MET'S INSTITUTE OF
INFORMATION TECHNOLOGY
(CDAC-ACTS)
BHUJBAL KNOWLEDGE CITY ,NASHIK.

Documentation On

"**E- Canteen**"

PG-DAC March 2024

Submitted By:

Group No: 13

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Centre Coordinator **Project Guide**

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1. INTRODUCTION

Introduction:

The "E-Canteen" project aims to revolutionize campus dining by designing and implementing a comprehensive online platform that facilitates seamless food ordering and delivery for all sectors of people. This platform, accessible via web browsers and mobile applications, offers users a user-friendly interface to browse menus, place orders, make payments, and track deliveries in real-time.

Key features include personalized user profiles, customizable menu options, integrated payment gateways, and efficient order management tools. Moreover, the system emphasizes sustainability initiatives, promoting eco- friendly packaging and digital receipts to reduce paper waste.

The project encompasses the design, development, and deployment of the platform, following agile software development methodologies to ensure flexibility and responsiveness to evolving requirements. Stakeholder engagement is central, with regular feedback sessions and user testing to validate functionality and usability.

Problem Statement:

The current campus dining system is characterized by inefficiencies and limitations, impacting both user experience and operational effectiveness. Students, faculty, and staff face challenges such as long wait times, limited menu visibility, and a cumbersome ordering process. Additionally, the reliance on paper-based receipts and non-sustainable packaging contributes to environmental waste and operational inefficiencies.

The lack of a centralized, digital solution exacerbates these issues, leaving users with outdated methods for ordering food, which are often inconvenient and time-consuming. The absence of real-time tracking and customizable options further diminishes the overall dining experience, leading to dissatisfaction and missed opportunities for optimizing food service operations.

To address these challenges, the E-Canteen project proposes the development of an integrated online platform that will streamline the food ordering and delivery process. This platform will provide a user-friendly interface for browsing menus, placing orders, and making payments, while incorporating real-time tracking and personalized features. Additionally, the project aims to enhance sustainability by promoting eco-friendly practices, such as digital receipts and sustainable packaging.

By implementing this comprehensive solution, the E-Canteen project seeks to improve convenience, efficiency, and sustainability in campus dining, ultimately enhancing the overall experience for users and contributing to a more environmentally responsible operation.

Aims and Objective:

Aims

1. **Enhance User Convenience:** To provide a seamless and user-friendly online platform that simplifies the food ordering and delivery process for campus users.
2. **Improve Operational Efficiency:** To streamline order management, reduce wait times, and optimize food service operations through digital tools and real-time tracking.
3. **Promote Sustainability:** To integrate eco-friendly practices into the dining experience, including digital receipts and sustainable packaging, to minimize environmental impact.

Objectives

1. **Develop a Comprehensive Online Platform:**
   - Design and implement a web and mobile application that allows users to browse menus, place orders, and make payments easily.
   - Ensure the platform has an intuitive user interface and supports customization of orders according to dietary preferences.
2. **Integrate Real-Time Tracking and Order Management:**
   - Implement features for real-time tracking of orders from placement to delivery.
   - Provide efficient order management tools for dining staff to handle and fulfill orders effectively.
3. **Incorporate Secure and Diverse Payment Options:**
   - Integrate multiple payment gateways to support various payment methods and ensure secure transactions.
4. **Enhance User Engagement and Feedback:**
   - Create personalized user profiles to store order history, preferences, and feedback.
   - Conduct regular user testing and feedback sessions to continuously improve the platform's functionality and user experience.
5. **Promote and Implement Sustainability Initiatives:**
   - Encourage the use of eco-friendly packaging materials to reduce waste.
   - Provide digital receipts to minimize paper usage and support environmental sustainability.
6. **Ensure Flexibility and Responsiveness Through Agile Development:**
   - Apply agile software development methodologies to allow for iterative improvements and quick adaptation to changing requirements.
   - Facilitate stakeholder engagement throughout the project to ensure alignment with user needs and expectations.

2. OVERALL DESCRIPTION

The E-Canteen project is designed to modernize and optimize the campus dining experience through a sophisticated digital platform accessible via web browsers and mobile applications. This platform aims to simplify the food ordering and delivery process for students, faculty, and staff, addressing current inefficiencies and limitations of traditional dining services.

Key Features and Benefits:

- **User-Friendly Interface:** The platform will offer a seamless interface for browsing menus, placing orders, and making payments. It will include personalized user profiles to enhance convenience and customization.
- **Real-Time Tracking:** Users will be able to track their orders in real time, reducing uncertainty and improving the overall dining experience.
- **Integrated Payment Systems:** The platform will support various secure payment methods, making transactions easy and safe.
- **Sustainability Initiatives:** Emphasis will be placed on reducing environmental impact through the use of digital receipts and eco-friendly packaging options.

Proposed Methodology:

- **Planning and Requirements Gathering:**
  - **Stakeholder Identification:** Identify key stakeholders including students, faculty, dining staff, and administrators.
  - **Requirements Analysis:** Conduct surveys, interviews, and focus groups to gather detailed requirements and expectations from stakeholders.
- **Design:**
  - **User Experience (UX) Design:** Develop wireframes and prototypes of the platform to visualize the user interface and experience. Incorporate feedback from stakeholder reviews to refine the design.
  - **Technical Design:** Define the technical architecture, including database design, server infrastructure, and integration points for payment gateways and tracking systems.
- **Development:**
  - **Agile Methodology:** Implement the project using agile practices, including iterative development through sprints. Regularly review progress, adjust priorities, and incorporate feedback.
  - **Front-End Development:** Build the user interface for both web and mobile platforms, ensuring responsiveness and usability.

- **Back-End Development:** Develop the server-side components, including databases, APIs, and payment processing systems.

- **Testing:**
  - **Unit Testing:** Test individual components to ensure they function correctly.
  - **Integration Testing:** Verify that different components of the platform work together as expected.
  - **User Acceptance Testing (UAT):** Conduct testing sessions with actual users to validate the platform's functionality, usability, and performance.

- **Deployment:**
  - **Pilot Launch:** Roll out the platform to a small group of users for initial testing and feedback.
  - **Full Deployment:** Based on feedback from the pilot, make necessary adjustments and launch the platform to the entire campus community.

- **Training and Support:**
  - **User Training:** Provide training materials and sessions for users and staff to familiarize them with the platform's features and functions.
  - **Ongoing Support:** Establish a support team to assist with technical issues, user inquiries, and platform maintenance.

- **Monitoring and Evaluation:**
  - **Performance Monitoring:** Track key performance indicators (KPIs) such as user engagement, order accuracy, and system performance.
  - **Continuous Improvement:** Use feedback and performance data to make iterative improvements to the platform and address any emerging issues.

References

GeeksForGeeks

StackOverflow

GitHub

3. REQUIREMENTS SPECIFICATION.

External Interface Requirements:

User Interfaces:

- **Web Application Interface:**
  - **Navigation:** A clean and intuitive layout allowing users to browse menus, customize orders, and manage their profiles easily.
  - **Order Placement:** Features for selecting items, modifying quantities, and special instructions, with a straightforward checkout process.
  - **Payment Integration:** Secure payment gateways integrated for processing transactions using various methods (credit/debit cards, mobile payments).
  - **Real-Time Tracking:** Dashboard for users to track the status of their orders in real time.
  - **Feedback and Support:** Options for providing feedback, reporting issues, and accessing customer support.
- **Mobile Application Interface:**
  - **Responsive Design:** Mobile-friendly design for iOS and Android devices, ensuring consistency in user experience across platforms.
  - **Push Notifications:** Notifications for order status updates, special promotions, and important announcements.
  - **Offline Mode:** Limited functionality for accessing previous orders and viewing menus without an active internet connection.
- **Admin and Staff Interface:**
  - **Order Management:** Tools for viewing, processing, and managing incoming orders, including features for order fulfillment and status updates.
  - **Menu Management:** Interface for updating menu items, prices, and availability.
  - **Reporting and Analytics:** Dashboard for generating reports on sales, order volume, and user behavior.

Hardware Interfaces:

- **Server Infrastructure:**
  - **Web Servers:** Hosts the we0b application and handles user requests.
  - **Database Servers:** Stores user data, order information, and menu details securely and efficiently.
- **Point of Sale (POS) Systems:**
  - **Integration:** Interfaces with the e-canteen platform to synchronize orders and update inventory in real time.
  - **Receipt Printers:** Optional hardware for printing receipts, if required by certain aspects of the system.
- **Mobile Devices:**

- **Barcode Scanners:** If applicable, for scanning QR codes or barcodes related to orders or payments.

This includes, but not limited to, general network connection at the server/hosting site, network server and network management tools.

Application Interfaces:

Web Browser:

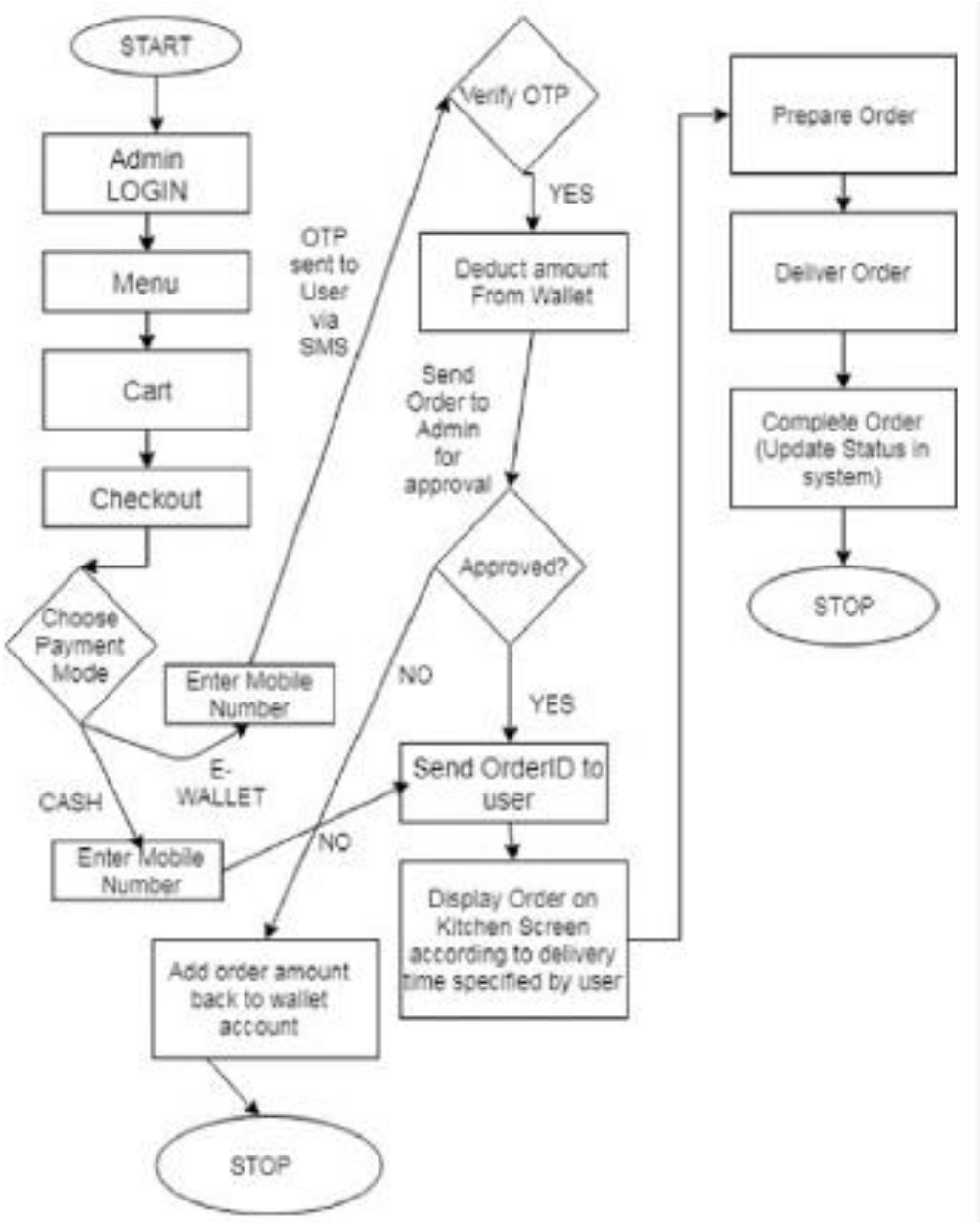
The system is a web-based application; clients need a modern web browser such as Mozilla Firebox, Internet Explorer, Opera, and Chrome. The computer must have an Internet connection in order to be able to access the system.

Communications Interfaces:

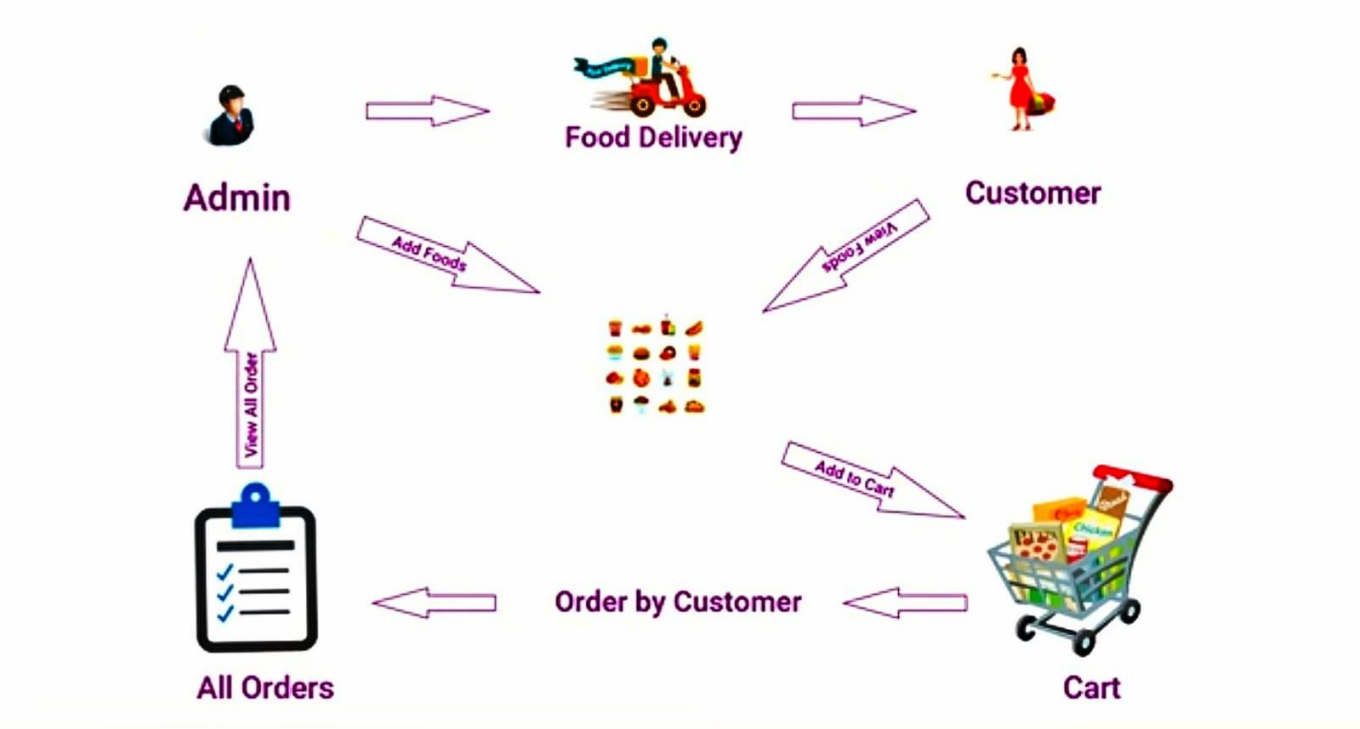
- This system uses communication resources which includes but not limited to, HTTP protocol for communication with the web browser and web server and TCP/IP network protocol with HTTP protocol.
- This application will communicate with the database that holds all the booking information. Users can contact with server side through HTTP protocol by means of a function that is called HTTP Service. This function allows the application to use the data retrieved by server to fulfill the request fired by the user.

4. SYSTEM DIAGRAMS

Flow Chart

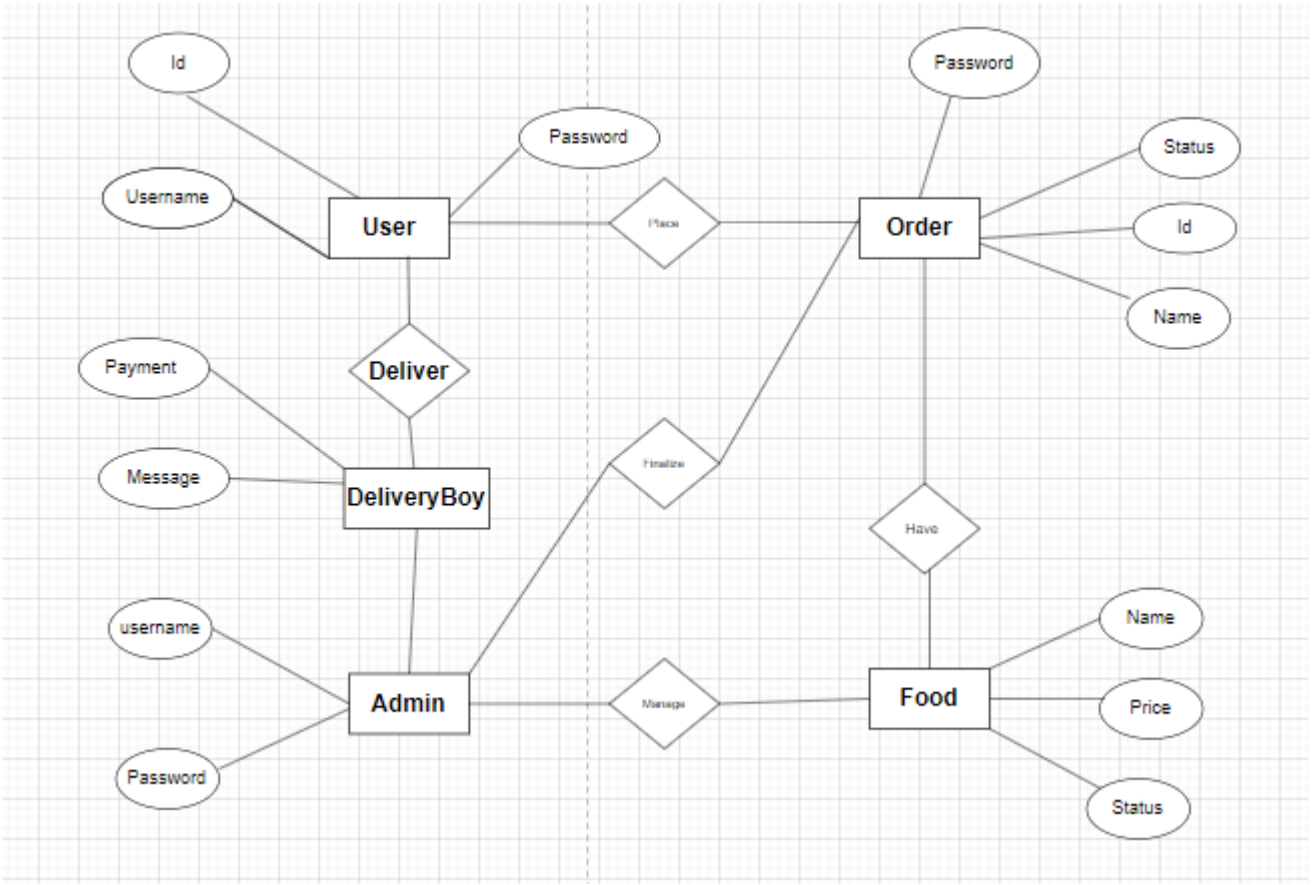


Project Architecture Diagram:



Give details of all services and functionalities for **all modules**.
Note- Above is diagram is of only **User module**.

ER Diagram


Id
Password
Username
User
Password
Place
Order
Status
Id
Name
Payment
Deliver
Message
DeliveryBoy
Finalize
Have
username
Admin
Manage
Food
Name
Price
Password
Status

5. TABLE STRUCTURE

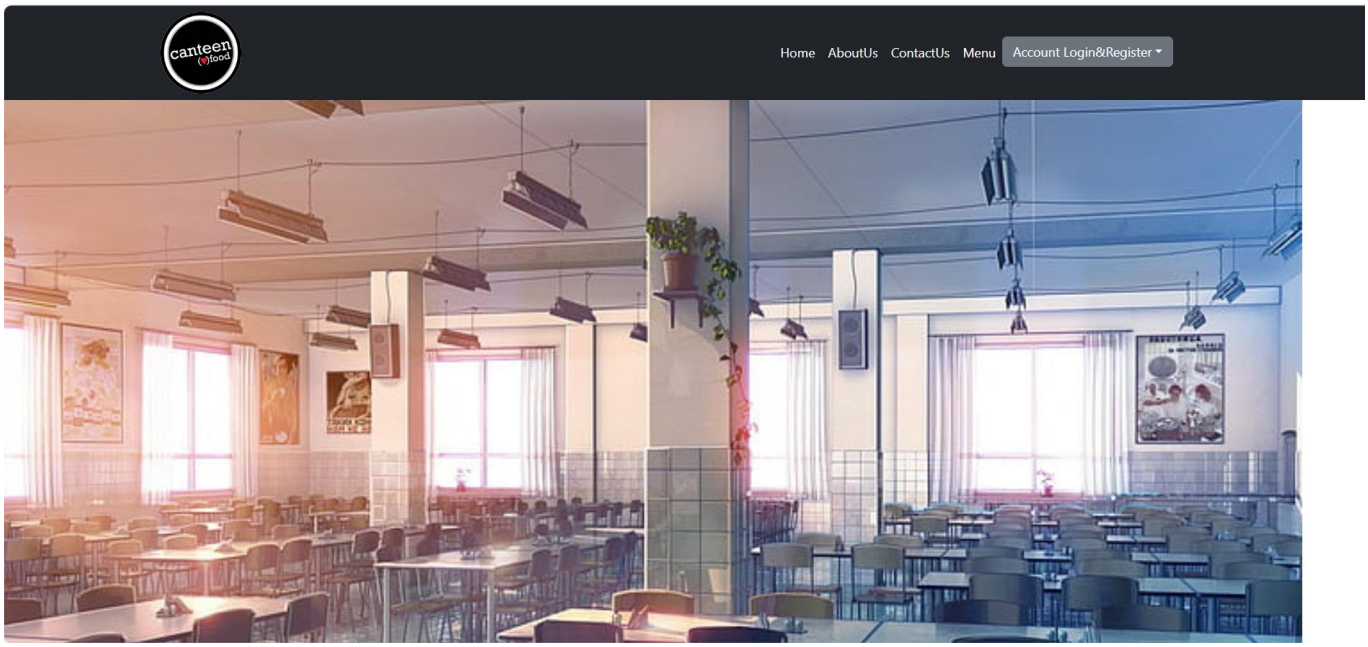
User Table:

CustomerID	Passwrd	FirstName	LastName	EmailID	MobileNo	Address	UserCreateDate	LastUpdatedate
10	anki123	Anki	Des	ankidesh@gmail.com	77198	A	NULL	NULL
101	ankit123	Ankit	Deshmukh	ankitdeshmukh@gmail.com	7719866158	Amravati	2022-04-08	2022-04-08
102	vijay123	Vijay	Deshmukh	vijaydeshmukh@gmail.com	7719566158	Ranchi	NULL	NULL
859	5623	Kuldeep	Mane	KuldeepMane@gmail.com	5623489750	Sangali	NULL	NULL
1010	89645	Sagar	Chavan	sagar@gmail.com	8899665544	Mumbai	NULL	NULL
1234	1235	Pratik	Bhoite	pratikbhoite96@gmail.com	9689493148	Satara	NULL	NULL
1235	viay123	Vjay	Deshm	vijaydhmukh@gmail.com	77195668	Rachi	NULL	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

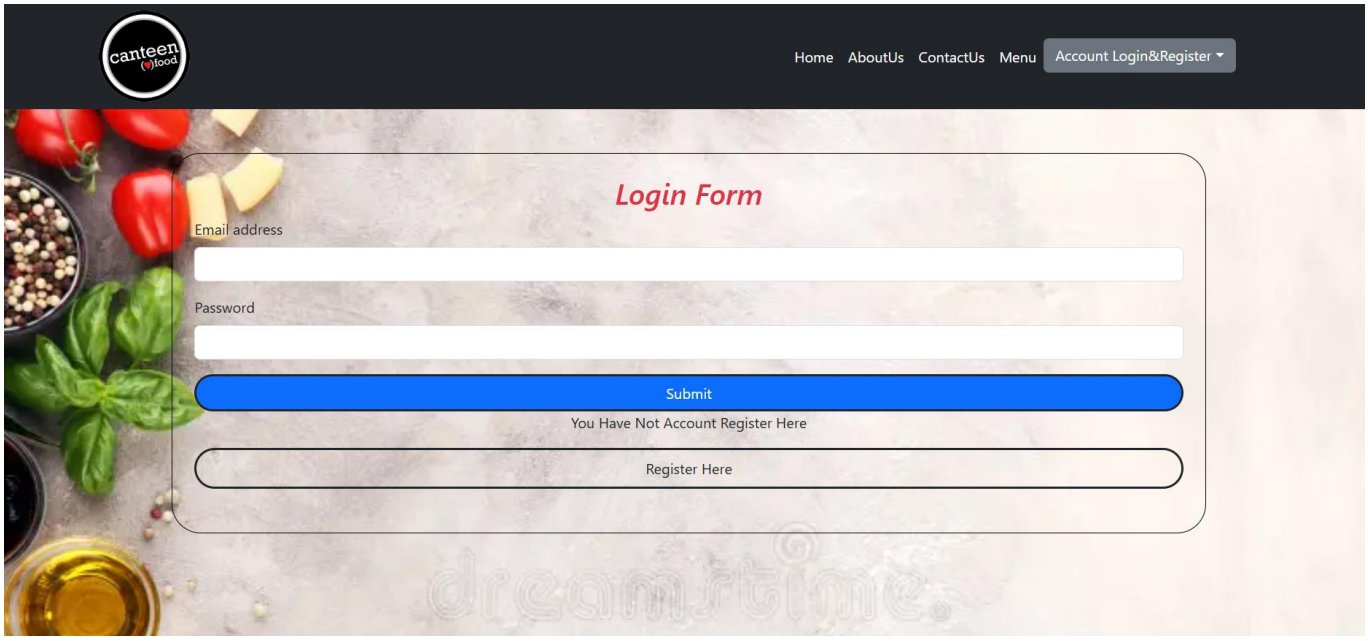
Provide All Table Details

7. SCREENSHOTS

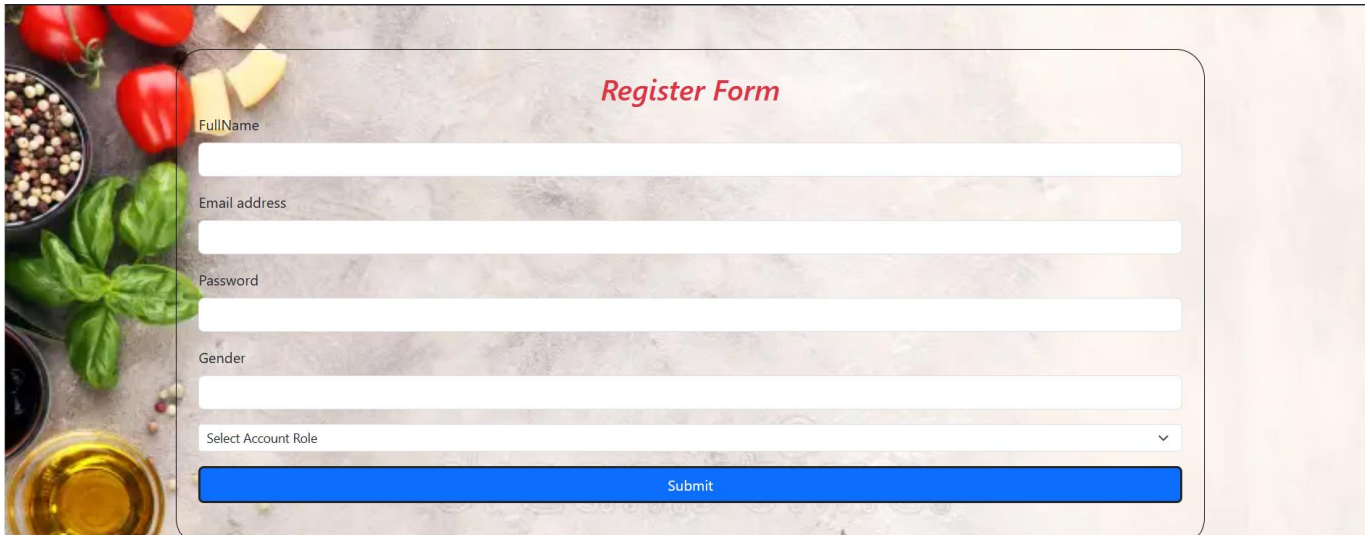
1. Home page-



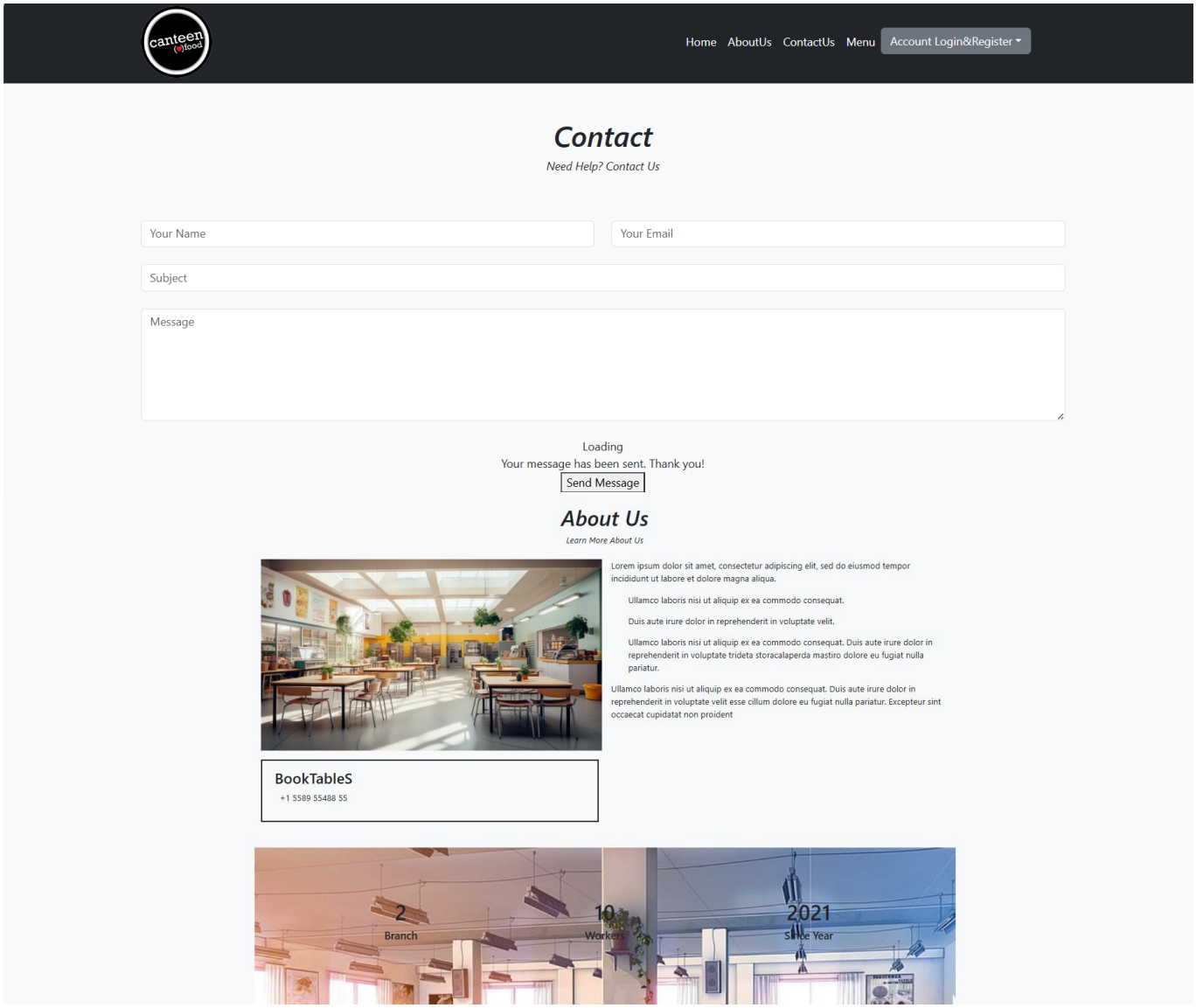
2. Login page-


canteen
food
Home
AboutUs
ContactUs
Menu
Account Login&Register
Login Form
Email address
Password
Submit
You Have Not Account Register Here
Register Here

3. User Registration page-



4. About page-


Home
AboutUs
ContactUs
Menu
Account Login&Register
Contact
Need Help? Contact Us
Your Name
Your Email
Subject
Message
Loading
Your message has been sent. Thank you!
Send Message
About Us
Learn More About Us
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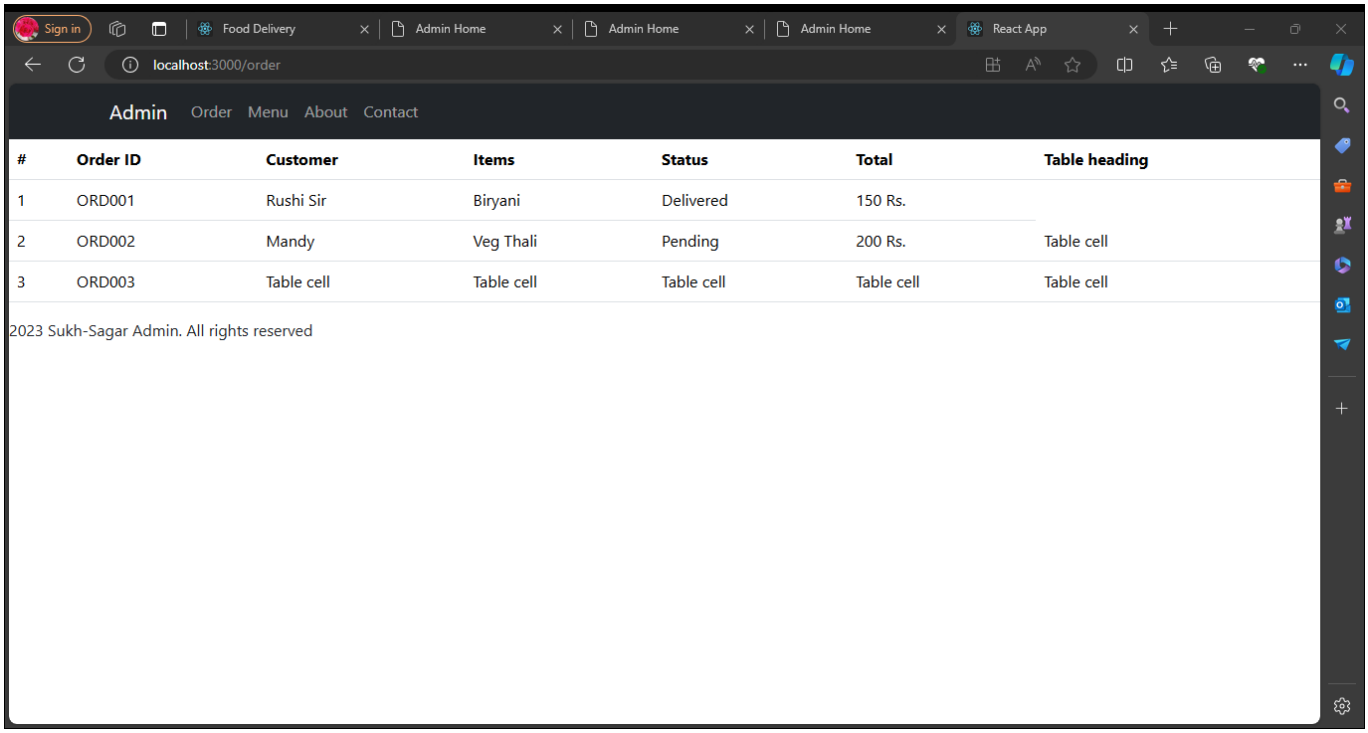
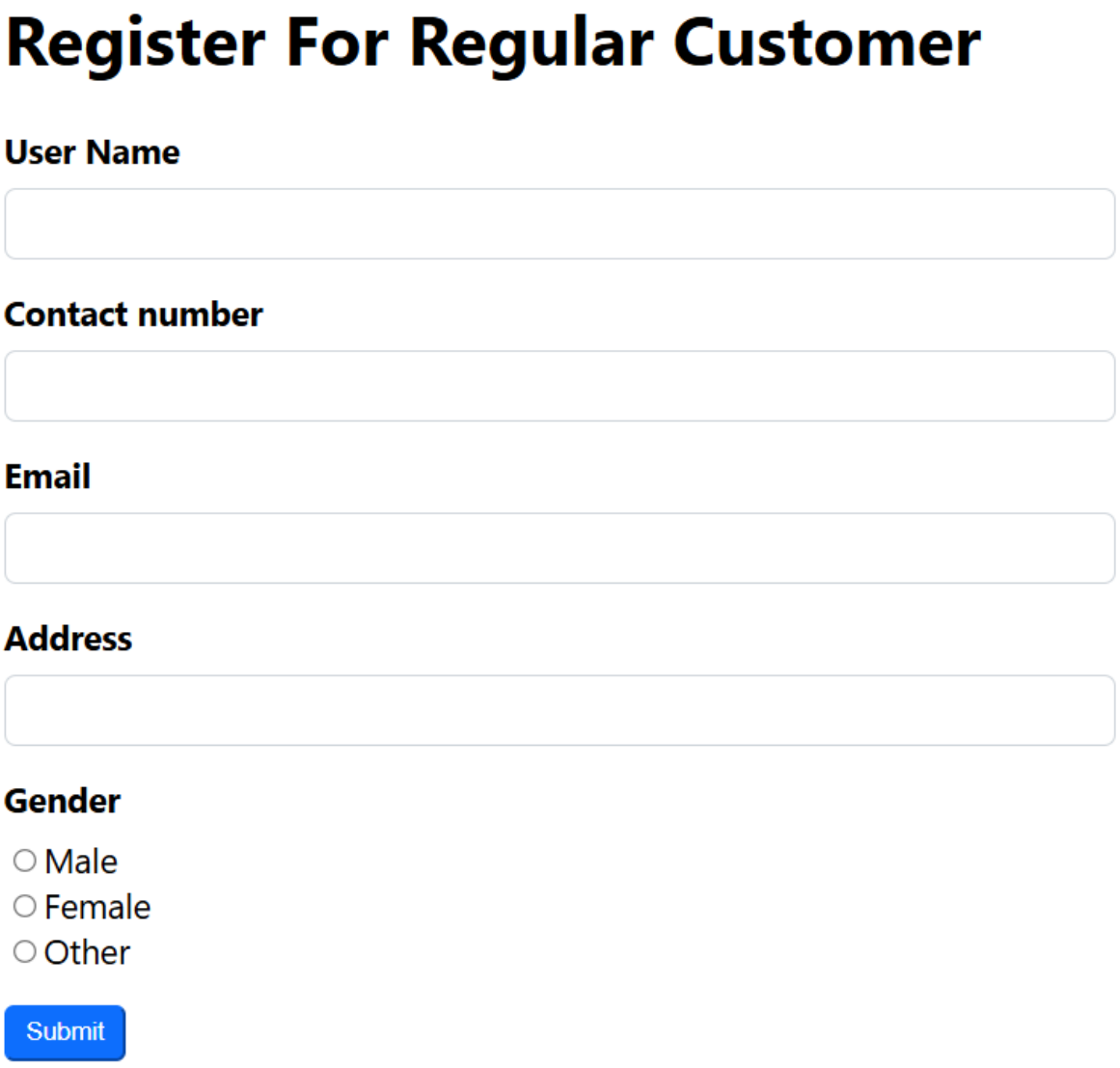
BookTableS
+1 5589 55488 55
2
Branch
10
Workers
2021
Since Year

5. List of all User page-



6. Registration of customer



Register For Temporary Customer

User Name

Contact number

Email

Address

Gender

- Male
- Female
- Other

Submit

6. CONCLUSION

The E-Canteen project represents a significant advancement in campus dining by leveraging digital technology to enhance the ordering and delivery experience. The comprehensive online platform aims to address the current inefficiencies in traditional dining services by offering a streamlined, user-friendly interface accessible via both web and mobile applications.

Key Benefits:*
-Improved User Experience: By providing an intuitive interface for menu browsing, order customization, and payment, the E-Canteen platform ensures a more convenient and efficient dining experience for students, faculty, and staff.
*Operational Efficiency: Real-time order tracking and integrated management tools will help dining services optimize their operations, reduce wait times, and enhance service quality.
*Sustainability: The project promotes eco-friendly practices by incorporating digital receipts and advocating for sustainable packaging, contributing to a greener campus environment.

*Methodology and Implementation:
The agile development approach will facilitate flexibility and adaptability throughout the project, allowing for continuous improvement based on stakeholder feedback and evolving needs. The phased deployment, starting with a pilot program, will ensure that any issues are addressed before a full-scale launch, minimizing disruptions and enhancing user satisfaction.

Future Scope:

Ongoing monitoring and evaluation will be essential to measure the platform's performance and impact. Continuous engagement with users and stakeholders will help identify areas for enhancement and ensure that the E-Canteen platform remains responsive to the needs of the campus community.

In conclusion, the E-Canteen project is poised to transform campus dining by integrating modern technology with sustainable practices, delivering a solution that benefits users, dining services, and the environment alike. Through thoughtful design, rigorous development, and proactive management, the E-Canteen platform will set a new standard for campus dining experiences.