International Research Journal of Innovations in Engineering and Technology (IRJIET)

ISSN (online): 2581-3048
Volume 10, Issue 3, pp 211-213, March-2026
https://doi.org/10.47001/IRJIET/2026.103030

Smart Canteen Ordering and Management System

[1]Prof. S. Mule, [2]Priya Shelke, [3]Asmita Shingate, [4]Arpita Hargude, [5]Purwa Walke

[1]Associate Professor of Computer Engineering, JSPM's Bhivarabai Sawant Polytechnic, Pune, Maharashtra, India
[2,3,4,5]Student of Computer Engineering, JSPM's Bhivarabai Sawant Polytechnic, Pune, Maharashtra, India

***Abstract* - With the increasing demand for efficient food services in educational institutions and organizations, traditional canteen ordering systems face several challenges such as long queues, manual order handling, order mismatch, and delayed service. These issues negatively impact both customer satisfaction and canteen operations. The Smart Canteen Ordering & Management System is a web-based solution designed to automate and streamline the food ordering process in a multi-stall canteen environment. The system allows customers to browse stalls, view menus, place orders digitally, and track order status. Stall owners can manage and update orders for their respective stalls, while administrators can control stall information, menu items, and view overall analytics. By using modern web technologies and centralized data management, the system improves operational efficiency, reduces manual workload, and enhances the overall user experience.**

Keywords: Smart Canteen System, Food Ordering System, Web Application, Automation, Order Management.

I. INTRODUCTION

Canteens in colleges, offices, and public institutions often handle a large number of customers daily. Traditional ordering systems rely on manual order placement and verbal communication, which frequently leads to long waiting times, order errors, and inefficient workflow, especially during peak hours.

To overcome these challenges, the Smart Canteen Ordering & Management System introduces a technology-driven approach for food ordering and management. The system provides a centralized web-based platform where customers can place orders digitally, stall owners can process orders efficiently, and administrators can monitor overall canteen operations. This approach reduces congestion, improves order accuracy, and ensures better coordination between customers and canteen staff.

II. METHODOLOGY

The Smart Canteen Ordering & Management System operates through the following functional steps:

1. User Authentication:

Customers, stall owners, and administrators log in using session-based authentication.

2. Stall Browsing:

Customers can view all available food stalls and search them by name or description.

3. Menu Viewing:

Each stall displays its menu items with categories, prices, and descriptions.

4. Cart Management:

Customers add items to the cart, update quantities, or remove items as needed.

5. Order Placement:

Orders are placed after validating essential details such as table number.

6. Order Assignment:

Orders are automatically assigned to the respective stall.

7. Order Status Management:

Stall owners update order status (new, preparing, ready, served).

8. Payment Status Handling:

Payment status is updated manually within the system.

9. Order Tracking:

Customers can view current order status and previous order history.

This methodology ensures a smooth, organized, and role-based canteen ordering workflow.

III. RESULTS

The Smart Canteen Ordering & Management System was tested in a simulated multi-stall canteen environment. The following outcomes were observed:

International Research Journal of Innovations in Engineering and Technology (IRJIET)
ISSN (online): 2581-3048
Volume 10, Issue 3, pp 211-213, March-2026
https://doi.org/10.47001/IRJIET/2026.103030

- Significant reduction in manual order handling
- Faster order placement compared to traditional methods
- Improved order accuracy due to digital input
- Clear separation of customer, stall owner, and admin responsibilities
- Efficient order tracking and management

Some limitations were identified, such as the absence of online payment integration and real-time notifications, which can be addressed in future enhancements.

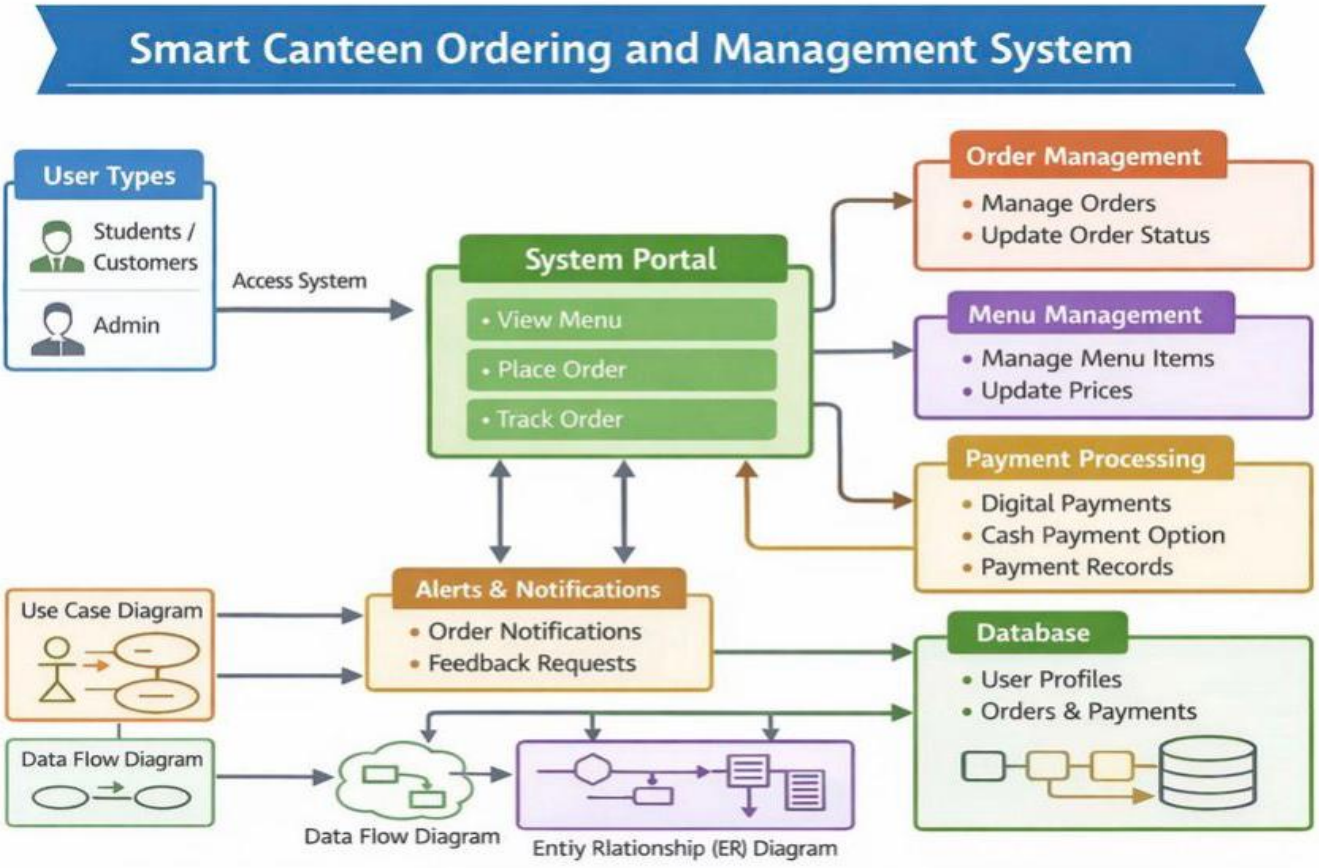

Figure 1: Proposed system

IV. CONCLUSION

The Smart Canteen Ordering & Management System provides an efficient, user-friendly, and scalable solution for modern canteen operations. By automating the ordering process and centralizing stall and menu management, the system reduces delays, minimizes errors, and improves service efficiency. The role-based design ensures secure access for customers, stall owners, and administrators. The system is suitable for educational institutions and organizational canteens and can be extended with features such as online payments, real-time order notifications, inventory tracking, and multi-branch support.

REFERENCES

[1] Research papers on Web-Based Food Ordering Systems.
[2] Studies on Canteen Automation and Digital Ordering.
[3] Flask Web Framework Documentation.
[4] Database Design for Order Management Systems.
[5] UI/UX Guidelines for Web-Based Food Applications.

International Research Journal of Innovations in Engineering and Technology (IRJIET)

ISSN (online): 2581-3048

Volume 10, Issue 3, pp 211-213, March-2026

https://doi.org/10.47001/IRJIET/2026.103030

Citation of this Article:

Prof. S. Mule, Priya Shelke, Asmita Shingate, Arpita Hargude, & Purwa Walke. (2026). Smart Canteen Ordering and Management System. *International Research Journal of Innovations in Engineering and Technology - IRJIET*, 10(3), 211-213. Article DOI https://doi.org/10.47001/IRJIET/2026.103030

****

