# WALK-IN CAFETERIA

Priyanka DR[1], Sriharini M[2], Suprabha[3], Shivaleela[4], M. Sathya[5]

[1] *Student, Information Science and Engineering, AMCEC, Karnataka, India*
[2] *Student, Information Science and Engineering, AMCEC, Karnataka, India*
[3] *Student, Information Science and Engineering, AMCEC, Karnataka, India*
[4] *Student, Information Science and Engineering, AMCEC, Karnataka, India*
[5] *Professor and HOD, Information Science and Engineering, AMCEC, Karnataka, India*

## ABSTRACT

*The proposed work targets to solve the issues faced by students in a university canteen by integrating a mobile application for online food ordering. During breaks, there is a huge crowd in the college canteen. Starting from the queue at the coupon counter to the serving counter, a lot of time is spent waiting because the students and faculty get late for their lectures. Both students and faculty often wish to have a way to considerably reduce or get rid of this waiting time. One solution to this problem is to have a system by which, once the order gets placed, it is directly displayed on a monitor in the kitchen. This would avoid the time wasted at the serving counter when a server takes time to deliver a previous order before taking the new coupon and placing it in the kitchen. Also, one can have a facility for placing orders in advance so that his/her order is kept ready just for the time he/she chooses. The time spent on tendering change can also be reduced by facilitating payments via e-wallet. As students have limited time for their lunch and there are a lot of students in the canteen looking ahead to their orders, they will simply place an order sitting in the classroom and later get their order. They will also make payment online. As you have got logged in with your username and password, visit any tab and order your food and stock up your contact details. Once you click on the submit button, you may receive an OTP. And while receiving your order, just give the OTP and take your order Insights will also help you schedule quicker and more strategically based on what days you are busiest when your sales are highest, and how much your average labor should be.*

**Keyword :** *canteen, preorder, reducing crowd, time saving, online payment.*

## 1. INTRODUCTION

An online food ordering system for the college canteen has been established to solve the problems manually. This code is supported to eliminate, and in some cases decrease, the hardships of two problems faced by the existing system. Moreover, this technique is supposed for the needs of the faculty to hold out operations in a graceful and effective manner. The application reduced the quantity and the potential to avoid errors while returning to knowledge. It conjointly provides an error message when it comes into invalid information. No formal data is required for the customer to use this technique. Thus, by this, all it proves is simple. The online food ordering system for the college canteen, as represented at the highest level, will cause error-free, safe, reliable, and quick management systems. It will assist the user to target their different actions rather than focus on record-keeping. Thus, it will help the organization in higher consumption of resources.

Canteen Management Software is automated software which enables all the activities of the canteen and maintains a detailed account of food served at the canteen. It allows secure and speedy transactions. It helps management to handle the users by reducing the waiting time for the customers. Our software helps you to make the task much easier. It manages each and every aspect of the canteen right from brunch to dinner.

Canteen Management System helps the dining facility to work without any hassle. This software helps to automate the canteen facility and makes it transparent. Additionally, a biometric device is linked with this software to generate the reports of the employees in the canteen. This system can automate the existing manual system with the help of an advanced computerized website that offers advanced facilities to both students and admin. So, they can both maintain the minimum distance and place orders online and take away at pickup time, which reduces time wastage

### 1.1 OVERVIEW

Canteen Management System helps the dining facility to work without any hassle. This software helps to automate the canteen facility and makes it transparent. Additionally, a biometric device is linked with this software to generate the reports of the employees in the canteen.

This system can automate the existing manual system with the help of an advanced computerized website that offers advanced facilities to both students and admin. So, they can both maintain the minimum distance and place orders online and take away at pickup time, which reduces time wastage.

### 1.2 SCOPE

A walk-in cafeteria can be a popular choice for customers who want quick and convenient access to food and beverages. The scope for a walk-in cafeteria depends on several factors, such as the location, the target audience, the menu, and the competition.

Some potential benefits of a walk-in cafeteria include:

1. Convenience: Customers can quickly and easily access food and drinks without having to wait for table service or make a reservation.

2. Variety: A well-stocked cafeteria can offer a variety of food and beverage options to cater to different tastes and preferences.

3. Cost-effectiveness: A cafeteria can offer affordable prices compared to full-service restaurants, making it an attractive option for budget-conscious customers.

4. Speed: Customers can get their food and drinks quickly, making it a popular choice for those who are short on time.

## 2. METHODOLOGY

### 2.1 PROCESS MODEL

It follows waterfall model and it includes following Phases:

1. Requirement Gathering and analysis − All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document.

**2.** System Design − The requirement specifications from first phase are studied in this phase and the system design is prepared. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture.

**3.** Implementation − With inputs from the system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

**4.** Integration and Testing − All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

**5.** Deployment of system − Once the functional and non-functional testing is done; the product is deployed in the customer environment or released into the market.

**6.** Maintenance − There are some issues which come up in the client environment. To fix those issues, patches are released. Also, to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment.

**2.2 SYSTEM ANALYSIS**

All projects are feasible given unlimited resources and infinite time. The feasibility report of the project holds the advantages and flexibility of the project. It is done to determine whether the project should be postponed, continued or cancelled.

This is divided into three sections:

**1**.Economic Feasibility: More commonly known as cost/benefit analysis, the procedure is to be determining the benefits and savings that are expected from a candidate and compare them with costs.

**2.**Technical Feasibility: Technical feasibility centers around the existing computer system (Hardware and Software etc.) and to what extend it support the proposed addition. For example, if the current computer is operating at 75-85 percent capacity, then running another application could overload the system or require additional Hardware.

**3.** Behavioral Feasibility: By nature, people are resistant to change, and computers have been known to facilitate change. An estimate should be made of how strong a reaction the user staff is likely to have toward the development of a computerized system.

## 3. EXISTING SYSTEM

The existing system of canteen management can vary depending on the specific establishment and its needs. However, in general, canteen management systems typically involve the following components:

1. Menu planning: The canteen management team plans the menu based on customer preferences, dietary requirements, and food availability. The menu is typically updated regularly to provide variety and cater to seasonal changes.

2. Food procurement: The team procures the necessary ingredients and materials for the menu, ensuring that they meet quality and safety standards. This may involve working with suppliers and negotiating prices and delivery schedules.

3. Food preparation: The food is prepared according to the menu and in compliance with health and safety regulations. The team may also need to manage inventory and ensure that the ingredients are used before they expire.

4. Service and payment: Customers place their orders, and the food is served by staff members. Payment is typically made at the point of sale, and the team may need to manage cash and credit card transactions.

5. Maintenance and hygiene: The canteen management team is responsible for maintaining the cleanliness and hygiene of the canteen, including the kitchen, dining area, and restroom facilities. This may involve hiring cleaning staff, implementing sanitation protocols, and conducting regular inspections.

6. Feedback and improvement: The team may collect feedback from customers and use this information to improve the menu, service, and overall customer experience.

In recent years, canteen management systems have also incorporated technology to streamline operations and improve efficiency. For example, some establishments may use online ordering and payment systems, inventory management software, and automated kitchen equipment to reduce wait times and minimize errors.

## 4. PROPOSED SOLUTIONS

There are several proposed solutions for improving the existing canteen management system, depending on the specific needs and challenges faced by the establishment. Here are some potential solutions:

1. Implement an online ordering and payment system: This would allow customers to order and pay for their food and drinks online, reducing wait times and improving efficiency. This could be done through a mobile app or website, and could also allow for customization of orders and dietary requirements.

2. Introduce self-service kiosks: This could help to reduce wait times and improve customer service, by allowing customers to place their own orders and customize their meals.

3. Use technology to monitor and manage inventory: This could help to reduce food waste and improve inventory management, by using sensors and software to track inventory levels and automatically reorder supplies when needed.

4. Introduce digital signage: This could be used to display the menu, daily specials, and nutritional information, as well as promote upcoming events and promotions.

5. Offer healthier options: This could help to attract health-conscious customers and improve overall customer satisfaction. This could include offering more plant-based options, reducing the amount of added sugars and unhealthy fats, and incorporating more whole foods into the menu.

6. Collect customer feedback: This could be done through surveys, suggestion boxes, or online reviews, and could help to identify areas for improvement and tailor the menu and service to better meet customer needs.

By implementing one or more of these proposed solutions, the existing canteen management system could be improved, resulting in a better customer experience, increased efficiency, and potentially higher revenue.

### 4.1 MODULES

The modules used in this system are as follows:

i. **Admin (Canteen owner):** Admin can add food items details like name, Photo, Description/ Ingredients, Price, Category, etc in Menu. Admin can view, edit the Menu food items details as well as Enable/Disable food items according to season or availability., Admin can track Live orders and Status Update for particular food delivery. Admin can view the student's details that are given during registration.

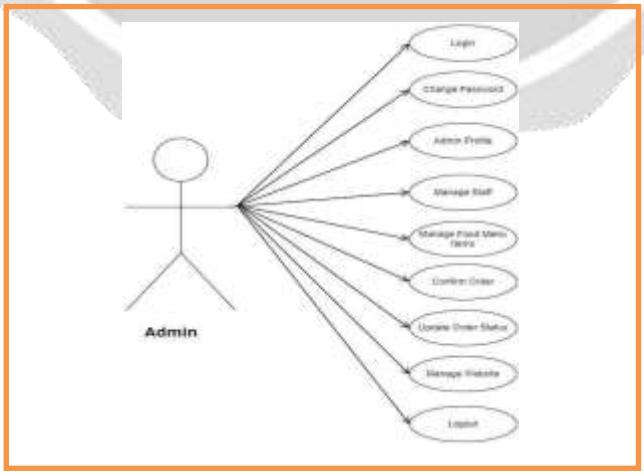


**Fig-1:** Admin Use Case Diagram

ii. **Staff (Canteen Staff):** Canteen staff can see new order details which laced by the student and confirmed by the admin. Update the status of order food like food is prepared, cooked, or order completed.

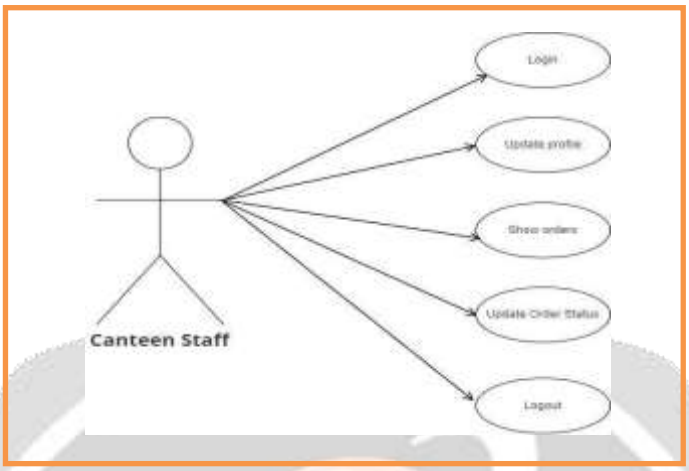


**Fig-2:** Canteen Staff Use Diagram

iii. **Student:** Students have to register with essential details for the Canteen management System. Student has to log in with their credentials to access the Canteen order System. Different food items with respective categories of viewable students. Students can view food items details and buy the product by placing order. Student can view their cart details, delete food items from the cart, update quantity, etc. Students can keep track of the status of their orders. Also, students can set pick up time for their order to pick up whenever they want.

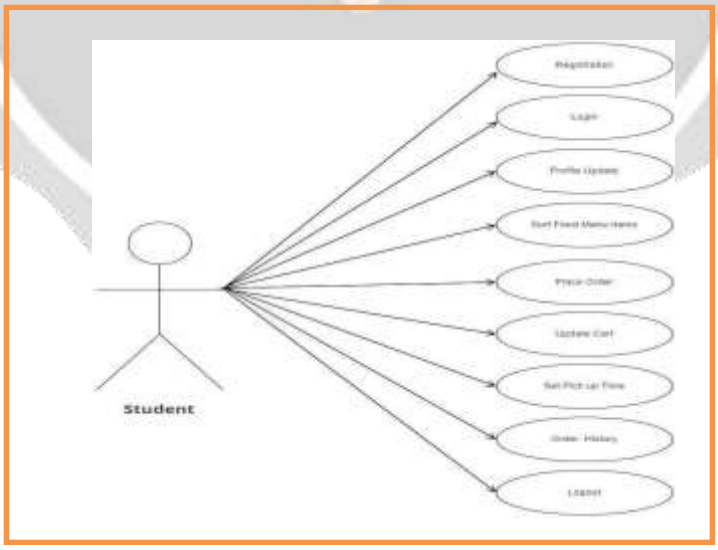


**Fig-3:** Student Use Case Diagram

## 5. CONCLUSIONS AND FUTURE WORK

### 5.1 CONCLUSION

A walk-in cafeteria can be an effective and profitable food establishment if it is well-designed and managed. It provides customers with convenience, speed, and a variety of food and beverage options. However, a successful walk-in cafeteria requires careful planning, attention to detail, and a focus on customer satisfaction.

To ensure success, a walk-in cafeteria must consider several factors, including the location, target audience, menu, pricing strategy, competition, and marketing approach. The location should be accessible and visible to potential customers, while the menu should cater to the tastes and preferences of the target audience. The pricing strategy should be competitive, but also allow for a profit margin. The competition should be analyzed to identify unique selling points and ways to differentiate the walk-in cafeteria from others in the area. A comprehensive marketing approach should be adopted to attract and retain customers.

The implementation of technology and sustainable practices can also enhance the success of a walk-in cafeteria. For instance, technology can improve operations by streamlining processes, reducing wait times, and providing a more personalized experience for customers. Sustainability practices can improve the business's reputation and attract environmentally conscious customers.

In conclusion, a walk-in cafeteria can be a viable business option if it can offer convenient, high-quality food and beverage options that meet the needs and preferences of its target audience. To achieve success, it is essential to consider the above factors and continuously evaluate and adapt to changing customer preferences and market conditions.

### 5.2 FUTURE WORK

There are several areas for future work in the field of walk-in cafeterias that can help businesses to stay competitive and meet the changing needs of customers. Here are some potential areas for future work:

1. Technology integration: Walk-in cafeterias can integrate technology to improve customer experience and streamline operations. This could include the use of mobile apps for ordering and payment, self-service kiosks, and automated inventory management systems.

2. Menu innovation: Walk-in cafeterias can explore new menu items and flavors to attract and retain customers. This could involve incorporating international cuisine, plant-based options, and healthy eating options to cater to the changing tastes and dietary preferences of customers.

3. Sustainability: Walk-in cafeterias can adopt sustainable practices such as reducing food waste, sourcing locally grown ingredients, using eco-friendly packaging, and recycling to appeal to environmentally conscious customers.

4. Customer feedback and data analysis: Walk-in cafeterias can use data analytics to analyze customer preferences and behavior and adjust their menu, pricing, and marketing strategy accordingly. They can also collect customer feedback through surveys, social media, and review platforms to identify areas for improvement and ensure customer satisfaction.

5. Social media marketing: Walk-in cafeterias can leverage social media to promote their business, share customer reviews and feedback, and attract new customers. They can also use social media to engage with their customers, respond to their queries and concerns, and build a community of loyal customers.

By focusing on these areas for future work, walk-in cafeterias can stay ahead of the competition, attract new customers, and maintain a loyal customer base. It is important for walk-in cafeterias to continually evaluate and adapt to changing customer preferences, market conditions, and technological advancements to remain successful.

## 6. REFERENCES

[1] Kale, R. B., Balwade, R. K., & Gawai, V. B. (2020). Online Food Ordering System for College Canteen. SAMRIDDHI: A Journal of Physical Sciences, Engineering and Technology, 12(SUP 2), 64-68.

[2] Cashless Canteen Management System, M. Ambika, Saravana Kumar R, Sandhya S Nair, Ranjith Kumar S, 2020

[3] Canteen Management System Author: Chinmayee Dali, Sayali Jadhav , Advait Kunte , Prof . Mahendra Pawar Year:2020

[4] Fayaz Karedia, Pranit Hule, Shariq Memon, Dr Anupam Choudhary, "Canteen Automation System in Android" Published in International Journal of Creative Research Thoughts (IJCRT), Volume 8, Issue 5 May 2020 | ISSN: 2320-28820

[5] Food Chain Based Canteen Automation System-Abhishek Paul , Shivangi Gaur,Mujeeb Ahmed 2021

[6] Ashutosh Bhargave, Niranjan Jadhav, Apurva Joshi, Prachi Oke, Prof. Mr. S. R "Digital Ordering System for Restaurant Using Android" in International Journal of Scientific and Research Publications, Volume 3, Issue 4, April 2013

[7] Priya Jadhav, Priyanka teli, Snehal Korade, Varsha Chavan, Implementing Digital Restaurants and Inter-Restaurant.

[8] Navigation Using Smart Phones" in IJCSMC, Volume 2, Issue 4, April 2015

[9] Robin Nixon: Learning PHP, MySQL and Java script.

[10] MG Martin: Programming for Beginners