

FOOD ORDERING SYSTEM

A PROJECT REPORT

Submitted by

JANANI P(2303811724322041)

in partial fulfillment of requirements for the award of the course

CGB1201 – JAVA PROGRAMMING

in

ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

K. RAMAKRISHNAN COLLEGE OF TECHNOLOGY

(An Autonomous Institution, affiliated to Anna University Chennai and Approved by

AICTE, New Delhi)

SAMAYAPURAM – 621 112

DECEMBER, 2024

K. RAMAKRISHNAN COLLEGE OF TECHNOLOGY (AUTONOMOUS)

SAMAYAPURAM – 621 112

BONAFIDE CERTIFICATE

Certified that this project report on “**FOOD ORDERING SYSTEM**” is the bonafide work of **JANANI P(2303811724322041)** who carried out the project work during the academic year 2024 - 2025 under my supervision.

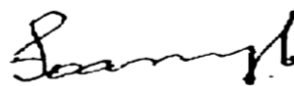


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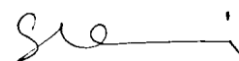
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Submitted for the viva-voce examination held on 07.12.24



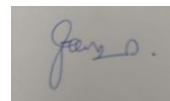
INTERNAL EXAMINER



EXTERNAL EXAMINER

DECLARATION

I declare that the project report on “**FOOD ORDERING SYSTEM**” is the result of original work done by us and best of our knowledge, similar work has not been submitted to “**ANNA UNIVERSITY CHENNAI**” for the requirement of Degree of **BACHELOR OF TECHNOLOGY**. This project report is submitted on the partial fulfillment of the requirement of the award of the **CGB1201 – JAVA PROGRAMMING**.



Signature

JANANI P

Place: Samayapuram

Date: 07/12/2024

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It is with great pride that I express our gratitude and indebtedness to our institution, **“K. Ramakrishnan College of Technology (Autonomous)”**, for providing us with the opportunity to do this project.

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I wish to express our special thanks to the officials and Lab Technicians of our departments who rendered their help during the period of the work progress.

VISION OF THE INSTITUTION

To serve the society by offering top-notch technical education on par with global standards.

MISSION OF THE INSTITUTION

- Be a centre of excellence for technical education in emerging technologies by exceeding the needs of industry and society.
- Be an institute with world class research facilities.
- Be an institute nurturing talent and enhancing competency of students to transform them as all- round personalities respecting moral and ethical values.

VISION AND MISSION OF THE DEPARTMENT

To excel in education, innovation and research in Artificial Intelligence and Data Science to fulfill industrial demands and societal expectations.

Mission 1: To educate future engineers with solid fundamentals, continually improving teaching methods using modern tools.

Mission 2: To collaborate with industry and offer top-notch facilities in a conducive learning environment.

Mission 3: To foster skilled engineers and ethical innovation in AI and Data Science for global recognition and impactful research.

Mission 4: To tackle the societal challenge of producing capable professionals by instilling employability skills and human values.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: Compete on a global scale for a professional career in Artificial Intelligence and Data Science.

PEO 2: Provide industry-specific solutions for the society with effective communication and ethics.

PEO 3: Hone their professional skills through research and lifelong learning initiatives.

PROGRAM OUTCOMES

Engineering students will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- **PSO 1:** Capable of working on data-related methodologies and providing industry-focussed solutions.
- **PSO2:** Capable of analysing and providing a solution to a given real-world problem by designing an effective program.

ABSTRACT

A food ordering system is a digital platform designed to facilitate seamless interactions between restaurants and customers, streamlining the process of browsing menus, placing orders, and making payments. This system serves as an innovative solution to reduce manual dependency, enhance operational efficiency, and provide a convenient user experience. The core of the system involves a user-friendly interface where customers can explore a variety of cuisines, customize orders based on preferences, and confirm purchases with just a few clicks. Simultaneously, restaurant managers can update menus, track orders in real time, and manage inventory efficiently through the backend system.

This technology eliminates the traditional limitations of location and time by enabling customers to place orders online or through mobile applications, whether for dine-in, takeaway, or delivery. The food ordering system also emphasizes scalability and adaptability, allowing small eateries and large restaurant chains to tailor the platform to their specific needs.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

A food ordering system is a platform or service that allows customers to order food from restaurants or food delivery services, either online or via an app. It connects customers with various food options, making it easier to browse menus, choose meals, place orders, and have them delivered to their location.

In simple terms, a food ordering system acts like a virtual menu and delivery assistant. Customers can:

1. **Browse menus:** Look at the list of available dishes and drinks.
2. **Place an order:** Select what they want and add it to their cart.
3. **Pay for the order:** Use different payment methods (like credit cards, mobile wallets, or cash).
4. **Track delivery:** Get updates about when the food will arrive.

1.2 OBJECTIVE

The primary objective of the food ordering system is to simplify and enhance the process of ordering food by providing a convenient, efficient, and user-friendly platform. It aims to connect customers with restaurants seamlessly, enabling users to browse menus, customize orders, and complete transactions online. For restaurants, the system seeks to streamline order management, optimize operations, and improve customer engagement through features like real-time updates and data analytics. By integrating advanced technologies, the system aspires to enhance the overall food ordering experience while boosting operational efficiency and profitability for businesses.

CHAPTER 2

PROJECT METHODOLOGY

2.1 PROPOSED WORK

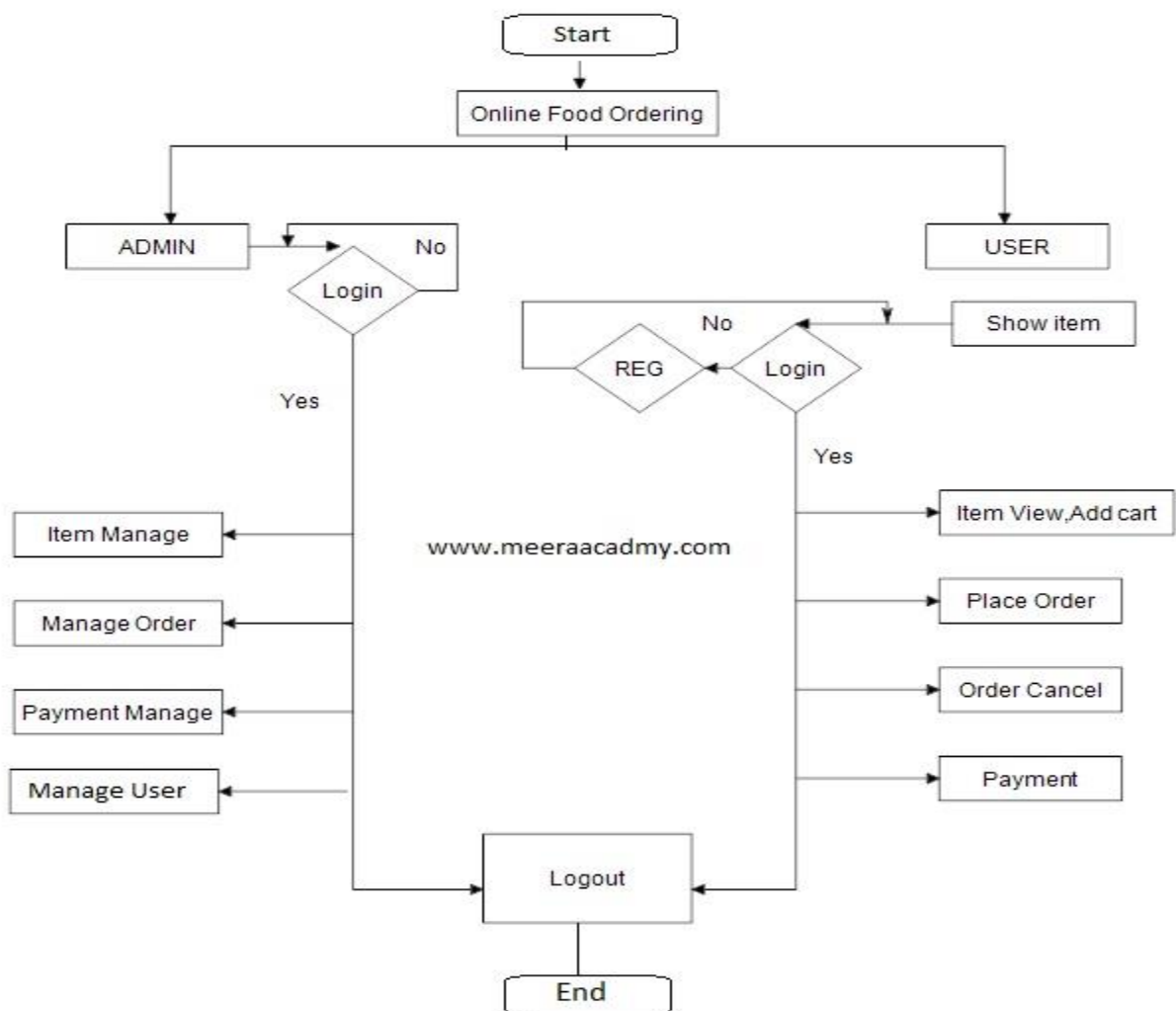
The proposed work for a food ordering system outlines the development of a comprehensive and user-friendly platform that bridges the gap between customers and restaurants, ensuring seamless interactions and efficient order management. The system will be designed to cater to the needs of both customers and restaurant administrators.

KEY FEATURES

Customer-Focused Features

Restaurant Management Features

2.2 BLOCK DIAGRAM



CHAPTER 3

JAVA PROGRAMMING CONCEPTS

Developing a food ordering system in Java involves leveraging object-oriented programming

principles, data structures, and user interface design to create an efficient and scalable

application. The key concepts and components include:

3.1 Object-Oriented Design

- **Classes and Objects:** Define classes such as Customer, Restaurant, Menu Item, Order, and Payment. Objects of these classes represent entities in the system.

3.2 Data Management

- **Collections Framework:** Use Array List, HashMap, or Tree Map to store and manage dynamic data such as menus and orders.

CHAPTER 4

MODULE DESCRIPTION

4.1 User Management Module

This module handles user registration, login, and profile management. It ensures secure authentication and maintains user preferences, order history, and saved addresses for a personalized experience.

4.2 Menu Management Module

Designed for restaurant administrators, this module allows adding, updating, or removing food items, setting prices, and managing item availability. It ensures customers have access to an updated menu.

4.3 Payment Integration Module

Ensures secure and seamless transactions by supporting multiple payment methods such as credit/debit cards, digital wallets, UPI, and cash on delivery.

4.4 Delivery Management Module

Assigns orders to delivery personnel, optimizes delivery routes, and tracks deliveries to ensure timely service. It may include GPS tracking for real-time updates.

4.5 Feedback and Support Module

Enables customers to rate their experience, leave reviews, and contact customer support for resolving issues or queries. This ensures continuous improvement and customer satisfaction.

CHAPTER 5

CONCLUSION

The **Food Ordering System** is an essential application for both businesses and customers, offering a convenient and efficient platform for ordering food online. By automating the ordering process, such systems streamline the customer experience, making it faster and more user-friendly, while also improving operational efficiency for restaurant owners and service providers.

In conclusion, the food ordering system represents a modern solution to the growing demand for online food delivery services, offering businesses a way to stay competitive and responsive to consumer needs. By leveraging advanced technology, restaurants can enhance customer satisfaction, improve operational workflows, and ultimately increase revenue. The development of such systems involves careful consideration of various components, such as user interface design, database management, payment systems, and integration with external services, ensuring a seamless and efficient user experience.

REFERENCES:

1. ("Head First Java" by Kathy Sierra and Bert Bates
2. "Effective Java" by Joshua Bloch
3. "Java: The Complete Reference" by Herbert Schildt
4. **Link:** [Java Projects on GitHub](#)
5. **Link:** [Javadoc](#)

APPENDICES

APPENDIX A – SOURCE CODE

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class FoodOrderingSystem extends JFrame implements ActionListener {
    private JComboBox<String> foodMenu;
    private JTextField quantityField;
    private JLabel totalLabel;

    private String[] menuItems = {"Pizza - $8.99", "Burger - $5.99", "Pasta - $6.99",
    "Salad - $4.99"};
    private double[] prices = {8.99, 5.99, 6.99, 4.99};

    public FoodOrderingSystem() {
        // Frame settings
        setTitle("Food Ordering System");
        setSize(400, 300);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLayout(new GridLayout(5, 1));

        // Components
        JLabel menuLabel = new JLabel("Select Food Item:");
        foodMenu = new JComboBox<>(menuItems);
        JLabel quantityLabel = new JLabel("Enter Quantity:");
```



```

quantityField = new JTextField();
JButton orderButton = new JButton("Place Order");
totalLabel = new JLabel("Total: $0.00", SwingConstants.CENTER);

// Add Action Listener
orderButton.addActionListener(this);

// Add components to frame
add(menuLabel);
add(foodMenu);
add(quantityLabel);
add(quantityField);
add(orderButton);
add(totalLabel);

setVisible(true);
}

@Override
public void actionPerformed(ActionEvent e) {
    try {
        int selectedIndex = foodMenu.getSelectedIndex();
        int quantity = Integer.parseInt(quantityField.getText());

        if (quantity < 1) {
            JOptionPane.showMessageDialog(this, "Quantity must be at least 1.",
"Error", JOptionPane.ERROR_MESSAGE);
            return;
        }
    }

```

```

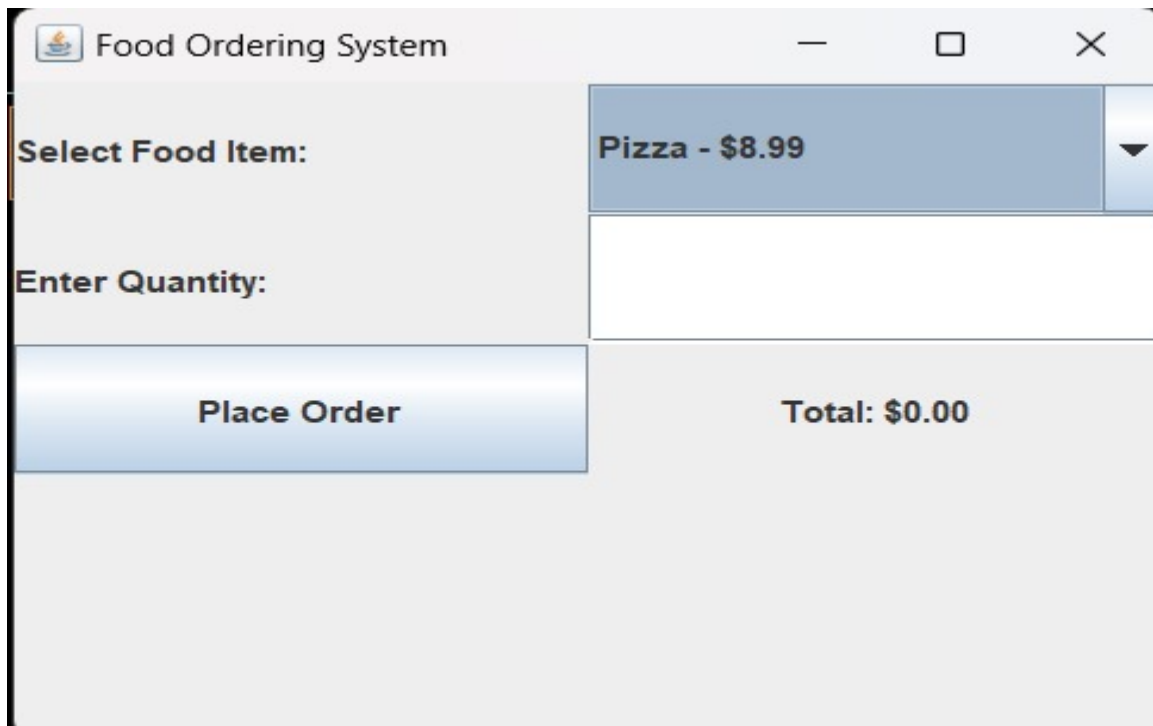
        double total = prices[selectedIndex] * quantity;
        totalLabel.setText(String.format("Total: $%.2f", total));

        JOptionPane.showMessageDialog(this, "Order placed successfully!\n" +
totalLabel.getText(), "Success", JOptionPane.INFORMATION_MESSAGE);
    } catch (NumberFormatException ex) {
        JOptionPane.showMessageDialog(this, "Please enter a valid quantity.",
"Error", JOptionPane.ERROR_MESSAGE);
    }
}

public static void main(String[] args) {
    new FoodOrderingSystem();
}
}

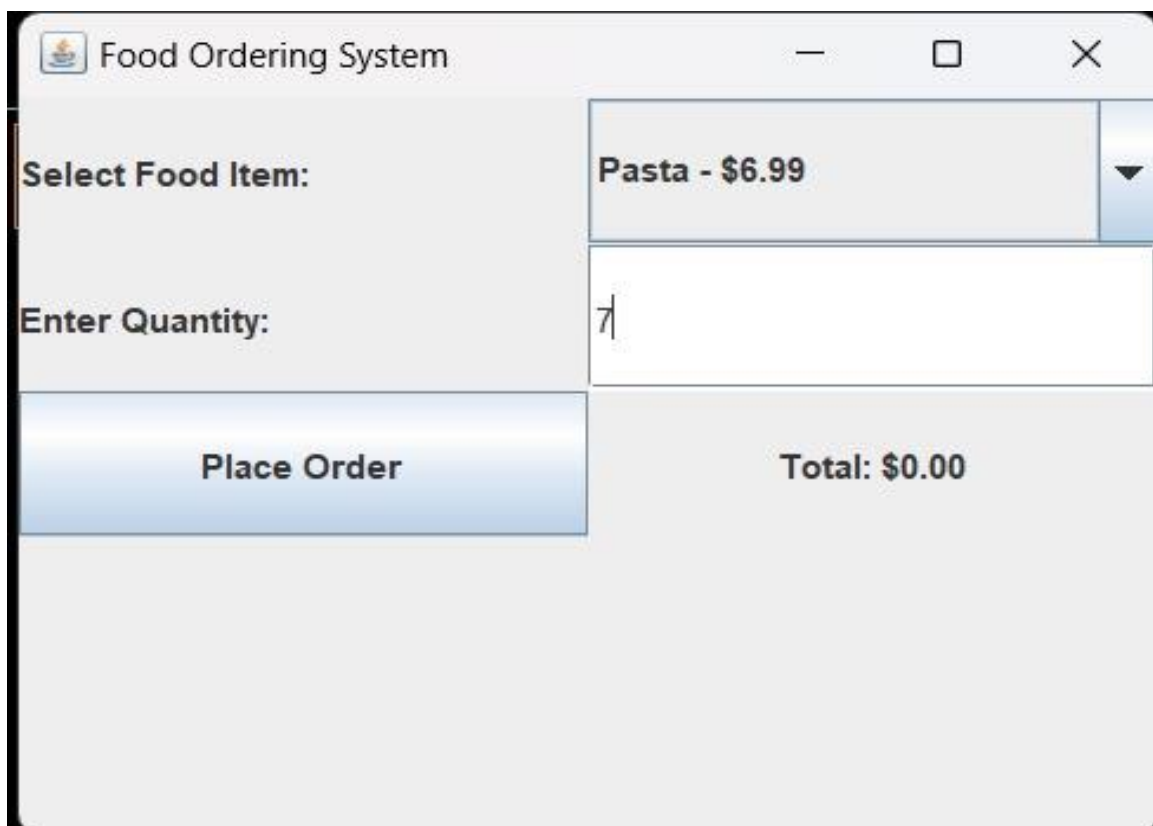
```

APPENDIX B - SCREENSHOTS



The screenshot shows a window titled "Food Ordering System" with a standard Windows title bar (minimize, maximize, close buttons). The interface is divided into two main sections. On the left, there are two labels: "Select Food Item:" and "Enter Quantity:". Below these is a blue button labeled "Place Order". On the right, there is a dropdown menu showing "Pizza - \$8.99" with a downward arrow. Below the dropdown is a text input field. At the bottom right, the text "Total: \$0.00" is displayed.

Select Food Item:	Pizza - \$8.99
Enter Quantity:	
Place Order	Total: \$0.00



The screenshot shows the same "Food Ordering System" window. The dropdown menu now shows "Pasta - \$6.99". The text input field under "Enter Quantity:" now contains the number "7". The "Place Order" button and the "Total: \$0.00" text remain the same.

Select Food Item:	Pasta - \$6.99
Enter Quantity:	7
Place Order	Total: \$0.00

