

Canteen Management System

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Our team



Khushboo

Project Leader

Oversees and manages the project.



Sarah Henry

Developer

Wrote the entire code.



Neha Kumari Singh

Presenter

Created the presentations.



Priya Shukla

Tester

Checked the system for errors.



PROBLEM STATEMENT



01

Manual Billing System

Traditional pen and paper billing is time-consuming , error-prone and inefficient.

02

Limited Access Control

No mechanism to restrict access to sensitive operations like menu changes or pricing updates.



03



Food Item Management

Difficulty in tracking available food items, pricing, and stock levels.

04

Order Processing

To remove manual / slow ordering process.



A decorative illustration featuring various kitchen items: a wooden spatula, a wooden spoon, a chef's hat, a sprig of green leaves, a small container of yellow seeds, a knife, a small glass bottle with seeds, and a red pot with yellow liquid. The background is a light orange color with a white circular area containing the text.

PROPOSED SOLUTION

To address the above challenges, we have developed a Python-based **Canteen Management System**, focusing on;

1 . Automated Billing:

Streamlines billing and payment processes, reducing errors and saving time.

2 . Inventory and Food Item Management:

Tracks stock levels and pricing in real-time to prevent shortages or overstocks.

3 . Efficient Order Processing:

Provides a quick and accurate order management system, reducing wait times and improving customer experience.

4 . Secure Owner Access:

Introduces a password-protected interface for the owner to manage operations. Allows menu updates, pricing changes, and other sensitive tasks to be performed securely, preventing unauthorized access by customers.






TECHNOLOGIES USED

Python :The core language used for developing the project. Python provides a simple and powerful way to write logic for user interaction, menu handling, and file operations.

Jupyter Notebook :Used as the development environment. Allows for mixing code with visual explanations and easy testing of functionalities step-by-step . Helpful for presenting the project interactively.

Functions and Modular Programming

- The logic is broken into reusable functions (add_item(), delete_item(), view_items(), etc.).
 - This approach enhances readability, modularity, and future scalability.
 - Menus and Console-Based Interface
 - The user interacts through a text-based menu.
 - The system uses input() prompts, loops, and conditional logic to guide the user.
 - Error Handling and Input Validation
 - Basic try-except blocks and condition checks prevent the system from crashing due to invalid input.
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Canteen Menu

Burger: ₹50 | Stock: 80
Pizza: ₹120 | Stock: 67
Pasta: ₹80 | Stock: 78
Sandwich: ₹40 | Stock: 39
Coffee: ₹30 | Stock: 78
Tea: ₹20 | Stock: 70
French Fries: ₹60 | Stock: 56

Order Summary

Your Order:
Pasta x 2 = ₹160
Sandwich x 6 = ₹240
Pizza x 3 = ₹360

Total Amount to Pay: ₹760

OK

Select User Type

Owner

Customer

Canteen Menu

Burger: ₹50 | Stock: 80
Pizza: ₹120 | Stock: 70
Pasta: ₹80 | Stock: 78
Sandwich: ₹40 | Stock: 42
Coffee: ₹30 | Stock: 78
Tea: ₹20 | Stock: 70
French Fries: ₹60 | Stock: 56

Continue

Do you want to add more items?

Yes No

Select User Type

Owner

Customer

Enter Owner Password:

OK

Cancel

Enter stock for Burger:

OK

Cancel

Enter item name to remove:

OK

Cancel

Canteen Menu

Burger: ₹50 | Stock: 80
Pizza: ₹120 | Stock: 70
Pasta: ₹80 | Stock: 80
Sandwich: ₹40 | Stock: 45
Coffee: ₹30 | Stock: 80
Tea: ₹20 | Stock: 70
French Fries: ₹60 | Stock: 56

Select User Type

Owner

Customer

Manage Menu

Add Item

Remove Item

Modify Item

Set Stock

Customer Ordering

Select Item

Coffee

Enter Quantity

2

Add to Cart

Select Item

Burger
Pizza
Pasta
Sandwich
Coffee
Tea
French Fries

Canteen Menu

Burger: ₹50 | Stock: 80
Pizza: ₹120 | Stock: 70
Pasta: ₹80 | Stock: 80
Sandwich: ₹40 | Stock: 45
Coffee: ₹30 | Stock: 80
Tea: ₹20 | Stock: 70
French Fries: ₹60 | Stock: 56

Cart Update

Added 2 x Coffee to cart.

OK

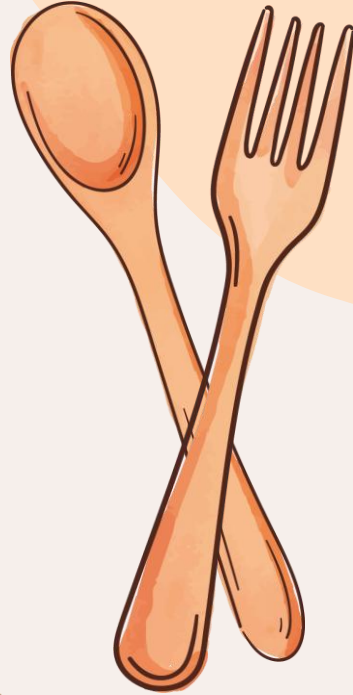
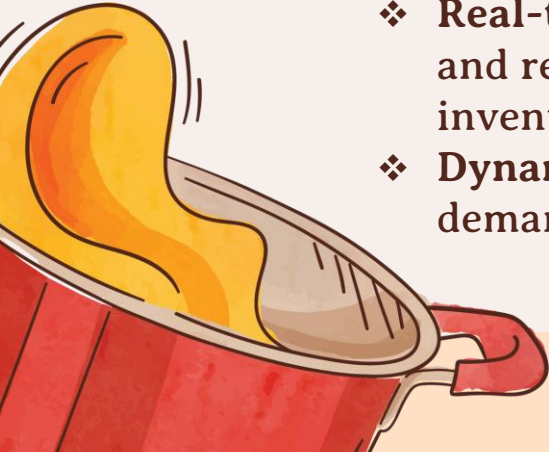
Select User Type

Owner

Customer

FUTURE ASPECTS OF THIS PROJECT

- ❖ **Food Waste Management:** Analytics to minimize food waste through smarter inventory and portion control.
- ❖ **Customizable Modules:** Offer Software as a Service (SaaS) solutions tailored for different scales of canteens.
- ❖ **Customer Analytics:** Understand customer behavior and preferences for menu optimization.
- ❖ **Queue Management:** Virtual queue systems to reduce wait times.
- ❖ **Real-time Stock Updates:** Integration of smart shelves and refrigerators to monitor ingredient levels in inventory.
- ❖ **Dynamic Pricing:** Adjust pricing based on supply, demand, or promotions.



THANK
YOU

