Canteenautomation System using Android Application

S.Jaya kumar, Sawan kumar, Prabhat Ranjan, Dharmveer kumar raja

Abstract: Nowadays technology has been used in almost every field in our present life, but still in the College canteen using traditional cash and card methods to take orders from the customer. When we are going to the college canteen for taking food, we have to wait in the queue for billing food and taking for token. But these days people do not have lots of time to spend in a queue for billing in the canteen. Many people are visiting the canteen during their break time, lunch break and leisure time So they have little time to eat and go back to particular places. Our project can provide the user with online registration on the android apps then read the food list from the e-menu card and select the item of food that the user wants to take and eat using android apps. Once the food has been selected from card E-menu then go to conformation food after that a one-time password generated on display or by a message on register mobile number.This one-time password use as a token for food. When the customer will take food from the food counter after verifying the one-time password by food supplier then the amount of food automatically debit from the customer wallet or account. By using it The cashier work will reduce through the android application and We can also say cashier's work is taking over. The main advantage of this application is if it's there a crowd in the canteen then there are opportunities the customer will be spending so much time in the queue for getting the token of the food and if cashier is not available then the user Could directly be booked and Order the meal items by using these android apps. So these android apps help them to save time to waiting in the queue and order food items whenever they want without visiting the cashier counter every now and then.

Keywords: food billing,food order system, android application, one-time password.

I. INTRODUCTION

Nowadays the standard of living of people has enhanced with fast financial and technological growth.Traditional ways have been altered by technology in almost every area and made life easier and more comfortable.Many canines still follow a completely manual procedure for food billing today. In an old-style cash and card method, The cashier notes customers ' orders and make the bill, givesthe token to the customer, updates them in records.This billing system takes too much time.

This billing system requires cash counter and cashier staff and It is, therefore, likely to make human mistakes.
except for mistake,for billing customers have to wait in the queue and It is time-consuming.The core benefit of this billing system is that the food ordering process is significantly simplified for customers and the canteen.This application offers a nice looking user interface via the android application. It offers also pictures of all Items of the Menu and prices of them so the customer can easily order them. In this system the first user creates (register) an account then goes to the login page. During registration,the user adds their wallet(like- paytm, phonepay, googlepay, and other mobile wallets) and account for payment purposes.Select the meals from the e-menu you have entered after signing into your database. Then choose and select the meals then add to cart. After that checkout the food. Then one-time password generated on display or by the message to register mobile number. After that, the App tells customers about the food quality, food preparation time and when it is prepared to take the food or how long it takes.This one-time password use as a token for food, when the customer will go to pickup food from the food counter then verify their order by one-time passwordto the food supplier. After verifying order the food supplier will give food, after taking food the amount of the food automatically debited from the user wallet or account.It has the ability to deliver personalized emails to the food supervisor. Users can allow to give feedback and any suggestions through the android application.

II. RELATED WORK

Traditional canteen system
This is still today's simplest and most commonly used system. In this canteen system, Whenever a customer goes into the canteen, read the menu card and go to the cashier counter, stand in the queue. thecustomer gives food details to cashier then cashier note down the order and The complete bill of food is calculated then gives the bill token of food to the customer. After that, the customer goes to the food counter and givesa token to a food supplier and after sometime they will give food to the customer. Dozens of paper must be stored in this canteen systemWhich waste of paper as well as money Since this method is entirely manual procedure so there is a high chance of human Mistakes such asthe cashier may forget to take money from customers because of rushand the other types of human mistakesis sometimes cashier forget to add some item or could get paper damaged by water and other things due to mishandling. The menu card does contain the list of food items and their prices theyare in a paper.

So if the manager is interested in updating the menu list or food price, Then the menu details in each and every menu would need to be changedthat is already present in a canteen in the college canteen.sometimes Menu cards often need modification, which doesn't allow all menu cards to be replaced by fresh ones.This paper-based menu card chooses dynamics in easy words.

A cantine supervisor even struggles to evaluate the order lists of users to determine the best-selling food products. In this old-style food ordering billing method there is also no adequate monitoring mechanism.All these things involve a big workforce which is expensive even from the point of perspective of the canteen.The time, money and paper are wasted in this traditional method. So the canteen needs to alter this canteen scheme to make fresh technology available.

III. PROPOSED WORK

There are currently so much automatic food billing ordering android applications available on the internet but But they are not yet common enough to be accepted throughout the globe by the canteen. They have a lot of limitations like, They are not friendly to the client, These systems may sometimes take a long time to order themselves, they do not have the right feedback scheme among customer executive in real-time and they are not affordable. To overcome the constraints of these schemes, We are suggesting a digital canteen food ordering billing system with Android application. In our everyday lives,the Android smartphone has become highly popular. Using an Android smartphone, We strive for an android implementation through this schemeThis is suitable use for both the clients and the perspective of the canteen andautomates the process of food order in an economical manner.It also offers a feature to receive feedback from clients in real-time. It enables executives to immediately announce different offers or food products through the android application. The application is also simple for managers to use. Since food items are listed in the menu and transactions in a central database, Managers can evaluate the best-selling products very easily by obtaining the database values. As this automates the process of food ordering billing systems in a canteen.it, therefore, Reduce the workforce that reduces employee and a lot of cash as well as time. This android application is very useful for college canteen.We can also use this system in another canteen, restaurant.

IV. SYSTEM ARCHITECTURE

This canteen automation billing system uses only one android application for the customer as well as the canteen manager. The customer use this app and register as a customer, the manager and food supplier can also use this app and register as canteen staff. The Android application has different user-type functionality. Administration access is available to the manager and has full control of the whole canteen automation billing system. The food supplier can make a change in the e-menu card according to the availability of food in the canteen and also verify the token for food. The customer uses this app for ordering food and generating a token (one-time password) for food.
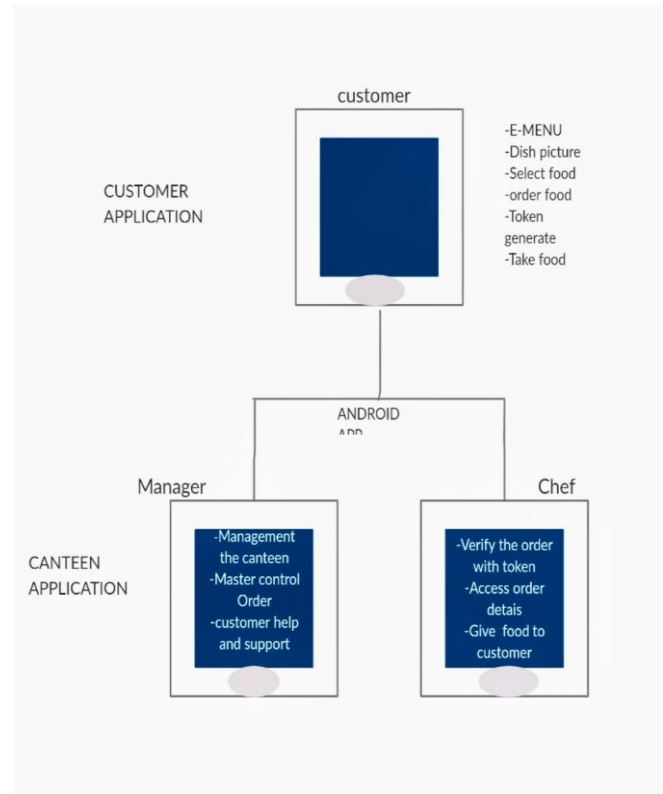

Fig- System Architecture

This canteen automation system is made of threedifferent areas: 1. Customers area 2.Manager area 3.Food counter area(chef)Customers area-The Thecustomers have an android smartphone. This device has an app already installed in them. The customer must be created (register) and login an account in this application with proper details. This Android app has an appealing, easy-to-use interface. It lists all the food products available in the canteen and their pictures on the electronic menu.The choice of food products is easy for clients. The customer checkout the selected food and get a one-time password(as a token).This token use to verify their order at the food counter and take food by food supplier. It also has a feature to make a call or text in a given helpdesk for Just a press on the support option to provide any assistance.This application provides any type of support regarding any query to ordering food.Manager area- In this app, there is a separate option for staff register and login. The manager register and login as a staff. The manager can access each customer's order information.From this app he can identify a list of all food is available in the canteen and he can remove and add the food item to update the list of food available in the canteen. He can give any type of support to the customer This application also enables the manager to publish unique deals on a specific day. he can add discounts and special offers to any food.The manager requested the customer to give feedback, any type of suggestion and rating of service and food.Food counter area- In this area, the food supplier will give the food to the customer. The Foodsupplier register and login as staff. The food supplier takes a one-time password from the customer and verifies the one-time password for the food details of the customer by using this application. After verifying the food details the supplier will give the food to the customer. Activity Diagram of system:-
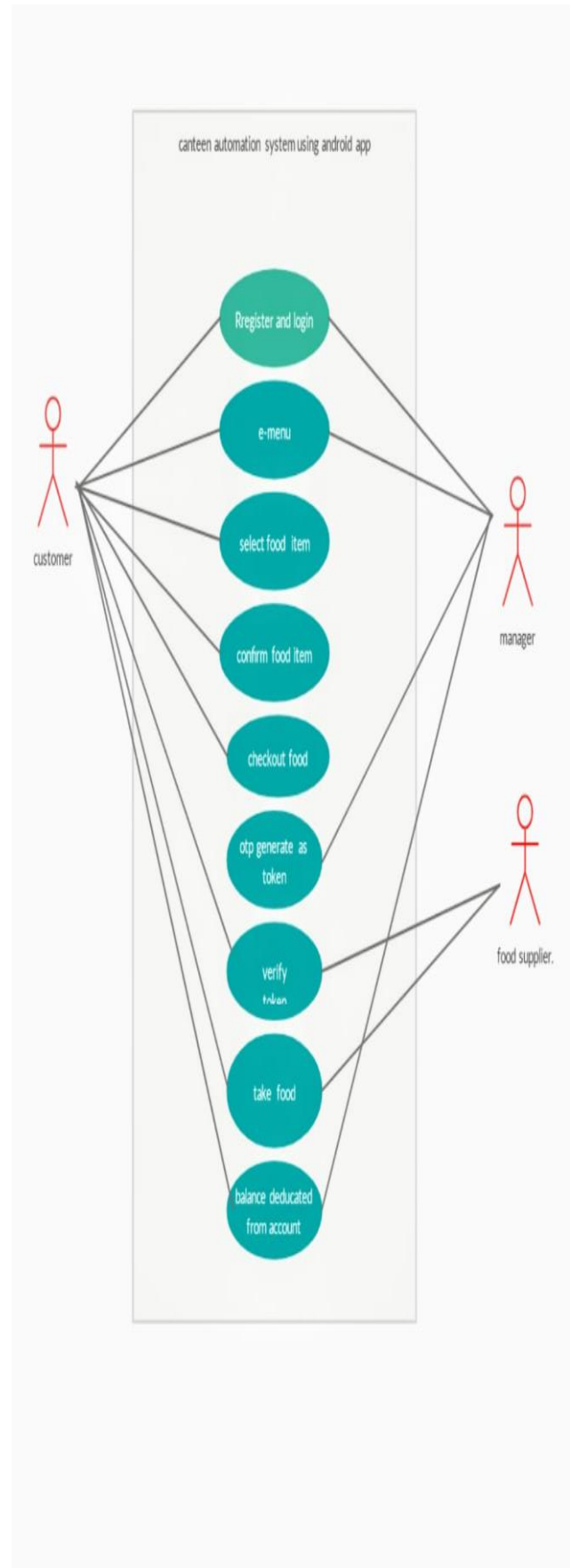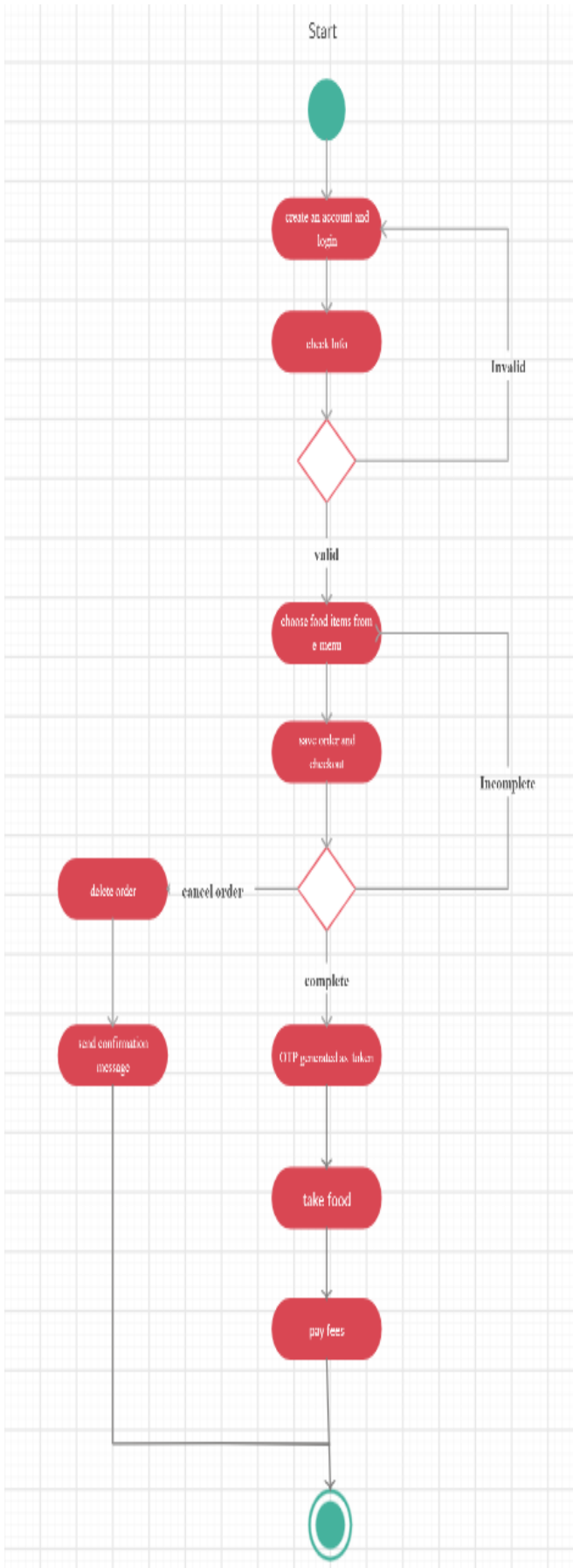
Use case Diagram of system

V. CONCLUSION

The most common problem in all college canteen to take lots of time for food billing and The customer don't have a lot of time because all the college gives a break at a specific time, to taking food and go back to the class. In old-style, when a customer enters the college canteen they searching the menu card after that read the menu card and select the food then go to the cashier counter, stand in a queue. the customer gives food details to the cashier then cashier note down the order and calculates the amount of food then gives the bill token of food to the customer. After that, the customer goes to the food counter and gives a token to a food supplier and after some time they will give food to the customer.

In our project,We suggested the canteen's automated food ordering billing scheme using android application.this android application will very useful for both customer as well as canteen.This scheme removes the manual food ordering accounting procedure as well as decrease number of the canteen worker and will be saving the cost of worker significantly.This scheme needs only a one-time investment in the canteen installation of the required equipment.It does greatly save worker mistakes, as this entire process is automated. this scheme will speeds up the ordering of food and It will stop a lengthy line from creating in front of the payment counter.This is, therefore, a modern and efficient scheme for food billing. It also makes it easier the complicated static editing technique by dynamiting the editing process via the android application.The manager can select the best selling food products, maximal dating hours, and can boost the productivity and income of his food court through his application and database transaction data.Also, clients can provide feedback in real-time through the app to help managers remove their issues .With the help of this scheme, you can quickly place your order without problems and provide a simple, customer-friendly and enjoyable user interface with pictures of every food product.For any assistance, customers can also contact the helpdesk with one touch on the device

The suggested scheme, therefore, will be delivers progress in the food business by automating the model via a smartphone. It can stronger and more efficiently attract users and change their canteen experience.

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