NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTION, AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM, APPROVED BY AICTE & GOVT.OF KARNATAKA

Product Development LAB- REPORT

on

"Modernizing Food Ordering: Streamlining Canteen Systems for Efficiency and Safety"

Submitted in partial fulfilment of the requirement for the award of Degree of

Bachelor of Engineering

in

Computer Science and Engineering

Submitted by:

SOWMYA G	1NT20CS181
SHREYA	1NT20CS167
SHREYA RANGARAJ	1NT20CS169

Under the Guidance of

Mrs. Uma R.- Assistant Professor, Dept. of CS&E, NMIT

Ms. M K Pushpanjali-Assistant Professor Dept.CSE,NMIT.

Department of Computer Science and Engineering

(Accredited by NBA Tier-1)

2023-24

NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTION, AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
, APPROVED BY AICTE & GOVT OF KARNATAKA)

Department of Computer Science and Engineering

(Accredited by NBA Tier-1)

CERTIFICATE

This is to certify that the Streamlining Canteen Systems for Efficiency and Safety is an authentic work carried out by **SOWMYA G** (1NT20CS181), **SHREYA** (1NT20CS167) and **SHREYA RANGARAJ** (1NT20CS169) bonafide students of **Nitte Meenakshi Institute of Technology**, Bangalore in partial fulfilment for the award of the degree of ***Bachelor of Engineering*** in COMPUTER SCIENCE AND ENGINEERING of Visvesvaraya Technological University, Belgavi during the academic year ***2023-24.*** It is certified that all corrections and suggestions indicated during the internal assessment has been incorporated in the report. This project has been approved as it satisfies the academic requirement in respect of project work presented for the said degree.

Internal Guide 1	**Internal Guide 2**	**Signature of HOD**
Mrs. Uma R.	Ms. M K Pushpanjali	Dr. Vijaya Shetty S
Assistant Professor	Assistant Professor	Professor, Head,
Dept. CSE,NMIT Bangalore	Dept.CSE,NMIT,Bengaluru	Dept.CSE,NMIT.Bengalur

Signature of Internal Examiner

Signature of External Examiner

DECLARATION

We hereby declare that

(i) The project work is our original work

(ii) This Project work has not been submitted for the award of any degree or examination at any other university/College/Institute.

(iii) This Project Work does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

(iv) This Project Work does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:

a) their words have been re-written but the general information attributed to them has been referenced;

b) where their exact words have been used, their writing has been placed inside quotation marks, and referenced.

(v) This Project Work does not contain text, graphics or tables copied and pasted from the Internet, unless specifically acknowledged, and the source being detailed in the thesis and in the References sections.

NAME	USN	Signature
SOWMYA G	1NT20CS181	
SHREYA	1NT20CS167	
SHREYA RANGARAJ	1NT20CS169	

Date:12-12-2023

ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the successful completion of any task would be incomplete without the mention of the people who made it possible, whose constant guidance and encouragement crowned our effort with success. I express my sincere gratitude to our Principal **Dr. H. C. Nagaraj**, Nitte Meenakshi Institute of Technology for providing facilities.

We wish to thank our HoD**, Dr. Vijaya Shetty S.** for the excellent environment created to further educational growth in our college. We also thank her for the invaluable guidance provided which has helped in the creation of a better project.

I hereby like to thank our ***Mrs. Uma R.- Assistant Professor, Dept. of CS&E, NMIT***, and ***Ms. M K Pushpanjali -Assistant Professor*** Dept.CSE,NMIT. Department of Computer Science & Engineering on her periodic inspection, time to time evaluation of the project and help to bring the Project to the present form.

Thanks to our Departmental Project coordinators. We also thank all our friends, teaching and non-teaching staff at NMIT, Bangalore, for all the direct and indirect help provided in the completion of the project.

NAME	USN	Signature
SOWMYA G	1NT20CS181	
SHREYA	1NT20CS167	
SHREYA RANGARAJ	1NT20CS169	

Date:12-12-2023

ABSTRACT

Online Food Delivery System is a system which will help restaurant to optimized and control over their restaurants. For the waiters, it is making life easier because they don't have to go kitchen and give the orders to chef easily. For the management point of view, the manager will able to control the restaurant by having all the reports to hand and able to see the records of each employees and orders. This website helps the restaurants to do all functionalities more accurately and enhances the spend of all the tasks. Online Food Delivery System reduces manual works and improves efficiency of restaurant. The online food delivery system set up menu online and the customers easily places the order with a simple mouse click. Also with a food menu online you can easily track the orders, maintain customer's database and improve your food delivery service. This system allows the user to select the desired food items from the displayed menu. The user orders the food items. The payment can be made online or pay-on-delivery system. The user's details are maintained confidential because it maintains a separate account for each user. An id and password is provided for each user. Therefore, it provides a more secured ordering.

DECLARATION

ACKNOWLEDGEMENT

ABSTRACT

List of figure

TABLE OF CONTENTS **Pg.no**

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

1.1 Background

The traditional food ordering systems in schools and workplaces encountered significant challenges and drawbacks when the COVID-19 pandemic struck. These systems, which often relied on in-person ordering and payment, were not only inefficient but also posed potential health risks due to the necessity of physical queues and close interpersonal contact.

In response to these issues, innovative projects emerged with the goal of modernizing food ordering systems in educational institutions and workplaces. A key focus of these initiatives was the implementation of remote mobile ordering to eliminate the need for physical queues and reduce direct contact between individuals. By leveraging technologies such as Android platforms and adopting the Agile methodology, these projects aimed to create more flexible and responsive systems.

The use of mobile platforms allowed users to place orders remotely, providing a safer and more convenient experience. The Agile methodology, known for its iterative and collaborative approach to development, enabled quick adjustments to the evolving needs of users and the challenges posed by the ongoing pandemic.

Furthermore, the integration of cloud computing played a pivotal role in enhancing the efficiency of these systems. Cloud-based solutions facilitated seamless order processing, inventory management, and communication between different components of the system. This not only improved the overall speed of the ordering process but also contributed to the adaptability of the system to changing circumstances.

In addition to cloud computing, the adoption of contactless payment methods became crucial in minimizing health risks associated with traditional payment processes. By allowing users to make payments without physical contact, these systems reduced the potential for virus transmission through surfaces like cash or payment terminals.

The transformation towards automated and efficient food ordering systems in schools and workplaces reflects a broader trend of using technology to prioritize safety and enhance operational effectiveness. The integration of mobile platforms, Agile methodologies, cloud computing, and contactless payments not only addressed the immediate challenges posed by the pandemic but also positioned these systems for long-term success in providing a streamlined and user-friendly experience in educational and professional environments. This shift underscores the importance of technology in adapting to and mitigating the impact of unforeseen challenges on traditional processes.

1.2 Brief history of Technology/concept

1. Django:

- Year of Inception:Django was created in 2003 and released as an open-source web framework for Python in 2005.
- Creators: Django was initially developed by Adrian Holovaty and Simon Willison while working at the Lawrence Journal-World newspaper.
- Purpose: Django was designed to simplify web development by providing a high-level, batteries-included framework for building robust, scalable, and maintainable web applications. It follows the model-view-controller (MVC) architectural pattern and promotes the Don't Repeat Yourself (DRY) principle.

2. Python:

- Year of Inception: Python was created by Guido van Rossum and was first released in 1991.
- Purpose: Python was developed as a general-purpose programming language with a focus on readability and simplicity. It has a clear and concise syntax that emphasizes code readability, making it a popular choice for developers in various domains, including web development, data science, artificial intelligence, and more.

3. Bootstrap:

- Year of Inception: Bootstrap, initially known as Twitter Blueprint, was developed by Twitter engineers Mark Otto and Jacob Thornton. It was first released as an open-source project in 2011.

- Purpose: Bootstrap is a front-end framework that provides a collection of pre-designed HTML, CSS, and JavaScript components to streamline web development. It was created to help developers build responsive and consistent web interfaces quickly. Bootstrap has become one of the most popular front-end frameworks and is widely used in web development projects.

4. HTML (HyperText Markup Language):

- Year of Inception: HTML was first introduced by Sir Tim Berners-Lee in 1991.

- Purpose: HTML is the standard markup language used to create the structure of web pages. It provides a set of elements and tags that define the various components of a web page, such as headings, paragraphs, images, links, and more. HTML is essential for creating the backbone of a website and is often used in conjunction with CSS and JavaScript for a complete web development stack.

5. CSS (Cascading Style Sheets):

-Year of Inception: CSS was proposed by Håkon Wium Lie and Bert Bos in 1994 and later formalized by the World Wide Web Consortium (W3C) in 1996.

- Purpose CSS is a style sheet language used for describing the presentation of a document written in HTML. It allows developers to control the layout, design, and formatting of web pages, enabling them to separate the structure (HTML) from the presentation (CSS). CSS plays a crucial role in creating visually appealing and responsive web interfaces.

These technologies, Django, Python, Bootstrap, HTML, and CSS, have played significant roles in shaping the landscape of web development and continue to be widely used in building modern and efficient web applications.

1.3 Applications

The project involving Django, Python, Bootstrap, HTML, and CSS for modernizing food ordering systems in schools and workplaces can have several practical applications. Here are some potential use cases and applications:

1. Educational Institutions:

- School Cafeterias: Implement the system in school cafeterias to streamline the food ordering process for students and staff. This can help reduce congestion in dining areas and provide a more efficient way for students to order and receive meals.

- University Campuses: Extend the application to university campuses, where students and faculty can use the system to order food from various on-campus dining options. This can include integration with campus meal plans and offer a convenient solution for a diverse and large population.

2. Workplaces:

- Corporate Cafeterias: Implement the system in workplace cafeterias to facilitate easy and contactless ordering for employees. This can be especially useful in large office buildings where traditional queues can be time-consuming.

- Office Events and Meetings: Use the system for ordering catering services for office events, meetings, or conferences. This ensures a smooth and organized process for managing food preferences and dietary restrictions for participants.

3. Healthcare Facilities:

- Hospital Cafeterias: Apply the system in hospital cafeterias to serve medical staff, patients, and visitors efficiently. It can include features for dietary restrictions and special meal requirements for patients.

4. Events and Conferences:

- Event Catering: Utilize the system for managing catering services during events and conferences. Attendees can pre-order meals or snacks, reducing wait times and ensuring a better overall experience.

5. Remote or Hybrid Work Environments:

- Remote Ordering for Remote Workers: Extend the system to support remote ordering for employees working from home. This could involve integrating with local food delivery services or providing options for employees to pick up their orders.

6. Enhanced Safety Measures:

- Pandemic Response: In times of health crises, such as the COVID-19 pandemic, the system can play a crucial role in minimizing physical contact, maintaining social distancing, and reducing the risk of virus transmission through contactless ordering and payments.

7. Customization and Feedback:

- User Preferences and Feedback: Implement features that allow users to customize their orders based on preferences and dietary restrictions. Additionally, gather feedback from users to continuously improve the system and the available food options.

8. Integration with Existing Systems:

- Integration with School or Workplace Systems: Integrate the food ordering system with existing school or workplace databases, such as student or employee directories, to streamline user authentication and personalize the ordering experience.

By adapting the project to these various applications, the system can contribute to a more efficient, user-friendly, and safe environment in different settings, catering to the specific needs of educational institutions, workplaces, and other relevant contexts.

1.4 Research motivation and Problem statement

1.4.1 Research Motivation

The motivation for this research is grounded in the urgent need to address the inherent inefficiencies and safety concerns prevalent in traditional food ordering systems, specifically within the confines of school and workplace canteens. The backdrop of the COVID-19 pandemic has significantly underscored the vulnerabilities of these conventional systems, compelling a thorough reevaluation and a pressing demand for modernization, with a specific emphasis on prioritizing efficiency and safety.

The pandemic served as a catalyst, exposing the limitations of traditional food ordering processes, which often involve long queues, close physical interactions, and the handling of cash or physical payment methods. These aspects became potential vectors for the transmission of infectious diseases, notably highlighting the need for a fundamental shift in how canteen systems operate.

In response to these challenges, the research aims to explore contemporary solutions that harness the power of technology and innovative approaches to overhaul the existing canteen systems. The overarching goal is to create an environment where the ordering process is optimized, waiting times are reduced, physical contact is minimized, and, ultimately, user satisfaction is significantly enhanced.

The adoption of technology plays a pivotal role in achieving these objectives. Mobile applications, for instance, offer a modern and convenient channel for users to place orders remotely, eliminating the need for physical queues and promoting a more efficient workflow. By integrating cloud computing, the research seeks to streamline backend processes, ensuring seamless order processing, inventory management, and communication within the canteen system.

Furthermore, the emphasis on contactless payments addresses the safety concerns associated with traditional payment methods. This includes integrating secure and convenient payment options, such as mobile wallets or card payments, to reduce the reliance on cash transactions and minimize the potential for disease transmission .

The research envisions a comprehensive transformation of canteen systems, aligning them with the demands of a fast-paced, technology-driven world. The exploration of advancements like mobile applications, cloud computing, and contactless payments reflects a commitment to leveraging cutting-edge solutions to enhance not only the efficiency of the ordering process but also the safety of individuals interacting within these environments.

In essence, this research aims to contribute valuable insights and practical solutions that go beyond addressing immediate concerns brought about by the pandemic. It seeks to establish a foundation for sustainable and resilient canteen systems that can adapt to evolving challenges, ultimately creating a safer, more efficient, and user-centric experience within school and workplace environments.

1.4.2 Statement of the Problem

Traditional food ordering systems in educational institutions and workplaces rely heavily on manual processes and physical queues, leading to inefficiencies and potential health risks, particularly in the context of the COVID-19 pandemic.

Long waiting times, overcrowding, and a lack of digitization exacerbate these problems. This research aims to address these issues by investigating and implementing modern approaches that streamline canteen systems.

The objective is to create an efficient, contactless ordering process that reduces wait times and enhances safety.

By identifying innovative technologies and methodologies, we intend to propose practical solutions that significantly improve the food ordering experience, ensuring a seamless, secure, and user-friendly environment within canteens.

1.5 Research objectives and contributions

1.5.1 Primary objectives

1. Assessment of Current Operations:

- Objective: Evaluate existing canteen operations to identify bottlenecks and safety concerns.
- Rationale: Understanding the current state of operations is crucial for pinpointing inefficiencies and safety vulnerabilities that need to be addressed during the modernization process.

2. Development and Implementation of Digital Ordering Platform:
- Objective: Create and implement a user-friendly digital ordering platform to streamline the food ordering process.
- Rationale: Introducing a digital platform enhances efficiency, reduces waiting times, and provides a convenient way for users to place orders remotely.

3. Integration of Contactless Payment Options and Digital Menus:
- Objective: Incorporate contactless payment options and digital menus to minimize physical interactions during the ordering and payment processes.
- Rationale: By embracing contactless technologies, the aim is to enhance safety by reducing the reliance on physical currency and traditional ordering methods.

4. Evaluation of Impact on Processing Times and Customer Satisfaction:
- Objective: Assess the impact of the implemented changes on order processing times and overall customer satisfaction.
- Rationale Measuring the effectiveness of the modernization efforts helps gauge the success of the implemented technologies in improving efficiency and user experience.

5. Establishment of Safety Protocols:
- Objective: Define and implement safety protocols, including food handling and hygiene measures, to ensure a safe dining experience.
- Rationale: Enhancing safety measures is a fundamental aspect of the modernization process, addressing concerns related to health and well-being within the canteen environment.

1.5.2 Main contributions

1. Efficiency Enhancement:

-Contribution: The research contributes to the modernization of canteen systems by identifying and addressing operational inefficiencies, ultimately improving the overall efficiency of the food ordering process.

2. User-Friendly Digital Ordering Platform:

- Contribution: The development and implementation of a user-friendly digital ordering platform represent a significant contribution, providing a modern and convenient channel for users to interact with the canteen system.

3. Contactless Technologies for Safety:

- Contribution: The integration of contactless payment options and digital menus contributes to safety by minimizing physical interactions, reducing the risk of disease transmission, and aligning the canteen system with contemporary health standards.

4. Performance Evaluation Metrics:

- Contribution: The research contributes by introducing metrics to evaluate the impact of implemented changes on order processing times and customer satisfaction, providing a quantitative assessment of the success of the modernization efforts.

5. Enhanced Safety Protocols:

- Contribution: The establishment of safety protocols, including stringent measures for food handling and hygiene, contributes to creating a safer dining environment, addressing critical safety concerns highlighted by the COVID-19 pandemic.

In summary, the primary objectives focus on assessing, developing, integrating, evaluating, and establishing safety protocols within canteen systems, while the main contributions lie in the efficiency enhancements.

CHAPTER 2: LITERATURE SURVEY

2.1 Introduction

The Smart Restaurant Management System is an innovative and user-friendly web-based platform designed to enhance the efficiency and convenience of the restaurant ordering process. Here's a detailed walkthrough of the system's key features and functionalities:

User Account Creation:

- When a user or customer enters the website, they are prompted to create an account for a personalized experience.
- Account creation involves providing a unique username, email, new mobile number, and a password for security.
- Users are also required to input their delivery address, ensuring a seamless and accurate food delivery process.

Browsing and Selection:

- Upon successful login, users are presented with a comprehensive menu showcasing different types of food available in the restaurant, categorized into soups, starters, main course dishes, and desserts.
- Users can navigate through these categories to find the specific types of food they are interested in.

Order Placement:

- To order food, users first select the category of food they want, followed by a search option to streamline their preferences.
- Once the desired food items are chosen, users can add them to their cart or place their order directly.
- After finalizing the order, users are prompted to confirm their delivery address to ensure accurate and timely delivery.

Payment Options:

- The system offers various payment methods to cater to user preferences and convenience.

- Users are presented with multiple online payment options, including credit/debit card payments, bank transfers, e-wallets, and UPI payments.
- The total bill amount is displayed, allowing users to make an informed decision on the payment method they prefer.

Cash on Delivery Option:
- For users who prefer traditional payment methods, the system supports cash on delivery. This provides flexibility for those who may not be comfortable with online transactions.

Best Deals and Discounts:
- The platform may offer users the option to choose from various deals and discounts available for their meals, providing added value and cost savings.

Order Confirmation and Delivery:
- Once the payment is confirmed, users receive an order confirmation, along with details of their order, payment method, and expected delivery time.
- The restaurant management system ensures a smooth coordination of the order, from payment confirmation to preparation and delivery.

Benefits of Online Payment:
- Users who choose online payment methods can avail themselves of benefits such as faster processing, cashback offers, and the convenience of a secure and contactless transaction.

In summary, the Smart Restaurant Management System integrates user account management, a comprehensive menu, easy ordering, diverse payment options, and order tracking to provide a modern, efficient, and user-friendly experience for customers ordering food online.

2.2 Study of Tools/Technology

Technologies:

1. Django

- Description: Django is a high-level web framework for Python that encourages rapid development and clean, pragmatic design. It follows the model-view-controller (MVC) architectural pattern and includes an ORM (Object-Relational Mapping) system, making it easy to interact with databases.
- Role in the Project: Django serves as the backbone of the Smart Restaurant Management System, handling the backend logic, data models, and facilitating the communication between the database and the front-end.

2. Python:

- Description: Python is a versatile, high-level programming language known for its readability and simplicity. It supports multiple programming paradigms, making it suitable for various applications, including web development, data analysis, artificial intelligence, and more.
- Role in the Project: Python is the primary programming language used in conjunction with Django for implementing the business logic, handling requests, and managing the overall functionality of the Smart Restaurant Management System.

3. Bootstrap:

- Description: Bootstrap is a front-end framework that provides a collection of pre-designed HTML, CSS, and JavaScript components. It facilitates the development of responsive and visually appealing user interfaces.
- Role in the Project: Bootstrap is utilized to create a responsive and aesthetically pleasing user interface for the restaurant management system. It streamlines the design process and ensures a consistent look and feel across different devices.

4. HTML (HyperText Markup Language):

- Description: HTML is the standard markup language used to create the structure of web pages. It defines the elements and content on a web page, including text, images, links, and more.

- Role in the Project: HTML is employed to structure the content of the restaurant management system, defining the layout and presentation of various components visible to the user.

5. CSS (Cascading Style Sheets):

- Description: CSS is a style sheet language that controls the visual presentation of HTML elements. It is used to define the colors, fonts, spacing, and overall layout of a web page.
- Role in the Project: CSS is essential for styling the HTML elements created with Bootstrap. It ensures a visually cohesive and attractive presentation of the user interface.

Tools:

1. Git:

- Description: Git is a distributed version control system used to track changes in source code during software development. It allows collaborative work, easy branching, and version history management.
- Role in the Project: Git is employed to manage the project's source code, enabling collaboration among team members, tracking changes, and facilitating the integration of new features.

2. Visual Studio Code:

- Description: Visual Studio Code is a lightweight and extensible code editor developed by Microsoft. It supports various programming languages and features debugging, syntax highlighting, and extensions for enhanced functionality.

3. PyCharm:

- Description: PyCharm is an integrated development environment specifically designed for Python development. It offers advanced features like code completion, debugging tools, and project navigation.

CHAPTER 3: SYSTEM REQUIREMENTS SPECIFICATIONS

3.2.2 Software Requirements

3.2.2.1 Functional Requirments&Non-functional Requirements

Functional Requirements:

Customers:

1. Sign Up (only for new customer)
Input: “SignUp” option selected.
Output: customer prompted to enter the details.
2. Login

Input: “Login” option selected.
Output: customer prompted to enter the username and password.
3. Forgot password

Input: “forgot password” option selected.
Output: customer prompted to enter the email and new password.
4. Select food items

State: The customer has logged in and the main menu has been displayed.
Input: Items are selected customer feel free to order.
Output: System will display selected items.

5. Changes to order
Input: “go to cart” option selected.
Output: customer can delete or add food item in order.
6. Review the order before submitting

Input: “Order Place” option selected.
State: Customer name, phone number, location (address) display or enter the all of information.
Output: customer prompted to pay the bill.
7. Payment

State: The different types of payment method are display.
Input: choose any payment method.
Output: customer prompted to enter the verification code if choose online payment.
State: Display order no., payment details and confirmation of delivery.
8. Logout

Input: “Logout” option selected.

Output: you are successfully logout.
State: System display login page.

- Employees:

1. Login (Employee login page)
Input: “Login” option selected.
Output: Employee prompted to enter the username and password.
2. Modify Menu

State: In the system all the items are displayed with their rates.
Input: “Change” option selected.
Output: Employee can make changings in menu like adding or removing food items which are not available and changings rate of items.
3. Order list

Input: “Order list” option selected.
State: System display all order details.
Output: Employee can make changings like confirm order, prepared order, delivered order, not confirm order.
4. Logout

Input: “Logout” option selected.
Output: you are successfully logout.
State: System display login page.

Administrators:

Administrators must be able to use Employees all features.

1. Login (admin login page)
Input: “Login” option selected.
Output: admin prompted to enter the username and password.
2. Logout

Input: “Logout” option selected.
Output: you are successfully logout.
State: System display login page.

Non-Functional Requirements:

1. Portability
System running on one platform can easily be converted to run on another platform.
2. Reliability

The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended.

3. Availability

The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs.

4. Maintainability

A commercial database is used for maintaining the database and the application server takes care of the site.

5. Security

Secure access of confidential data (customer information).

6. User friendly

System should be easily used by the customer.

7. Performance

Performance should be fast.

8. Efficient

System should be efficient that it won't get hang if heavy traffic of order is placed.

9. Safety

Data in the database of system should not loss or damage.

10. Privacy

Personal data of the system should not disclose to anyone.

CHAPTER 4: DESIGN

4.1 Architectural Design

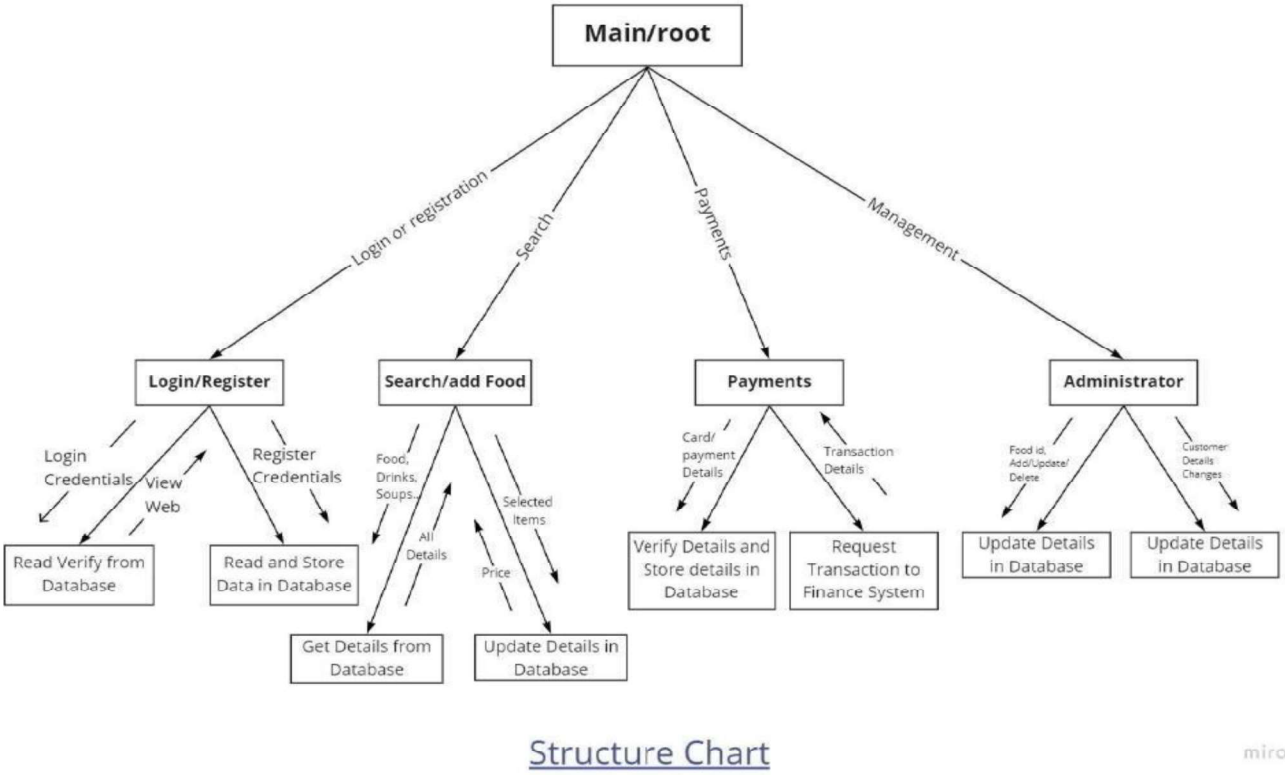


Figure 4.1.1: Architectural Design

Communication between all parties (stakeholders) interested in the development of a computer-based system.

4.2 Dataflow Diagram

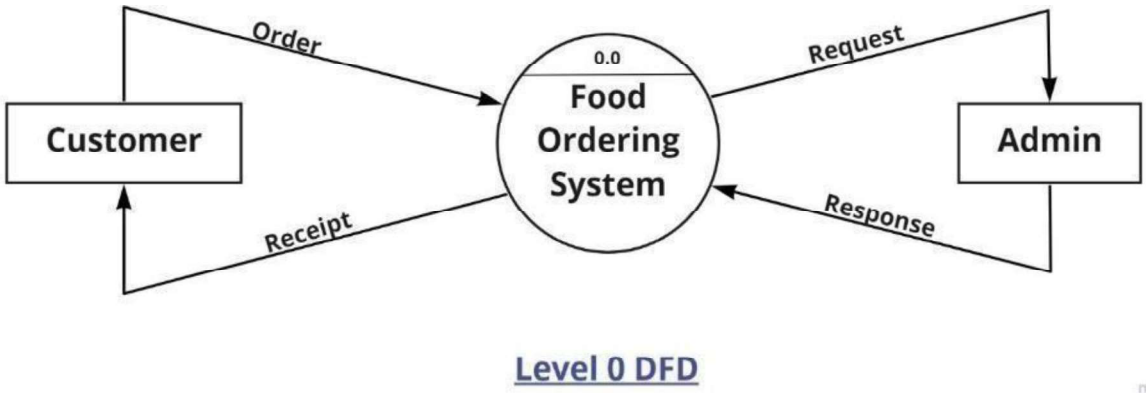


Figure 4.2.1: Dataflow diagram level 0

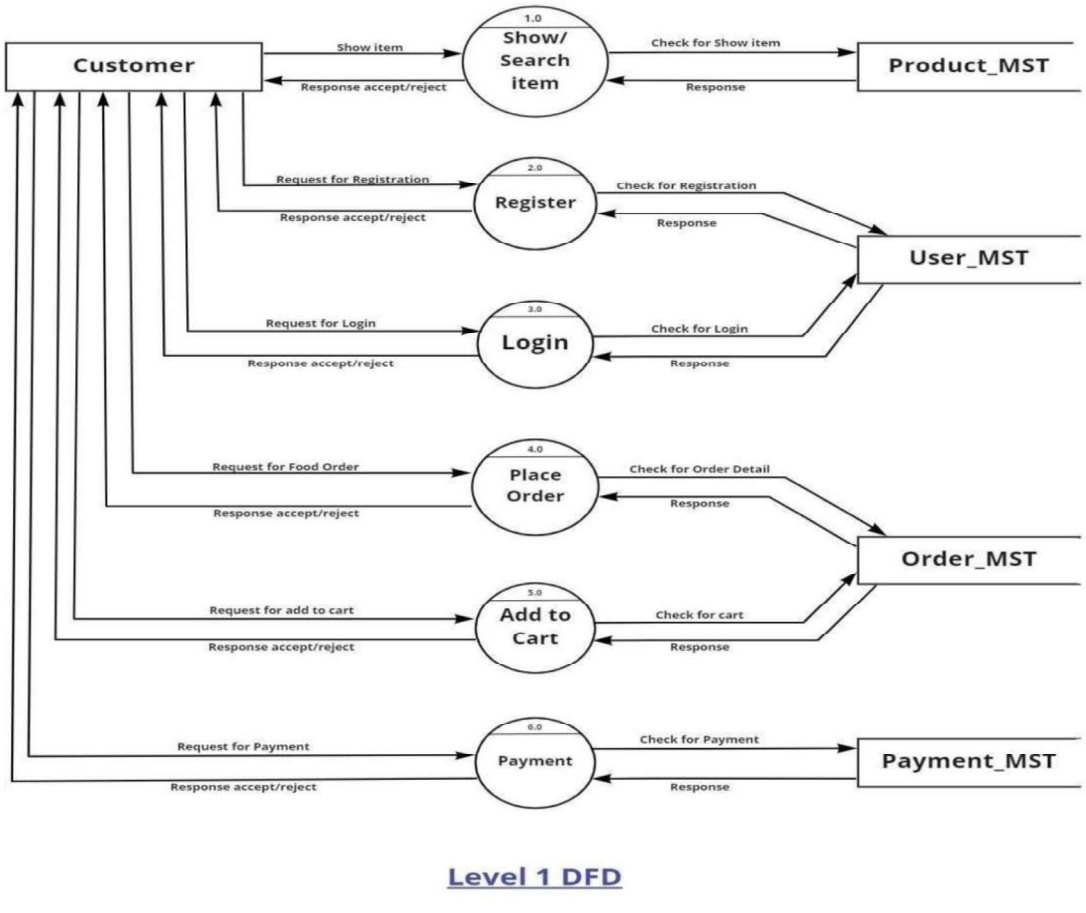


Figure 4.2.2: level 1 DFD

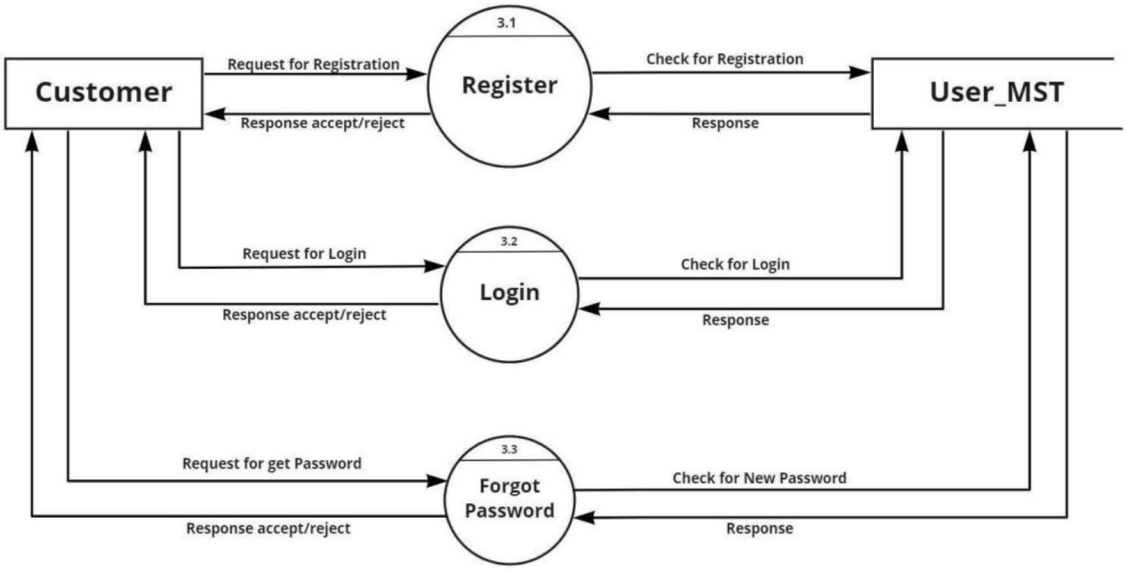


Figure 4.2.3: Level 2 DFD

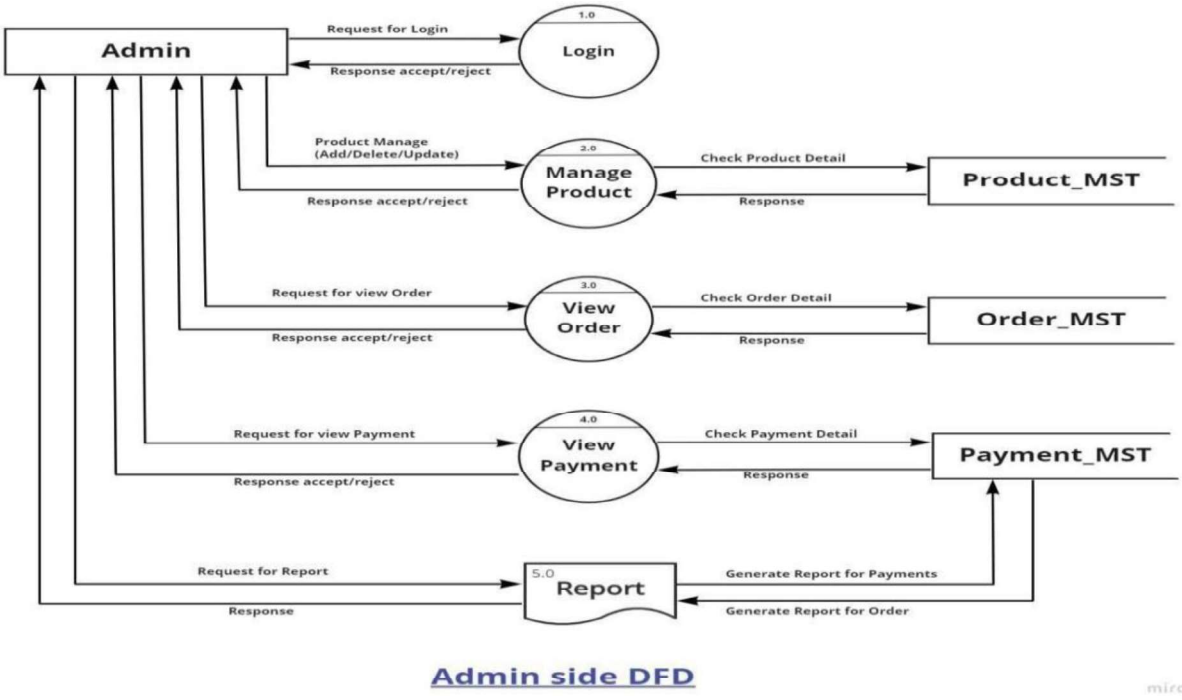


Figure 4.2.4: Admin DFD

data flow diagram (DFD) maps out the flow of information for any process or system

4.3 Class Hierarchy Diagram

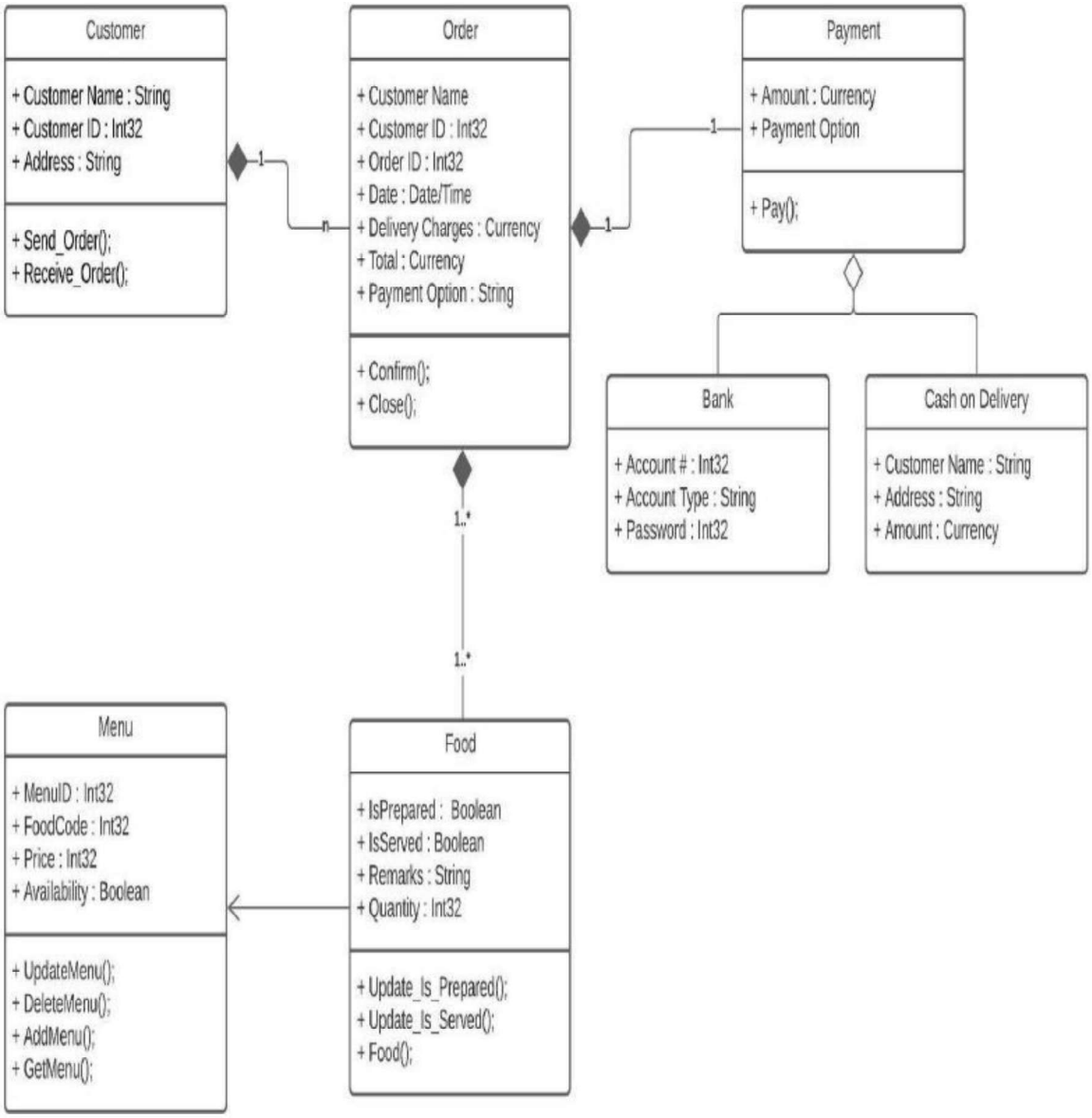


Figure 4.3.1: Class Hierarchy Diagram

In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods).

4.4 Usecase Diagrams

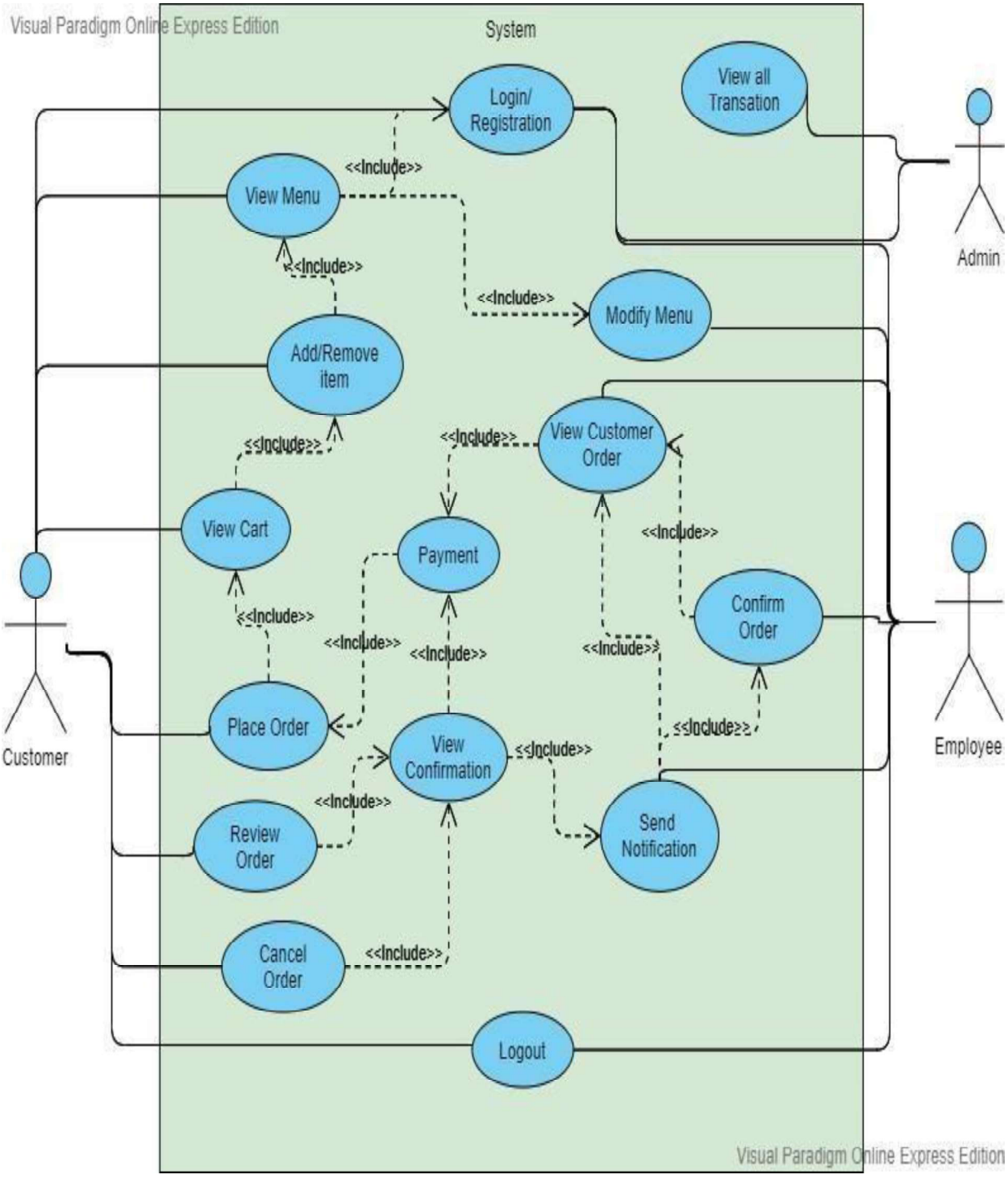


Figure 4.4.1: Usecase Diagrams

Use-case diagrams describe the high-level functions and scope of a system.

Sequence Diagrams

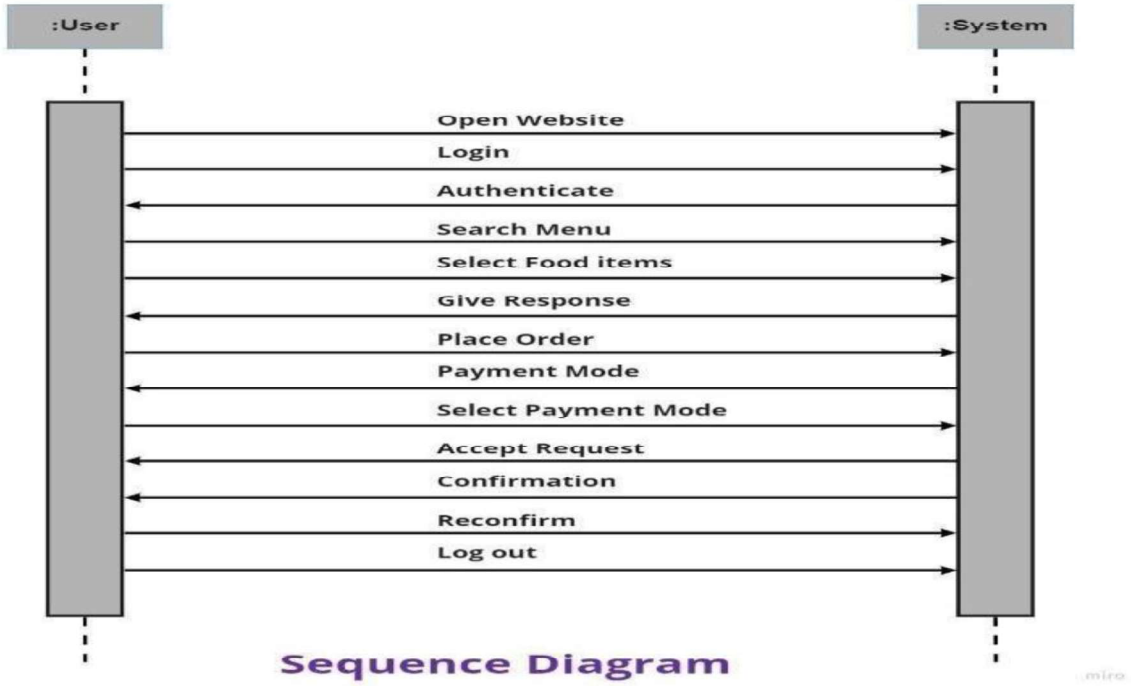


Figure 4.4.2: Sequence Diagrams

4.5 Activity Diagram

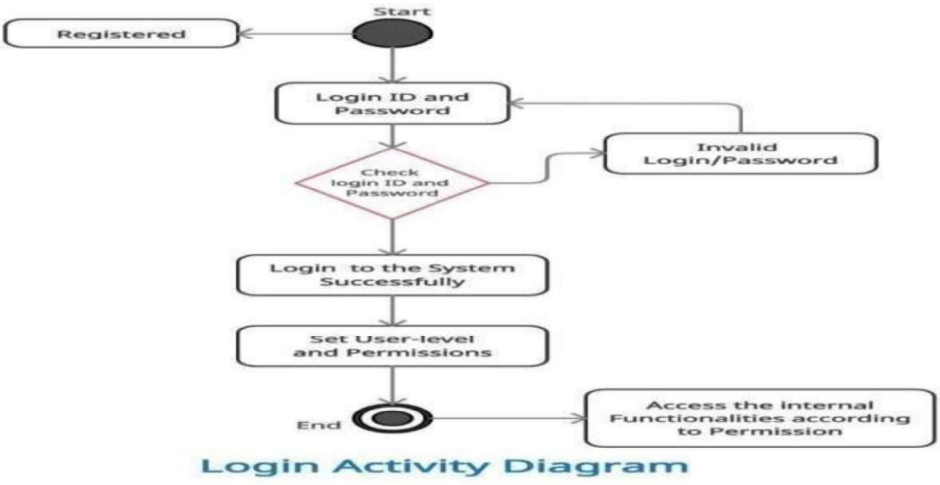


Figure 4.5.1: Activity Diagram

Activity diagrams show the workflow from a start point to the finish point detailing the many decision paths that exist in the progression of events contained in the activity.

CHAPTER 5: IMPLEMENTATION

5.1 Methodology

Following the Django project's successful execution according to the given description, you should anticipate the following results:

1. Database Interaction: User, product, and order data will be stored and retrieved with ease thanks to Django's Object-Relational Mapping (ORM) connection to the database.

2. User Authentication: Role-based access control will enable users, including administrators and customers, to sign up, log in safely, and access their respective functionalities.

3. Views and Templates: The Model-View-Controller (MVC) architecture pattern will be followed by the application when rendering views and templates. In order to carry out tasks like examining products, managing the cart, and placing orders, users will engage with an intuitive interface.

Fourth, the *Admin Interface:*: Administrators will be able to effectively manage and keep an eye on user accounts, products, and orders thanks to the integrated Django admin interface. As needed, administrators can add, edit, or remove entries.

5. RESTful APIs: If put into practice, RESTful APIs would provide smooth communication between various modules, allowing data interchange and component interactions.

6. Security Measures: User data and system integrity will be protected by the built-in security features of the Django framework, which will shield the application from common online vulnerabilities.

7. Features of the User Module:Users will have the ability to safely register and log in.Examine the menu of foods that are offered.Use an easy-to-use interface to add things to the cart.Modify the cart's item quantities.Use the NavBar to see how many things are in the cart.View and manage added items by visiting a special cart page.Place orders with the choice of paying online or with cash.Take advantage of PayPal integration to make secure online payments.Go to the Orders page to see an order history.Verify the current status of

an order in real time.Click the "View Details" button to view comprehensive order information.

Testing: To make sure that every module and feature performs as intended, extensive testing is required. To provide a flawless and error-free customer experience, this involves testing order processing, real-time order tracking, product management, and user authentication.

Note: Depending on the exact implementation, configurations, and extra features or customizations added to your Django project, the results may differ in detail.

distributors and patrons a smooth and effective experience**.**

5.2 Description of Process

Requirement

python get-pip.py

py -m pip install django

pip install pycryptodome

pip install django-admin-rangefilter

python -m pip install Pillow

To run the server, run the following command:

python manage.py makemigrations

python manage.py migrate

python manage.py runserver

5.3 Pseudo-code

index:

```
<!doctype html>
<html lang="en">
  <head>
<!--    <script> window.location="/shop";</script>-->
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->

    <linkrel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css" integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">

    <title>Welcome To Food Mania</title>
  </head>
  <body>
    <div class="jumbotron">
      <h1 class="display-4">Welcome To Food Mania</h1>
      <p class="lead">This is a simple project for online food order system.</p>
      <a class="btn btn-primary btn-lg" href="/shop" role="button">User</a>
      <a class="btn btn-primary btn-lg" href="/admin" role="button">Admin</a>
      <a class="btn btn-primary btn-lg" href="/admin" role="button">Employee</a>
      <hr class="my-4">
```

```
    <footer>
      <p>&copy; Company 2020-2021</p>
    </footer>
  </div>
  <!-- Optional JavaScript -->
  <!-- jQuery first, then Popper.js, then Bootstrap JS -->
  <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-
DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
crossorigin="anonymous"></script>

  <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"
integrity="sha384-
9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
crossorigin="anonymous"></script>

  <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"
integrity="sha384-
B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV"
crossorigin="anonymous"></script>

 </body>

</html>
```

Admin:

```
{% extends 'admin/base.html' %}
{%load static%}
{% block branding %}
```

```
    The Food Mania
</h1>

{% endblock %}

{% block extrastyle%}

<link rel="stylesheet" href="{% static 'shop/assets/css/adminstyle.css'%}" />

{%endblock %}
```

CHAPTER 6: RESULTS

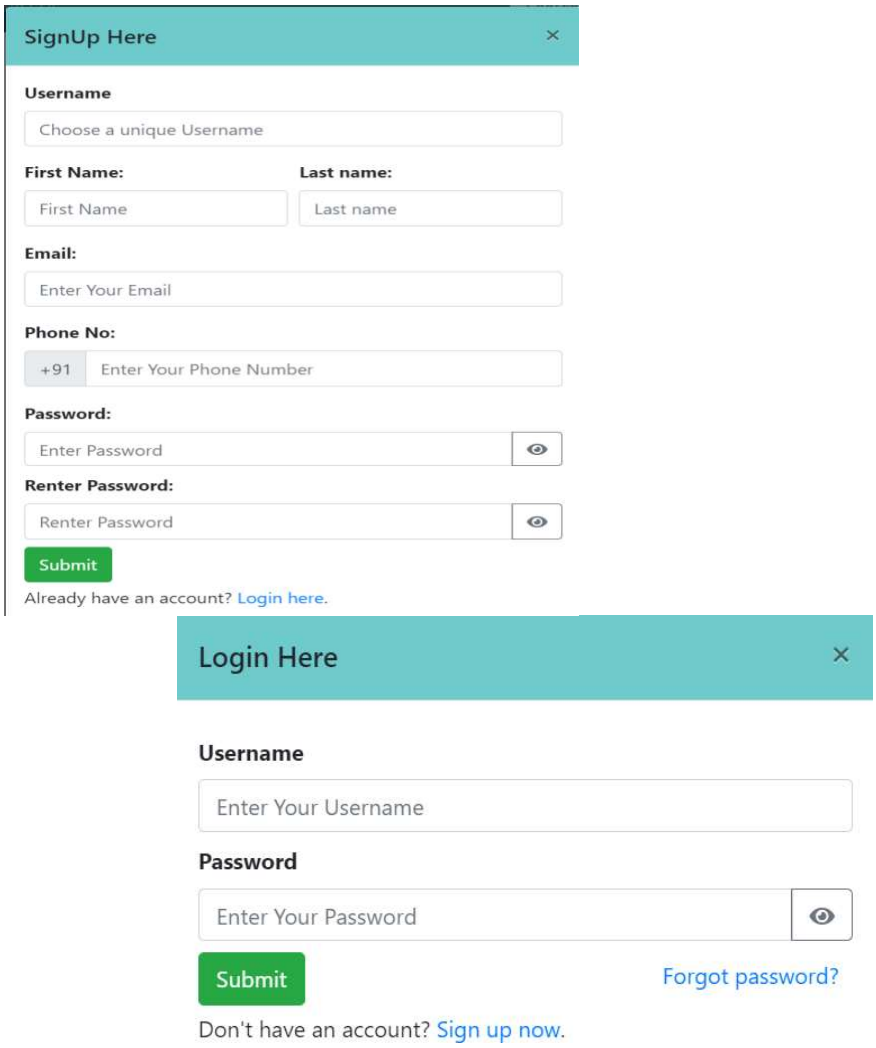


Figure 6.1: Login & SignUp module

This page is used for the user login with username and password.if he is the 1st user he must sign up 1st then login.

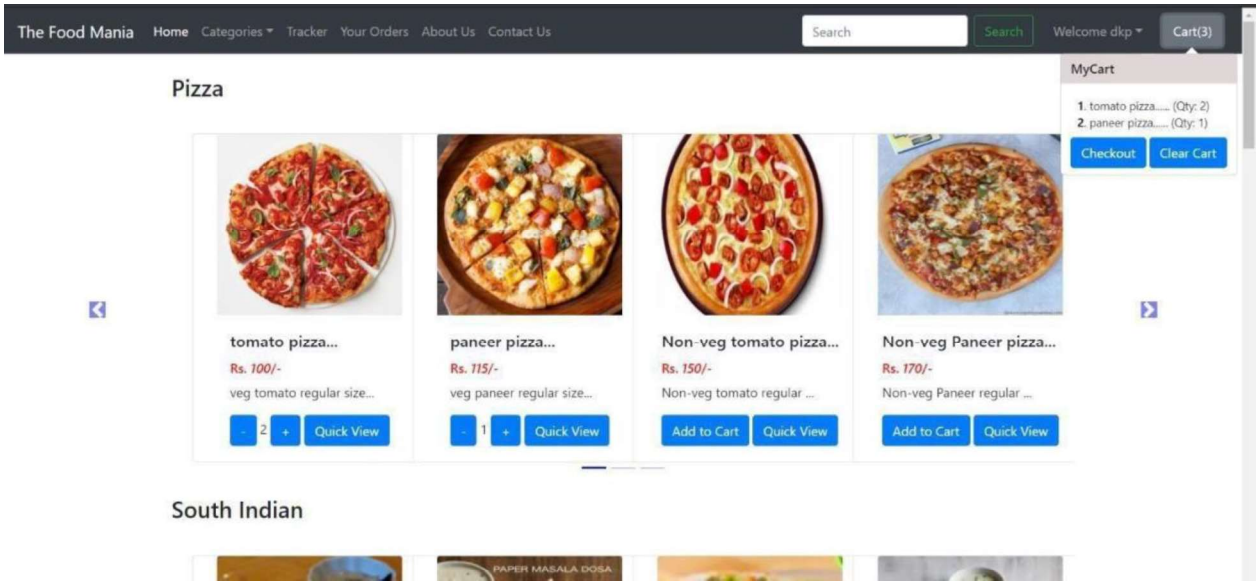


Figure 6.2: Home page

This page displays the food available in canteen and their details like price and quantity .

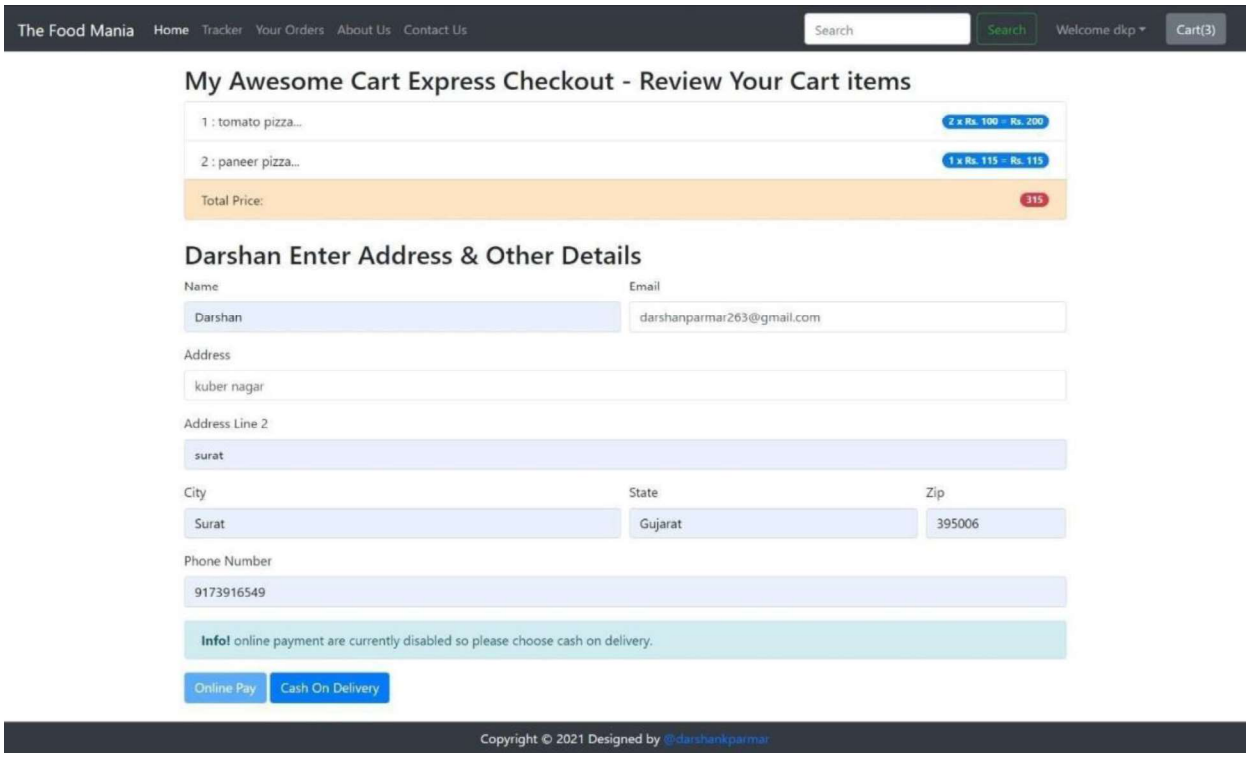


Figure 6.3: Checkout Page

This the billing and order details .

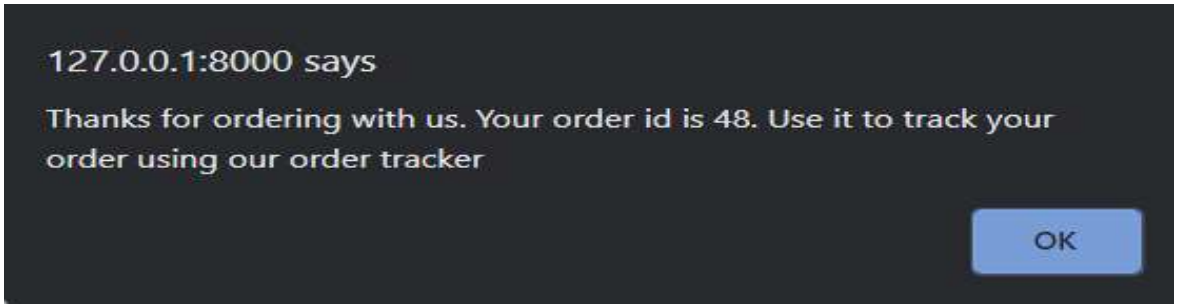


Figure 6.4: Confirm Order

This is a order conformation message .

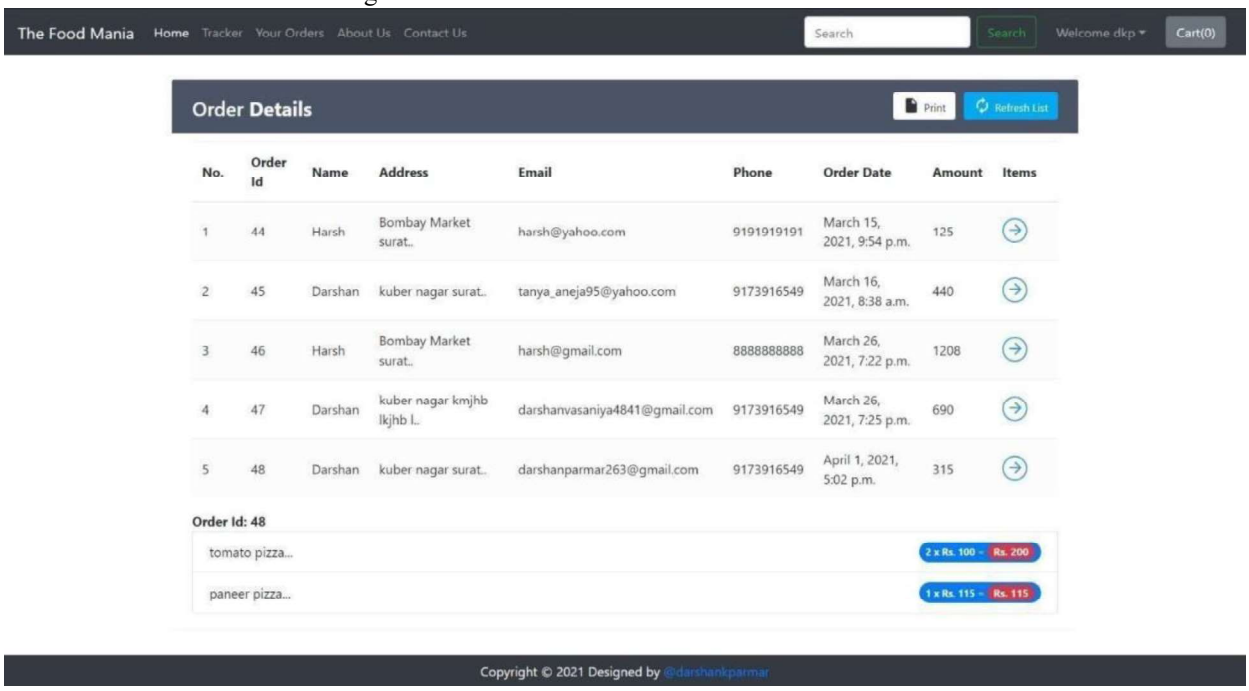


Figure 6.5: View Order Page

The oder details which are order are displays here .

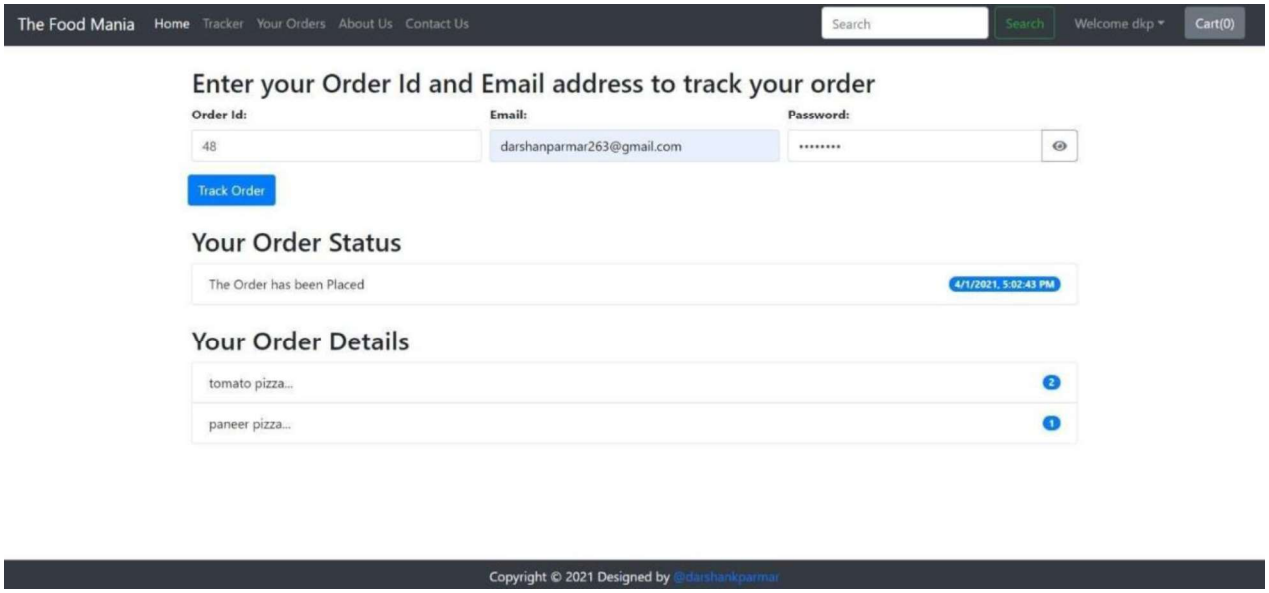


Figure 6.6: Tracker Page

using order id and email we can track our order.

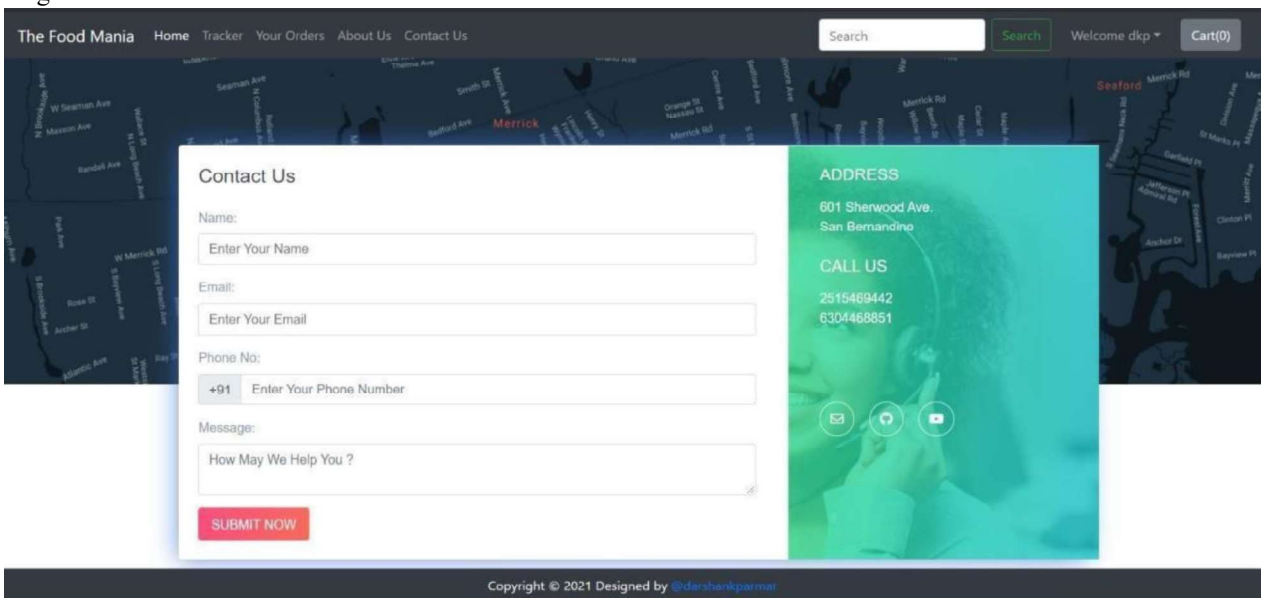


Figure 6.7: Contact Us Page

if user has any enquiry he can contact admin using this page .

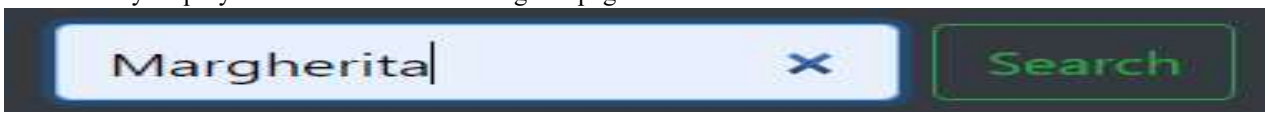


Figure 6.8: Search bar

We can search the product using search bar.

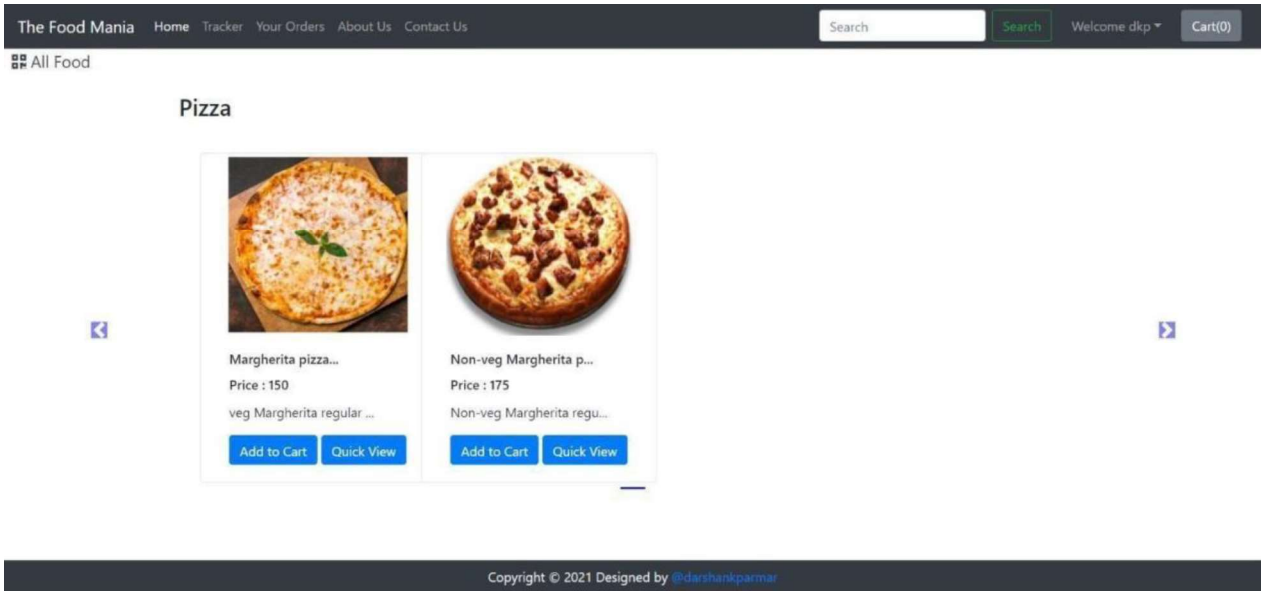


Figure 6.9: Search Page

Figure 6.10: Admin Login

This the admin login using username and password.

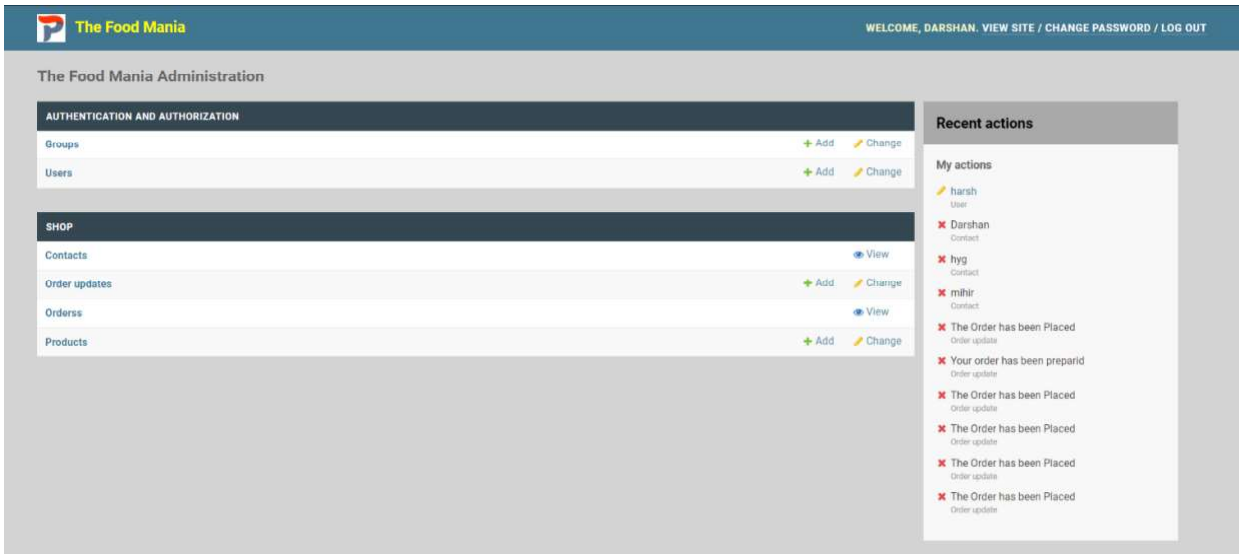


Figure 6.11: Admin Home Page

This is admin page .he can add or remove food and track the order.

CHAPTER 8: CONCLUSION

After reviewing our work, the conclusion is that after many adjustments the system works. As good as it is now, there can still be made many adjustments/improvements. However in the time was given that two persons can work on this project, the overall results are satisfactory in our opinion. The report covers the entire course of the project and results are there were needed. The first weeks the work progressed slower than expected, then the pace was increased to finish on time.

For customers, web-based ordering system can make it easier to order food without having to visit the restaurants so that customers can save time and costs. For admin, they can serve customers optimally in ordering their food and making the order report easier. Payment methods can also be done by customers through a system that is available on the web to facilitate customers in paying for their orders.

REFERENCES

[1] Ramya Gorantla(2022) Smart Cafeteria Management System using Neural Networks CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

[2] Zul, N. S., & Mohd Zin, N. A. (2022). Canteen Food Ordering and Management Application. Applied Information Technology And Computer Science, 3(2), 1094

[3] Mohamed-Ata-Radu Abu Ras(2022) SmartMeal: A scalable catering application International Journal of User-System Interaction

[4] Diksha Jagtap, Ashwini Kokate, Nisha Gupta, Seema Raysingh, Manjiri Pathak(2016) Canteen Ordering Consumption Report using Cloud Computing International Journal of Scientific Research in Science, Engineering and Technology

[5] ABUBAKKAR SK DANIYAL, AKHTAR MOHAMMAD ARSHAD KHAN, AUTOMATED CANTEEN ORDERING SYSTEM , Rani astya School of Engineering and Technology (SET), Sharda University, India

[6] Shubhra Masurkar, Akanksha Dhagadi, Yogesh Kulkarni, Amit Aylani(2022) CANTEEN ORDERING SYSTEM USING ANDROID International Journal of Engineering Applied Sciences and Technology

[7] Sasirekha N, Shreenivas K M, Swetha N(2023) Smart Cafeteria journey of survey in fisheries

[8] Giteshri Kale1, Sharad Dube2(2022) Web based E- wallet Canteen Management System using RFID International Research Journal of Engineering and Technology

[9] Rupali B. Kale(2023) Online Food Ordering System for College Canteen A Journal of Physical Sciences, Engineering and Technology

[10]Prashant Avhad ,Harsh Bhanushali ,Mansing Rathod,Keval Bhatt(2020) Canteen Automation System with Payment Gateway Proceedings of the 3rd International Conference on Advances in Science & Technology (ICAST) 2020

DrillBit

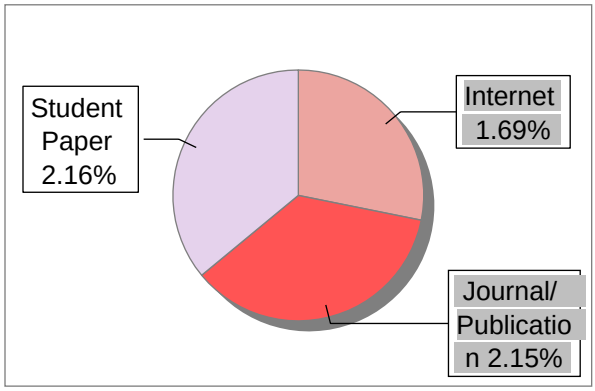
The Report is Generated by DrillBit Plagiarism Detection Software

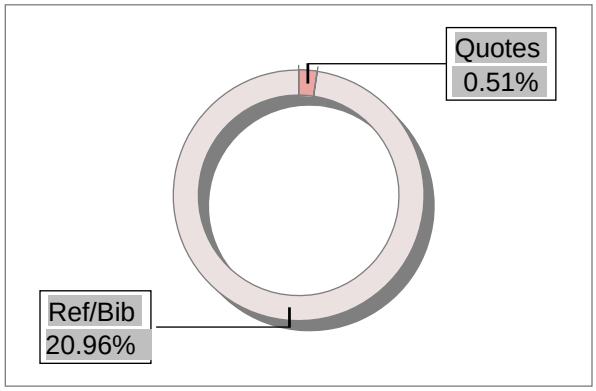
Submission Information

Author Name	1nt20cs167.shreya@nmit.ac.in
Title	UPLOAD your report here and check for Drillbit plagiarism
Paper/Submission ID	1197974
Submitted by	hod-library@nmit.ac.in
Submission Date	2023-12-11 21:16:17
Total Pages	4
Document type	Assignment

Result Information

Similarity **6 %**





Exclude Information

Quotes	Excluded
References/Bibliography	Not Excluded
Sources: Less than 14 Words %	Not Excluded
Excluded Source	**0 %**
Excluded Phrases	Not Excluded

Database Selection

Language	English
Student Papers	Yes
Journals & publishers	Yes
Internet or Web	Yes
Institution Repository	Yes

A Unique QR Code use to View/Download/Share Pdf File

DrillBit

DrillBit Similarity Report

6	6	A
SIMILARITY %	MATCHED SOURCES	GRADE

A-Satisfactory (0-10%)
B-Upgrade (11-40%)
C-Poor (41-60%)
D-Unacceptable (61-100%)

LOCATION	MATCHED DOMAIN	%	SOURCE TYPE
1	Submitted to Visvesvaraya Technological University, Belagavi	2	Student Paper
2	uir.unisa.ac.za	2	Publication
3	docplayer.net	1	Internet Data
4	moam.info	1	Internet Data
5	smsjournals.com	1	Publication
6	ijariie.com	<1	Publication