

ANDROID BASED CANTEEN MANAGEMENT SYSTEM

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Abstract: As canteen in colleges get extremely crowded nowadays, so in this project, we concentrate on fast service of food to the users to reduce paper work and save the time of the student by avoiding long queue and to keep things organized. This will satisfy all the customers need and overall sale of the canteen will increase. This application program reduces the manual work for managing the Canteen. Students can place their order through the e-menu available on the mobile application which would be further transferred to the canteen. The student can therefore know their order details and the order progress through the mobile application. The canteen manages the students order and keeps updating the progress of the order through their web application. The admin manages the student and canteen through the web application.

This dynamic database combination of web and mobile application focuses on improvising the upcoming food ordering system.

Key Words: Management system, Android, Connectivity, Web Application, SQL Server.

I. Introduction

In this paper we have created a management system for college canteen. In colleges nowadays everyone tends to eat fast food rather than traditional home-made food and because of this it causes a lot of chaos in managing the canteen system. So we proposed this canteen management system which will helps students as well as canteen owners to function efficiently and properly.

As we have been following traditional method of standing in line and waiting for our turn to come till we place order, this system will allow students to place order as per their need and time. We have also introduced calorie tracker which will help students count calorie per serving and achieve their fitness goals.

As we aware of the problems of the traditional system is facing such as

- 1.Verbal communication between cashier and customer or telephonic communication.
- 2.Food customization.
- 3.Menu display.

This system will enable student to register into canteen system and will be provided with login credentials. After this the student will be able to go through food menu and select their food and add the food item into cart and place order. The order will be received by the canteen manager who will forward it to chef who will prepare the desired dish and once food is ready admin will update the status to food is ready.

This system is basically combination of android application and web application to provide effective services to the both students as well as canteen.

II. Literature Review

FayazKaredia, Pranit Hule and Shariq Memon have developed an automation system using android in which the end user can access the app and place an order which is received by the canteen and further processing of the order is done. While the customer waits for their order, he/she may receive a complete track of the order being placed, prepared and ready. The canteen uses the web application login to access the orders placed by the student. All management is done by the admin through the web application.[1]

Lavina Mall and Nihal Shaikh have developed automation process by using Radio Frequency Identification (RFID) card, an RFID card reader, a tablet and hosting the application on cloud. This automation process when applied on an integral part of the working people i.e. "canteen" helps reduce the service time, eliminates queues, there is no burden to provide the exact change to the staff for the order; to name a few benefits on the canteen's customer side and on the other hand it provides a reliable way of storing records and keeping the money safe as mostly the payments are made online via virtual money; benefits for the canteen owner.[2]

MonikShah and Shalin Shah have developed end users to register online, read and select the food from e-menu card and order food online by just selecting the food that the user want to have using android application. The results after selecting the food from the E-menu card will directly appear in the screen near the Chef who is going to cook the food for you. The system is the combination of Android as well as Web Application.[3]

Kalyani Dahake have developed a system informing the waiter about the availability of a dish. If a certain dish was not available then waiter was able to ask for changes or even cancel a customer's order. After serving the order, bill was generated at the cash counter as per customer order. The management had full authority to access all details of the customer which are fed into the system.[4]

III. Features:

1. Interactive GUI.
2. Calorie count
3. Fast service.
4. No manual error.
5. Check status of order.

IV. Technology

The project is loaded on Android Studio and Visual Studio 2010. We used Android and Visual studio for design and coding of the project. Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user confidence that the new system will work and be effective. Created and maintained all databases into SQL Server, in that we create tables, write query to store data or record of project.

Hardware Requirements:-

i3 Processor Based Computer or higher

Memory: 1 GB RAM

Hard Drive: 50 GB

Internet Connection

Android Device

Software Requirement:

Windows 7 or higher

Android Studio

Visual Studio 2010

SQL Server 2008

Android 4.0 or higher

V. Scope:

1. All the orders placed by the students will be in digital format hence no chance of human error and tedious work.
2. As it is online the customer doesn't have to wait for the waiter to take their order and doesn't has to wait for the food as well
3. Canteen workers will not have to remember each and every order placed and this will make their task easy.
4. Waiters don't have to manually calculate the amount of money to be paid by the customer after having food it is automatically done in the software.
5. Loss or mishandling of data can be minimal with use of technology.
6. Use of QR (Quick Response) Code is implemented to generate after order is placed and also generated whenever a user wanted to withdraw amount from the wallet. Admin or the canteen person need to scan the QR code to initiate the transaction and the amount will be deducted respectively.

The system comprises of 3 major modules and their sub modules as follows:

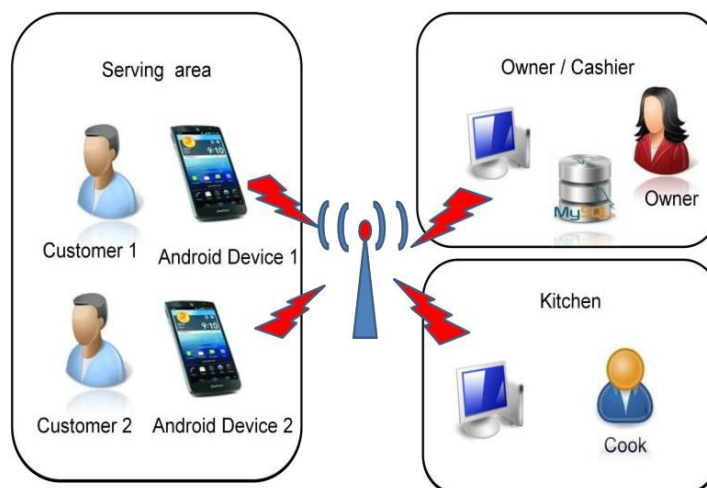


Fig 1. Overview

5.1 Admin

- Login
- Add Canteen
- View/Edit/Delete Canteen
- Add Students
- View/Edit/Delete Students
- Add Balance

5.2 Canteen

- Login
- Add Items
- View/Edit/Delete/Enable Items
- View New Orders
- Update Status
- View Transactions
- Add Balance

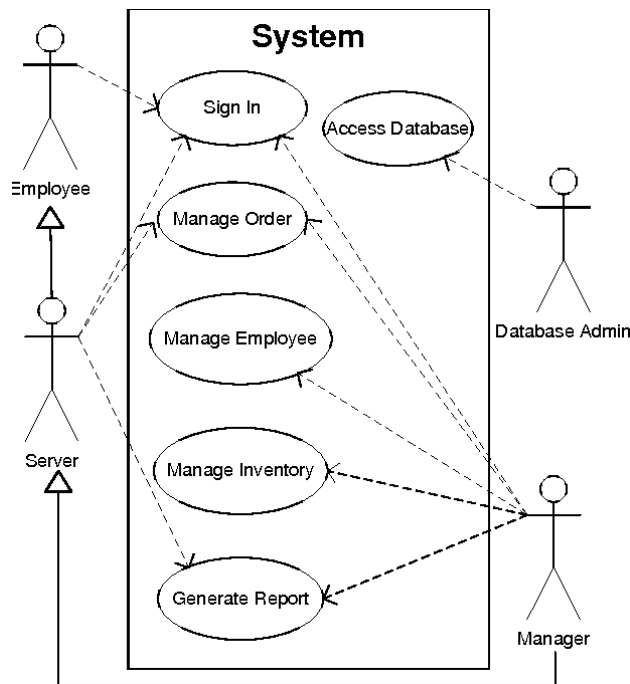
5.3 Student

- Login
- View Menu:
- Review & Place Order:
- Generate QR Code for Order
- Select Canteen
- View Transactions

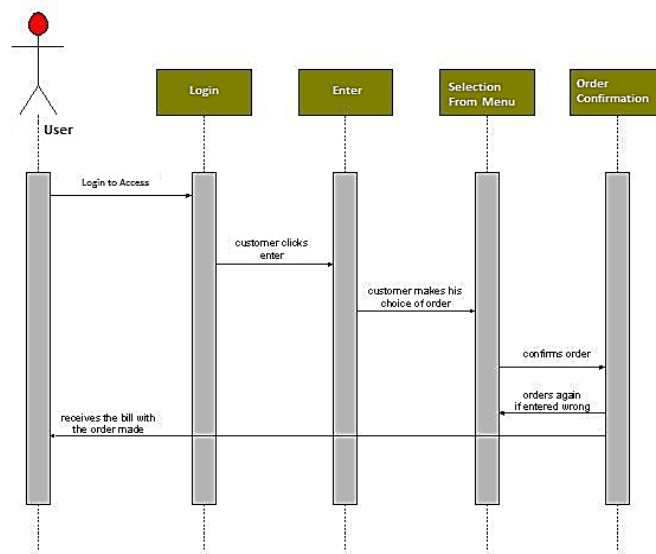
Application:

The proposed system can be used in offices and organizations as well.

VI. Use Case Diagram



VI. Sequence Diagram



VIII. RESULTS AND DISCUSSION

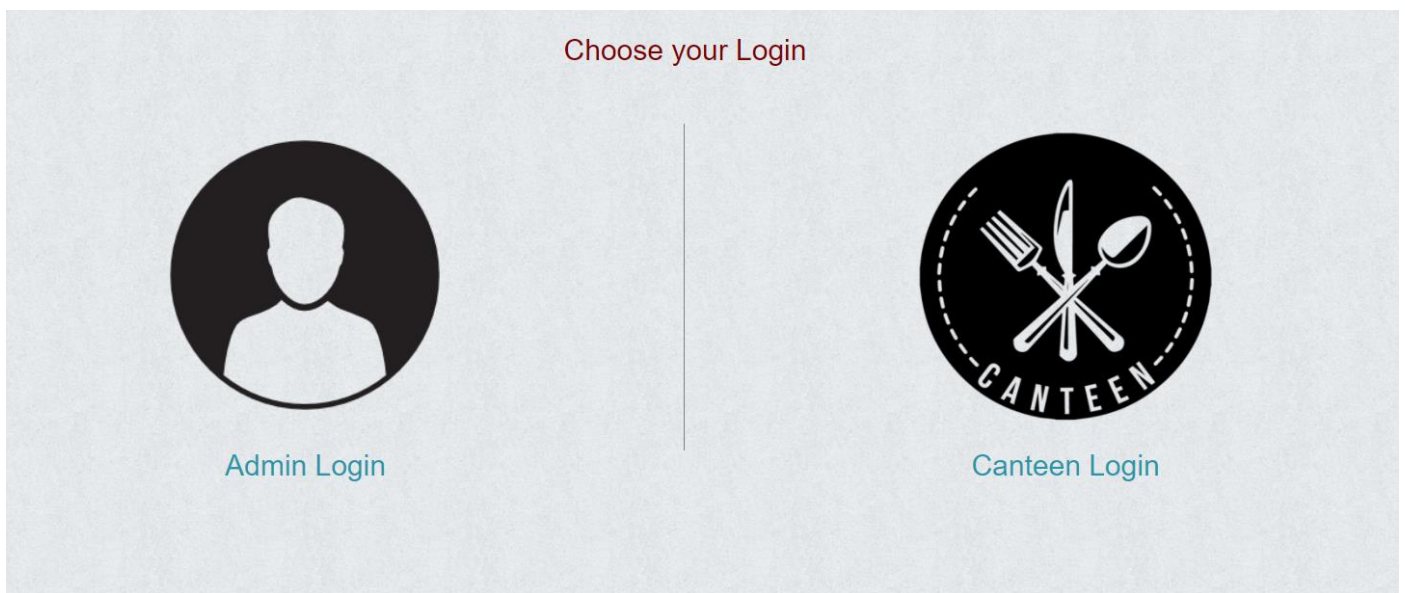
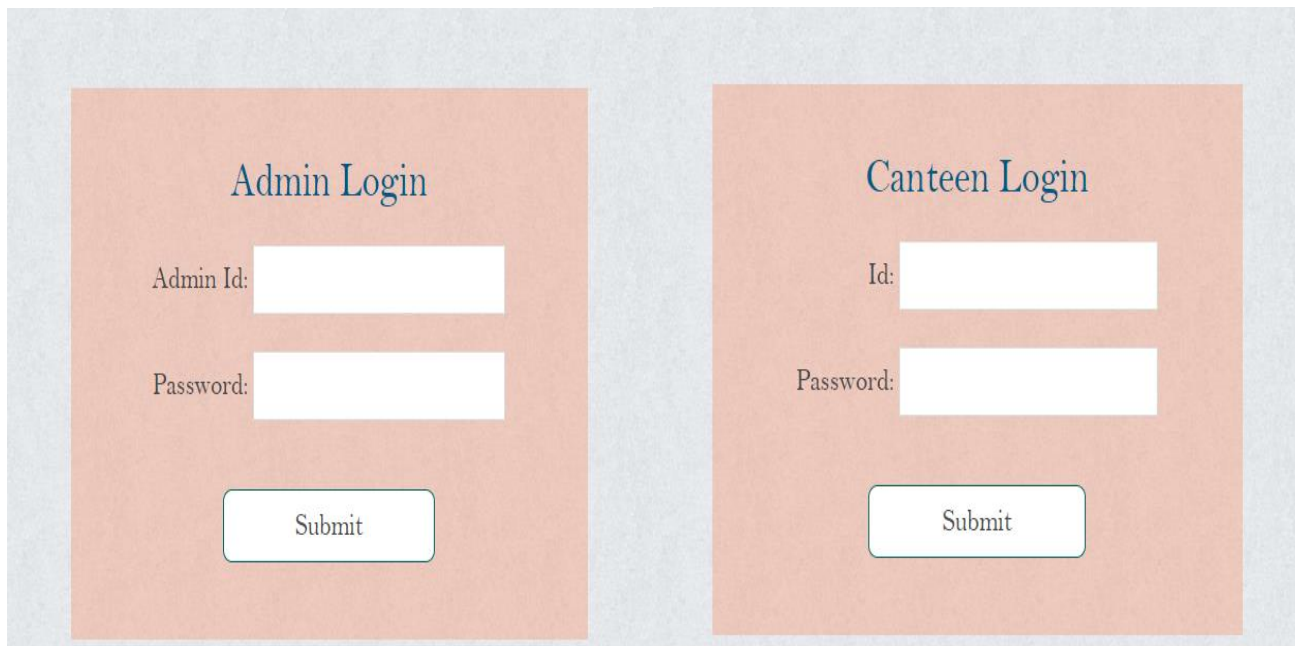


Fig 2. Web Login

**Fig 3. Admin Login****Fig 4: Canteen Login**

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