Online Canteen Management System - powered by Digital Transactions

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Introduction:

During breaks, there is a massive crowd in the college canteen. Much time is getting wasted standing in the queue at the coupon counter and service counter. Students and faculty get late for their lecture sessions, which is not conducive. We intend to provide a solution to this problem by the development of an online canteen management system, backed by digital transactions.

Benefits:

Using the Canteen Management System, we can avoid the time typically wasted at the serving counter in the form of taking a limited number of orders at a time, while keeping the rest of members waiting for their turn. Also, one can have a facility for placing orders in advance so that his/her order is kept ready just at the particular time he/she chooses. The facility of payments via e-wallet saves the time typically spent in tendering exact change.

The main benefits of the project are:

1) Digital and Paper-free: The concept of paper cash is non-existent, and the payment method simplifies at both the customer and management end. The entire process becomes paper-free as no bills or tokens need to be issued.

2) Waiting Time: The variable time spent between ordering the item and receiving reduces with the issue of order numbers and slot concept.

3) Real-Time menu: The process of placing the order is digitalised, which simplifies the canteen management personnel task.

4) Notifications: The customers get an alert once their order is ready. They help in reducing the crowd at the food counter.

5) Tamper-proof: As unique order ID's get generated to each customer, tampering gets avoided. Also, accounting errors get eliminated with the entire billing getting digital.

6) Social Distancing: The entire process promotes social distancing as there is no room for casual crowd gathering to order their food.

Software Requirements:

Languages used: HTML, CSS, Javascript, PHP

Applications used: 1) XAMPP server(MySQL and apache)

2)IDE's: Bracket and Atom

3) Web Browser: Google Chrome or Mozilla Firefox

The management system is observed from the Main-site and Admin-site perspectives for a well-rounded understanding.

Main-site:

1) Category Area: States the categories/cuisines available in the canteen.

2) Food Area: States the available food/menu for a given day.

3) Login/Register Area: Enables the user to either register or login(if already registered) for ordering the food.

Admin-site:

1) Category Area: Admin updates/changes the categories of the food available in the canteen, on a given day

2) Food Area: Admin updates the daily menu here. An additional option for adding/deleting items to/from the menu is available for the admin.

3) Orders dashboard: Admin receives the customer's orders, and the system parallelly generates a unique ID for each order.

Operation:

1) Login/Register:

The functionality of the website is supported totally by MySQL(PHP) Databases.

On clicking of the login button by the user, the login prompt appears where he/she enters the credentials, which gets stored in the USERS database. It verifies the credentials and allows the user to login.

2) Ordering Process:

A registered customer gets to select the cuisine and food item of his/her choice. Once the user places the order, he/she gets the unique order ID number for reference, which gets stored in the ORDERS database. The admin will also get a confirmation of the order in the Admin site.

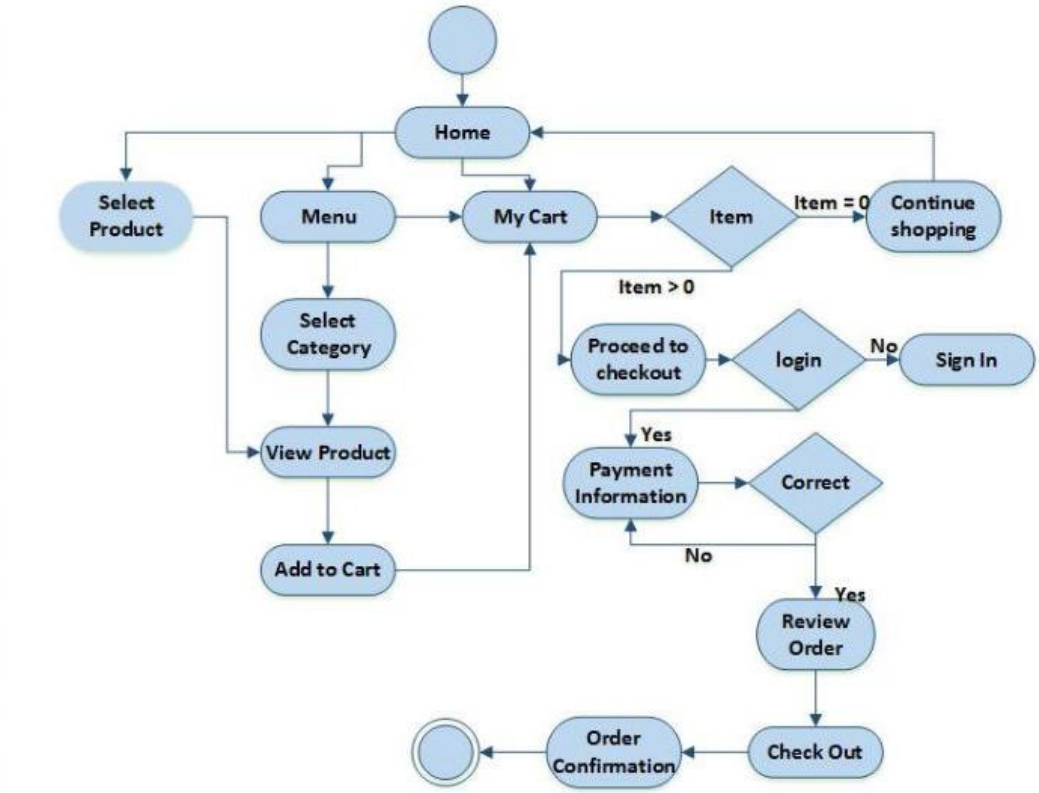

Figure 1: Operation of Canteen Management System

Future Enhancements:

1) The menu automatically updates itself, based on the popular preferences and eating patterns of the customers, achieving a dynamic menu system.

2) Integration of the system onto an Android/iOS application.

3) Rewarding of the regular customers with points, which are redeemable on their future orders.

4) An effective real-time reviewing system, with provision to provide feedback on the quality, quantity, and taste of the food.

Conclusion:

As the system optimises the overall process of canteen operation, an effective long-term solution is realised. In the current pandemic situation, this would be of valuable help to avoid the congregation of large crowds and also help maintain hygiene in the restaurant/canteen. Digital transactions also help students in the proper management of money through storage at a single location. This project is a step taken by the students for the benefit of their fellow student community.

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