



Canteen Automation System

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Abstract - Canteen Automation facilitates college students and teachers to order the desired food items from fingerprints by registering online and selecting the required items. Registered members can easily order by adding food items to the cart. As soon as a person orders payment and confirms payment, the Canteen Authority will prompt immediately. It works like a fully-fledged real-time application. It utilizes a centralized payment interface (UPI). The use of canteen automation reduces waiting time. The advantage of this is that if the canteen is overcrowded, it can provide customization of times and meals to suit customer needs. It is most effective when mass gatherings are prohibited during an outbreak such as Covid-19. The college user has a specific username and password, which they can use to sign in to the app.

1. INTRODUCTION:

Computers have become a part of life to access almost any kind of information. 21st-century life is full of technological advancement and in this technological age, it is very difficult for any organization to survive without the use of technology. The World Wide Web contributes greatly to the ever-growing global information database. Businesses can exchange information through World Wide Web sites. Fast-paced diets and fast-paced preparation methods, coupled with the fast-paced service industry, have led canteens to focus on preparing food and delivering orders more quickly rather than providing a rich dining experience. The delivery orders were all usually delivered to guards or by telephone until recently, but the system was hindered by several factors, including a lack of visible confirmation of the customer's order and the need to have a copy of the customer's menu. The order is set correctly and the crew must answer the call and take orders. The online grocery order technology we provide for canteen automation can be used in any food delivery industry. In addition to simplifying the order process for both the customer and the canteen, this system also offers additional features. When customers visit an order web page, they are given a modern interaction menu, complete with all available options, and adjust prices flexibly based on selected options. Is. After selecting an item, it will be added to the customer's order, and details can be changed at any time before leaving. Using it, you can ensure that the program items are what you intended them to be. As the whole process of ordering is automatic, the system also significantly reduces the load at the end of the canteen. When ordered from a web page, it is uploaded to the website and retrieved in real-time via the desktop app at the end of the canteen. Each item in an order, as well as the delivery details, are displayed in a concise and readable manner throughout the application. Orders can be placed quickly and items are produced quickly without confusion or delay. The main purpose of this project is to make the management tools of the cafe easily accessible to its college students, staff, etc. Usually, people have to visit a restaurant and order food and stand in a long line to get an order. But with its help, you should follow the simplest process of storing your luggage and no longer have to wait in long lines.

2. THE OBJECTIVES OF THIS PROJECT ARE:

- I. To order food rapidly
- II. Especially for busy people.
- III. Cost reduction
- IV. Reduced paperwork
- V. Computerized Oder and billing system

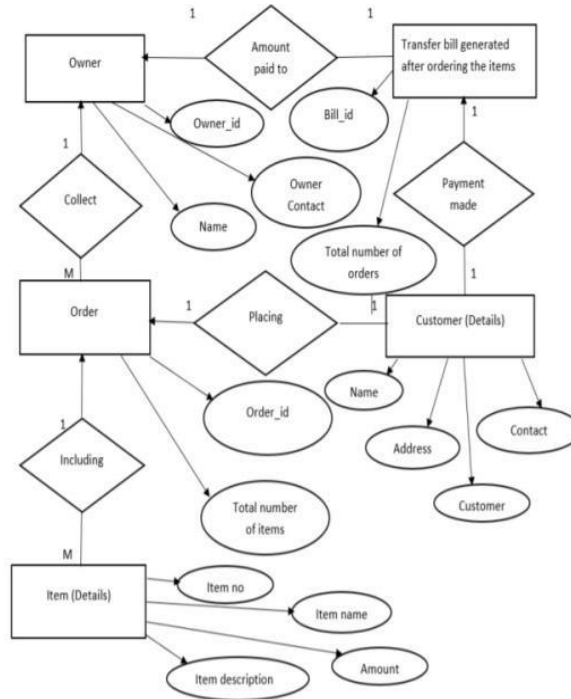
3. TYPES OF USERS:

1. Admin Login
 - Take Order
 - Bill Print
 - Add/ Remove Food Items
 - Add Offers
 - Update Menu
 - Predicting items that are most likely to be ordered during specific hours with order forecasting.
 - Total Earnings
 - Order placed by Customer

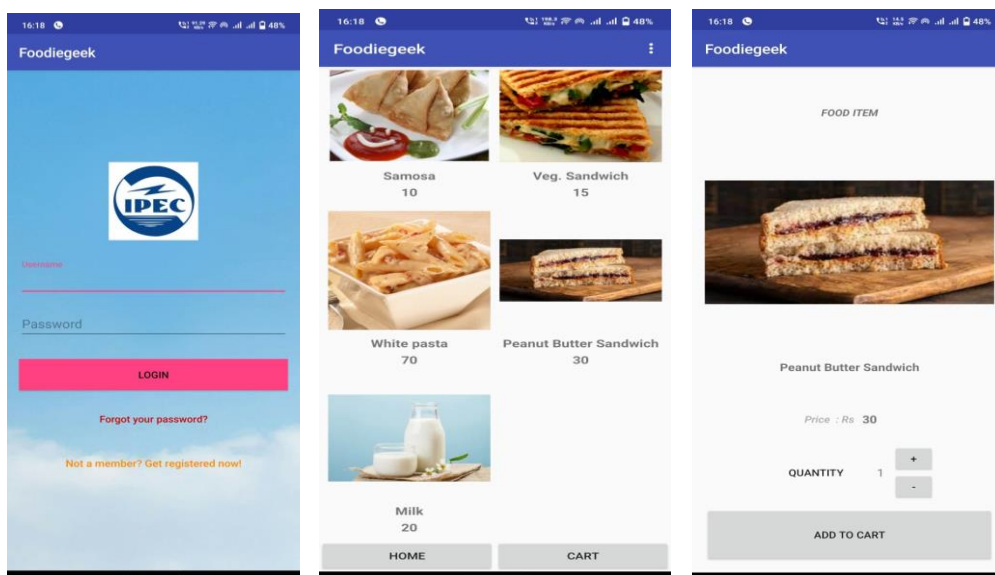


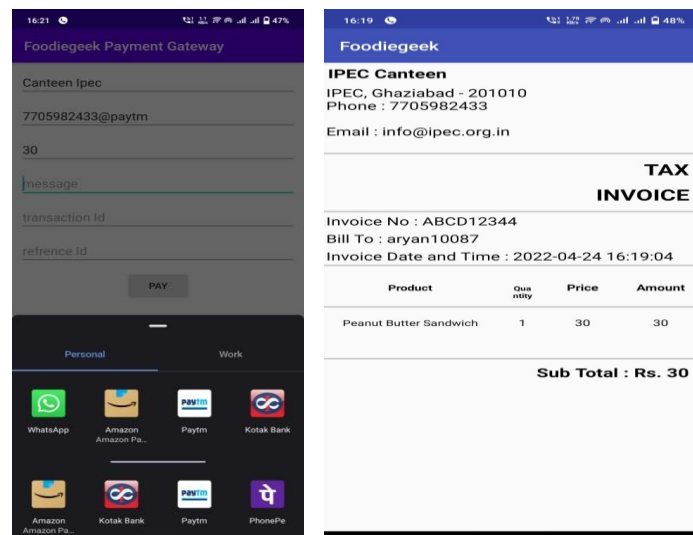
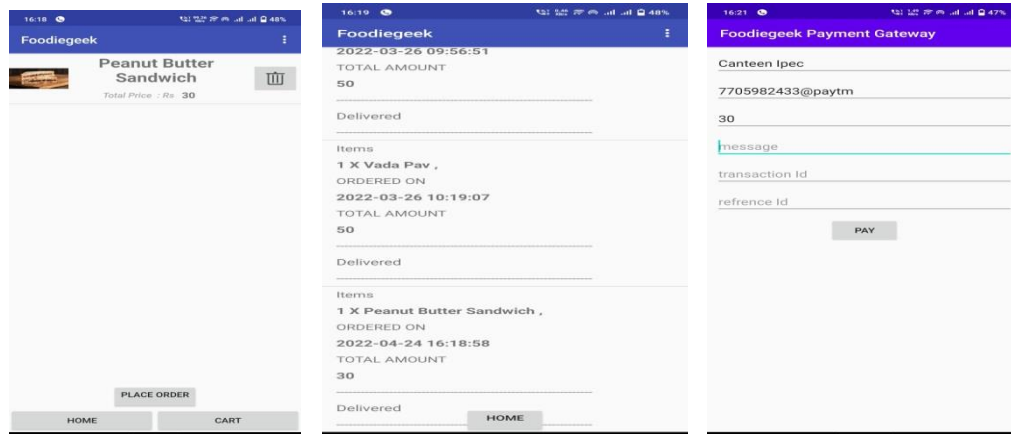
- Offer
- Order Forecasting
- 3. User Login
- Menu Items
- Place an Order
- Combo Box Selection
- Bill Payment

4. E-R DIAGRAM OF THE SYSTEM:



5. APPLICATION INTERFACE:





Execution

Save time:

- In order to save time, we developed an automation system for canteens.
- The customer may order food and this service is time-consuming compared to telephone-based or in-person programs so it also works well for canteen staff.

No effects:

- A major problem related to canteen gadgets is adding products or dealing with product units.
- We have no complicated components within our automated canteen machine that facilitate departmental interaction.
- We pay close attention to this section and remove all the complexities that make this system so precise and unique.

Operating expenses:

- It is free to download on any android device and can run smoothly.

Security:

- Online systems are just as secure.
- Many canteen management programs offer the option of creating multiple users with different access levels.
- Data is stored on secure servers, wall-mounted servers, and other Internet security systems.

6. HARDWARE REQUIREMENT:

- I. i5 Processor-Based Computer or higher
- II. Memory: 1 GB RAM
- III. Hard Drive: 50 GB
- IV. Internet Connection
- V. Android Smartphone

**7. SOFTWARE REQUIREMENT:**

- I. Windows 7 or higher
- II. Android Development Toolkit(ADT)
- III. Visual Studio 2010
- IV. SQL Server 2008
- V. Android 4.0 or higher.
- VI. Firebase

8. BENEFITS:

- I. Ordering food in the canteen is fully automated online.
- II. Orders can be placed using personal Android phones.
- III. Food order pages look and sound like the websites of existing restaurants.
- IV. A combo box contains several food items that can also be ordered by the customer.
- V. Food order pages are hosted on secure and dedicated servers so that customers are not at risk of redirecting to servers listed on competing websites.
- VI. The website was upgraded using the most recent website editing protocols for faster loading, processing, and minimal server load.
- VII. A simple user interface control panel for creating and setting menu groups, menu items, etc.
- VIII. Built-in feature for setting modifiers in various menu items
- IX. Editing teams, the ability to create individual conversion items and assign conversion features to different groups
- X. Panel for one director and individual and login for each bar
- XI. This report summarizes the details of orders and searches placed, order status updates, print orders, etc.
- XII. Details of registered members who have a printing center for various reports and reports to view the sale price.

9. DISADVANTAGES:

- I. Requires an active internet connection.
- Second. Ordering requires an Android phone.

10. APPLICATION:

Restaurants, cafeterias, etc. can also utilize the system.

11. FEATURES:

- 11.1 Load Balancing: Since the system is only available in the administrator log, the amount of load on the server is limited by the administrator access time.
- 11.2 Easy access: Records can be easily accessed and stored and other information retrieved sequentially.
- 11.3 User Friendly: With our web application, users of all levels can get the most out of it.
- 11.4 Effective and reliable:
Compared to storing all customer data in a spreadsheet or a physical record book, maintaining a secure database on a server that is accessible to the user's requirements at no maintenance cost is very effective.
Maintenance is easy with the canteen automation system. As a result, you can maintain it easily.

12. CONCLUSION:

Canteen automation involves several steps. The approach used is top-down, focusing on how, and then how, and successive levels of detail. The first phase began with a detailed study of the issues and opportunities in ordering at Foods. During this study, some issues were identified that could interfere with the effectiveness of existing manual systems. These issues, information requirements, and activities were documented and then used as the basis for system design, which occurred immediately after the first step. The design phase is primarily concerned with the specification of system elements that best fit the business needs of the organization. During this phase, best practices and principles relating to software engineering are crucial. Visual Studio .NET was used to develop this program. Effective implementation of this software product is expected to solve many of the problems found during system testing.

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