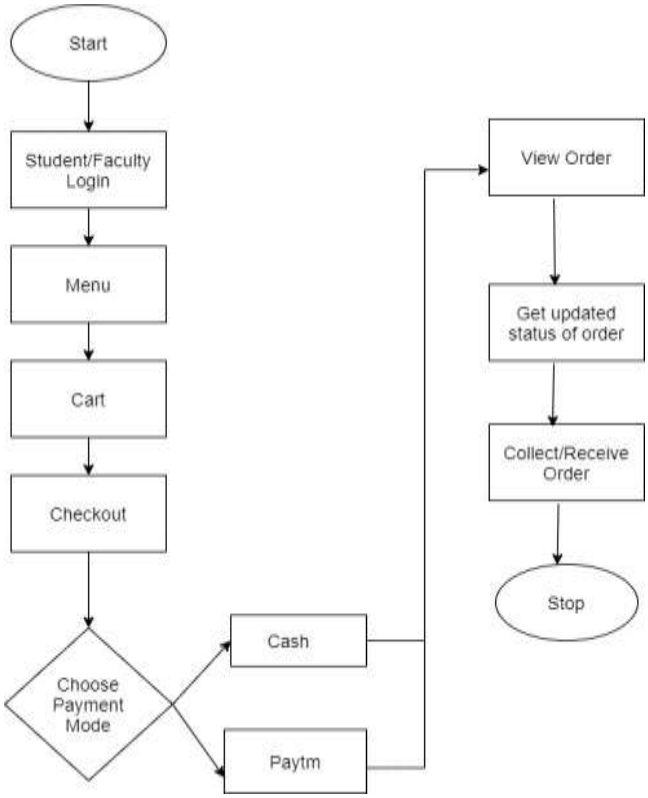

Fig.3 User side

3. CONCLUSION

In the traditional canteen system the students order their food by standing in the queue and waiting for their turn to come, once ordered they have to keep asking repeatedly about their order sometimes even the orders are not delivered in a sequence as per the orders taken. In this improved system, students can order their food through their phone from anywhere within the campus. Once the order is prepared that particular user whose order is ready would get a notification to collect their order. If that user is a faculty then he/she would get their food delivered to the place mentioned by them while ordering the food, hence resulting in time-saving and getting food on time. As it will be a complete full-fledged app-based canteen management system it will be very feasible for the students and the faculties as well.

REFERENCES

[1] Abhishek Singh, Amit Tanwar, Aditya Sawant, Chaitanya Parulekar, Kunal Yadav –"Canteen Food Ordering Android System" International Journal on Recent and Innovation Trends in Computing and Communication, Volume: 04 Issue: 04

[2] Rameshwari Fegade, Gaurav Nandge, Pranjal Patil, Tejas Gaikwad, Prof. P.P. Bastawade –" Canteen Management Andriod Application Using E-wallet"International Research Journal of Engineering and Technology, Volume: 06 Issue: 03

[3] Anas Bin Amir, Mohd Syazwan Nazmi Bin Abul Kassim, Mohamad Ikhsan Bin Johari –"Automated Food Ordering System" School of Computer Sciences, Universiti Sains Malaysia.

[4] Akash Katkar, Kalpesh Juvekar, Nitin Rohira, Smita Jangale –"Canteen management system using the E-wallet" International Journal of Advance Research, Ideas and Innovations in Technology , Volume: 04 Issue: 02