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CANTEEN ORDERING SYSTEM USING ANDROID

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Abstract—During college break, there is a huge crowd in the canteen. Starting from the queue at the coupon counter to the serving counter a lot of time is wasted standing in the queues which eventually leads students and faculty to delay for their lectures. Both students and faculty would definitely wish to reduce this time and would want their orders be delivered as early as possible. We have come up with a solution which help in placing orders quickly by maintaining social distancing as well as cashless money transfer. We are developing an app on which a user would be able to place an order and pay via e-wallet or UPI. The request for the order would be displayed in canteen where the order would be accepted.

Keywords --- CMS (Canteen Management System), MCNN (Multi-column Convolutional Neural Network), UPI (Unified Payment Interface).

I. INTRODUCTION

Traditional canteens are based on pen-paper records, cash, manual calculations and manual record keeping of credits which in today's time in an inefficient way to operate a business. We aim to accomplish this task by creating a web application and a mobile application for managing the canteen menu and orders. The proposed application is mainly beneficial for reducing the time wasted waiting in the queue by sending the orders directly to the kitchen, placing orders in advance & by providing a online payment facility which saves time spent in tendering change. We offer quality solutions to students in the form of Canteen Management software, which can be used in many large-scale or small-scale canteens. This system also prominently relieves the burden on the canteen's end, as the entire method of taking orders is computerized. Once an order is placed on the android phone, it is entered into the database and then retrieved, in pretty much real-time, by a desktop application on the canteen's end. Within this application, all items in the order are displayed, along with their equivalent options and supply details, in a summarizing and easy to read manner.

II. PROBLEM DEFINITION EXISTING SYSTEM

The current system of the canteen management is not computerized and thus there are many problems faced by students and canteen management team.

The problems are stated as follows:

1. In college canteen, lot of time is wasted in queues for ordering food.
2. After placing order they also have to wait for the delivery of food.
3. At times it is not possible for the canteen management team to deliver some orders on time because of the crowd and as a result of this recess time gets over and students might get late and miss the particular lecture or practical. There are also problems regarding the cash payment such as unavailability of change.

Proposed System

To overcome the problems faced by existing system, we proposed a complete computerized canteen management system to order food online through android application so that the preparation of food may begin before the user reaches the canteen. The online ordering feature shall be available to users who are registered and logs in. There are so many modes of payment, like Domestic and International Credit & Debit cards, EMIs (Credit/Debit Cards & Cardless), Pay Later, Netbanking from 58 banks, UPI and 8 mobile wallets. The items of a placed order shall be displayed on the screen in the kitchen which indicate the cooks to prepare the items and the message "ORDER PLACED SUCCESSFULLY" shall be displayed on the user screen. When the order is delivered its status is updated to "COMPLETED".

III. LITERATURE SURVEY

Design of an Electronic Pre-Ordering System for Academia

Rofsanjani Rubel, Shahina Akter, Shahnur Alam Risat, Kazi Arif Hasan, Nishita Akter, Sazib Hosen Today we are applying technology almost every part of our life to make easy our lifestyle and also to save time. University is the place where students planting seed of success in their future



life. In ordinary canteen management system, time is the biggest issue for students because in the ordinary system at first students go to canteen, then they wait for the waiter by which students can know about available food items and price also, then waiter collect order from students and after this procedure canteen authority prepare food and serve to the students. This ordinary manual system wastes valuable time of students and authority. To reduce these problems, Author developed a web application CMS (Canteen Management System) by using HTML, CSS, JavaScript, Bootstrap, j Query for Front End and PHP MySQL for Back End, also use UI kit, Google map, carousal, Time picker for Plug in purpose. In CMS, any university can manage their canteen online and the students can save their time by using the pre-order system online. They can also pay later for the food and the manager also can keep track of their sales. In CMS application authority can see the order with details divided into three stages as cooking, delivered, and cancel. They can also see a list of the existing students and their information. They will have the feature to create an account for every new student. Students can order an item for a specific date and time and they will get a notification or reminder before the food is ready to deliver. Students can pay online and offline. Existing student needs to log in to order items. The new student can register for ordering items.

Marketing habituation and process study of online food industry (A study case: Zomato)

Jelita Sparta, Shahad Alsumait, Apoorva Joshi Online food ordering apps are the media by which local hotels and restaurants, chefs, canteens are delivering take away and food parcel directly to consumers footsteps. Due to increase in working young generation in metro cities and hectic work life culture this type of idea is easily spreading. This system has generated a new dimension to working people's kitchen. Now days consumers are getting more attracted towards online ordering apps rather than home delivery of a specific restaurants. In a process of online food ordering apps there is no human intervention involved which gives it more privacy. Apps are having number of restaurant, chefs kitchens listed with their menu specifically. So the consumers need not to carry pamphlets and menu list for further orders. It gives convenience to order food on click of a button. These apps can be directly downloaded to smart phone which give them more accessibility. By giving your address and profile, payment information account can be created. However the app needs to be downloaded by the customers on their cell phones and register them on the app. Creating profile on apps includes their address and payment information. Apps are having different kind of mode of payments like credit cards, debit cards, cash less accounts and free home delivery. Different apps offer different services, offers, features or restaurant too. Downloaded app used to give some coupons discounts, previous order history, some palette suggestions, recent customers review on

restaurants as well as dishes. The market business of Indian food industry is expected to reach \$420 billion by 2020, reports BCG. Presently, the Indian food business is around \$350 billion in 2019. This sector is coming up with innovative ideas to provide their consumer convenience, satisfaction and retention. There is a huge competition between free home delivery given by particular restaurants and online food ordering apps.

vCanteen: A Smart Campus Solution to Elevate University Canteen Experience

B Vatcharakomphan, C Chaksangchaichot, N Ketchaikosol, T Tetiranont, T Chullapram, P Kosittanakiat, P Masana, P Chansajcha, S Suttawuttiwong, S Thamkittikhun, S Wattanachindaporn, A Boonsith, C Ratanamahatana, N Prompoon, M Pipattanasomporn

The persistent problem circulating around various university canteens has always been about high crowd density during lunch hours. To efficiently tackle this issue, a platform called "vCanteen" has been developed that integrates an online food ordering system, a virtual queuing system, together with a machine learning-based crowd estimation system. vCanteen aims at reducing queuing time when ordering food, and allowing users to know the estimated crowd density in a university canteen in real-time. The crowd estimation system has been developed using a multi-column convolutional neural network (MCNN). This paper discusses the vCanteen prototype that was developed and tested at the canteen in the Faculty of Engineering, Chulalongkorn University, Thailand. The description of the crowd estimation system is provided in details including error evaluation and lessons learned.

Our Proposed Work

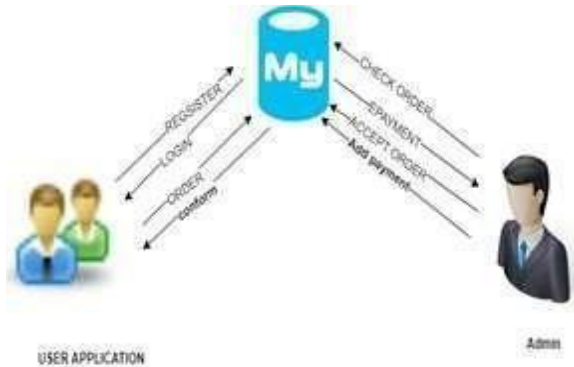
To overcome the limitations of above systems, we propose this canteen automation system based on android technology. It is a wireless canteen management system with feature take order, send order, billing and other using android devices. Android devices, in the past few years, have reached the pinnacle of popularity and have revolutionized the use of mobile technology in the automation of routine task in wireless environment. Android is an open-source, Linux based operating system for mobile devices such as smart-phones and tablets. Location based services using android operating system motivated by the use of android mobile operating system in health and other applications, System present the use of android devices in business applications, namely the canteen management system in restaurants. The promising future of android market makes the concept of writing applications for android beneficial and worthwhile.

The objectives of our proposed system are:

- To combine wireless technology and android mobile operating system to automate canteen management

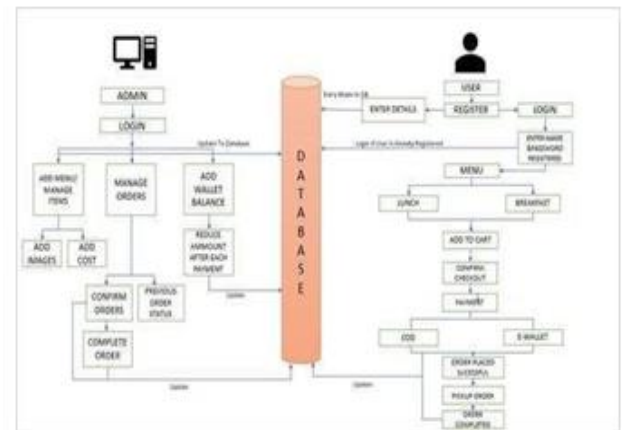
system.

- The system will help to reduce the cost of labour. Reduction in labour will also lead to a considerable monetary saving.
- Allow the canteen to operate faster (faster seating, faster order preparation, faster turnaround on food).
- Reduce employee error, thereby increasing customer happiness. This also reduces waste as when the wrong item is ordered, the food must be discarded.
- To make more user interfaces friendly and customization for the canteen owner to update the menu content on the customer devices.
- To enable real-time feedback between the restaurant owner and customers on the order status.



The main aim of our project Canteen management system is to provide fast services to their college students, Staffs etc. Usually people have to go to canteen and order the foods and they have to wait in queue for a long time to get the orders. But with the help of this you just have to follow a very simple process to order your stuffs. And you need not to wait in the long queue. This website will provide the list of different menu list with different categories. User can select any item from canteen and can order it by using debit card payment or wallet Payment or UPI. Users must register with valid details which will get saved in our database. Users will also get recommendation for food items, most ordered food items. Canteen Management system manages all the details of food items which contains name, description, image, price etc. Admin can view the confirmed order and update the status of the order accordingly. Customer can check order history and able to delete the order according to order status.

System Architecture



Admin

- 1) Login- Canteen person need to login using valid login credentials in order to access the Application.
- 2) Add / Manage Items- Can add new food items with details such as name, image, cost, description, etc. and also can manage added details.
- 3) Add Stock details in Database
- 4) View / Update Orders- Can view all the canteen orders received from the student.

User

- 1) Register- Student need to register first with basic registration details and need to create a valid login id and password.
- 2) Login- Student need to login using their valid login credentials in order to access the web application.
- 3) View Items- All the food items will be displayed to the student at once with description and cost. Add to Cart- Single or multiple food item can be added to cart by selecting quantity.
- 4) Order and Pay- Order can be placed of selected food items by using option cash on delivery or online payment methods.
- 5) Order History- All the past and recent order will be displayed.

IV. CONCLUSION

This report discusses the delay in canteen orders and time being wasted in long queues and finally proposes a working solution for the same. It further discusses the importance of the payment using online payment methods instead of cash. The project has a very vast scope in future. The project can be implemented on intranet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of database space manager ready and fully functional the client will now be able to manage and hence run the entire work in a much better, accurate and error-free manner. The developer can also use biometrics for customers



and admin to log-in the application like this will be very helpful for future generation.

V. ACKNOWLEDGMENT

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