THE OPEN UNIVERSITY OF SRI LANKA

EEY4189 - Software Design in Group

Project Proposal

iFood Online Ordering System
Group Alpha

Group Members:

- **M.S. Pietersz**   s92063923   621423923
- **J. Sarujan**   s92069135   221429135
- **V. Vijenthuja**   s92084420   421444420
- **M.B Kishor Jahan**   s92067570   221427570

Supervisor's Approval:

Name of the Supervisor: **Prof. Uditha Ratnayake**

Signature: *Hj wardane*   Date: 22-06-24

Introduction

The rapid advancement of technology has significantly changed the food industry, leading to the emergence of online food ordering systems. These systems provide customers with a convenient and efficient way to browse menus, order and pay from their devices, enhancing the dining experience through a user-friendly interface, real-time order tracking and a variety of payment options. Integrating features such as personalized recommendations, loyalty programs, and customer reviews drive engagement and satisfaction, while data analytics provide restaurant owners with insights to improve operations, manage inventory, and improve customer service. This iFood online ordering system caters to the growing need for digital convenience in the food and beverage industry, benefiting customers and restaurant management by efficiently handling orders, menus and deliveries.

Background

The concept of online food ordering has its roots in the early days of the Internet, with the first known system launched in the mid-1990s. Initially, these systems were basic, consisting of simple websites where customers could view menus and place orders via phone or email.

As technology advanced, the early 2000s saw the emergence of more sophisticated platforms that enabled direct online ordering through web interfaces. Pioneering companies such as Seamless and Group started to popularize this service and offer customers a wider selection of restaurants and more convenient ordering processes. These early systems laid the foundation for the modern and feature rich online food ordering platforms we see today. With the advent of smartphones and mobile applications in the late 2000s the industry experienced a significant transformation making it even easier for consumers to order food on the go.

Integration of GPS technology allows for real time tracking and while secure payment gateways enhance transaction security. These advances have culminated in a highly efficient and user-centric system that dominates the market today, revolutionizing the way people order and enjoy food.

Problem statement

The existing online food ordering systems are plagued by several operational inefficiencies and customer dissatisfaction issues. They are

- **Delayed Deliveries:** Customers often experience delays in receiving their orders due to network issues or logistical challenges and impacting on their overall satisfaction.
- **Communication Errors:** Miscommunication between customers, restaurants, and delivery personnel can lead to incorrect orders or missed deliveries, causing frustration and dissatisfaction.
- **Address Identification:** Delivery drivers frequently encounter difficulties in accurately locating delivery addresses, resulting in delayed or failed deliveries and customer dissatisfaction.
- **Payment Processing Issues:** Complications in processing payments, including failures in payment transactions or delays in transaction confirmation, disrupt the ordering process and frustrate customers.
- **Lack of Order Visual Confirmation:** Customers lack visual confirmation that their order has been accurately placed, leading to uncertainty and potential dissatisfaction.
- **Cost Concerns:** Rising costs associated with online food ordering, including delivery fees or service charges, contribute to customer dissatisfaction and impact affordability.
- **Operational Inefficiencies:** Internal operational inefficiencies within restaurants, such as delays in order processing or inefficient inventory management, further exacerbate customer dissatisfaction and pose challenges for restaurant management.

Project Objectives

- **Improve order accuracy:** Implement robust order management systems to ensure accuracy and minimize communication errors and errors in order fulfillment.
- **Improve address verification:** Improve address verification mechanisms to reduce failed deliveries and improve accuracy in locating delivery addresses.
- **Streamline payment processing:** Simplify payment procedures to reduce errors and delays and ensure secure and efficient transaction processing.
- **Provide visual order confirmation:** Provide customers with real-time visual confirmation of their orders and increase confidence and reduce uncertainty in the ordering process.
- **Managing Cost Efficiency:** Optimizing delivery fees and service charges.

Introduction to Similar Type of Systems

1. **Uber Eats:** Uber Eats is a widely recognized platform that facilitates food delivery and pickup from a diverse array of local restaurants. With an expansive database of restaurants and menu options, users can easily explore and order food through its intuitive interface. Real-time order tracking and delivery status updates enhance the user experience, while integration with various payment methods ensures convenience. Customer reviews and ratings help users make informed decisions, contributing to the platform's popularity for seamless food delivery.

2. **Pick Me:** Pick Me is a growing online food ordering platform designed to provide a seamless and efficient food delivery service. With a user-friendly interface, Pick Me allows customers to browse a variety of local restaurants and menu options. The platform offers real-time order tracking, ensuring customers are aware of the status of their delivery. Secure payment processing and multiple payment options enhance the convenience of the service. Additionally, customer reviews and ratings help users make informed choices, contributing to a reliable and satisfying food ordering experience.

3. **Zomato:** Zomato is a global food ordering platform renowned for its extensive restaurant database and robust user-generated content. It combines restaurant discovery with online ordering, providing detailed profiles featuring menus, photos, and user reviews. In-app table reservations and loyalty programs add to its appeal, offering users a comprehensive experience for exploring new dining options, ordering food online, and sharing feedback within a vibrant community of food enthusiasts.

4. **Just Eat:** Just Eat is a prominent online food ordering service primarily serving Europe, connecting users with local takeout restaurants. It offers a user-friendly platform with a wide selection of nearby takeaway options. User reviews and ratings assist in decision-making, while multiple payment options, including cash on delivery, cater to diverse preferences. Special deals and discounts further incentivize users, making Just Eat a convenient choice for those looking to order food conveniently from local eateries.

Proposed solution

The proposed solution for the iFood Online Ordering System aims to address the identified problems by leveraging modern web technologies and robust design principles. The system will include several key features and functionalities to enhance user experience and operational efficiency.

- **User-Friendly Interface:** An intuitive web interface for users to browse menus, place orders, and track deliveries in real-time.
- **Accurate Order Management:** A robust order management system that minimizes communication errors and ensures accurate order fulfillment.
- **Enhanced Delivery Mechanism:** Improved logistics with real-time tracking and optimized routes to reduce delivery times and enhance driver accuracy in locating addresses.
- **Secure Payment Processing:** Integration of secure and efficient payment gateways to streamline transactions and minimize errors.
- **Visual Order Confirmation:** Real-time visual confirmation of orders to reassure customers and reduce uncertainties.
- **Cost Management:** Optimization of delivery fees and service charges to enhance affordability without compromising service quality.
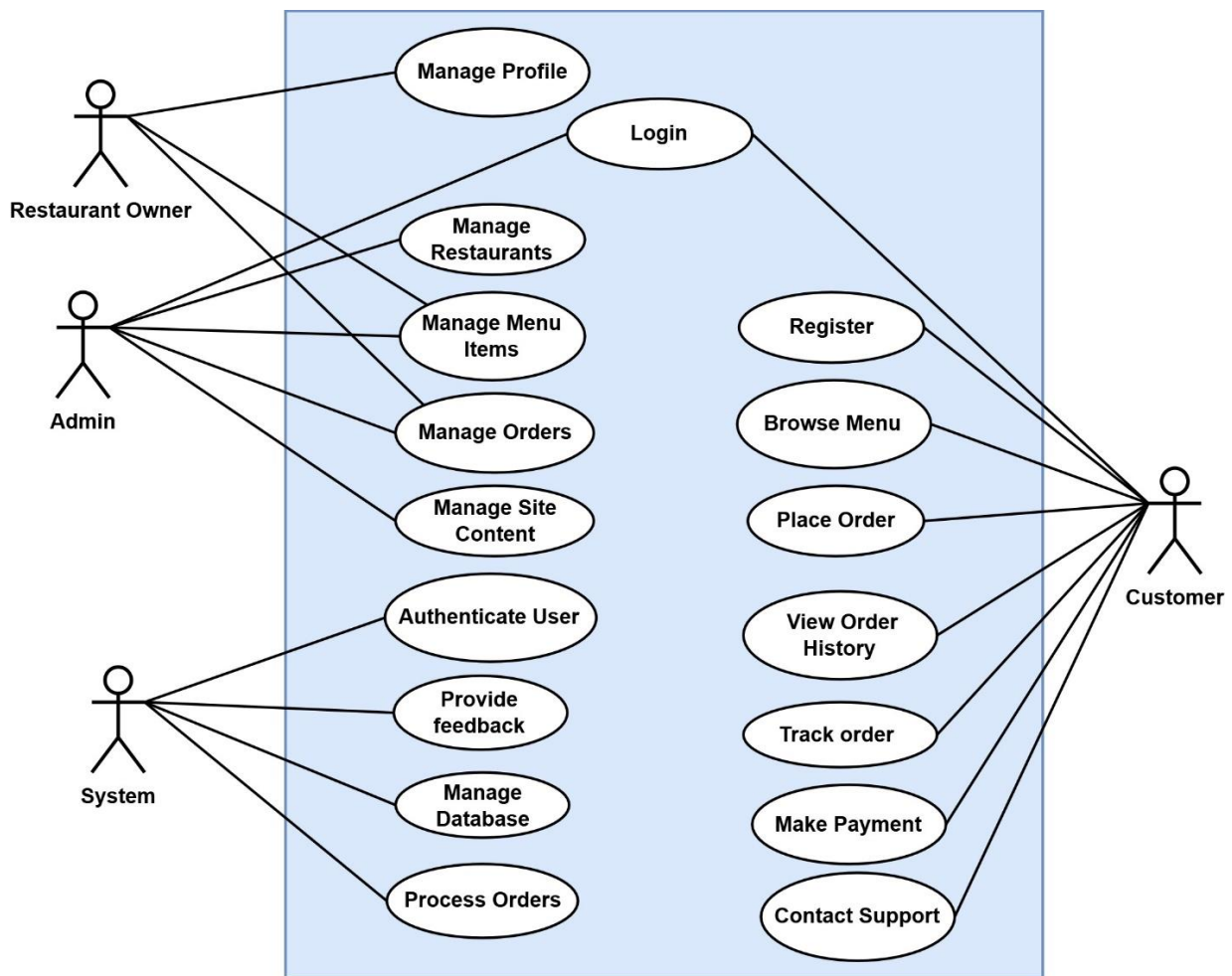
Use case diagram

Technology planning to use

➢ Backend

1. **Database Design Tools**

- **MySQL:** A robust RDBMS for handling data storage needs such as customer orders, menu items, delivery records and transaction records.
- **phpMyAdmin:** An open-source tool for administering MySQL over the web, supporting operations like managing databases, tables, and user permissions.

2. **Server-Side Scripting**

- **PHP:** A server-side scripting language for building the logic of the Online food Ordering System, including handling customer requests and processing orders.

3. **Web Server**

- **Apache:** Apache is a highly configurable and widely used open-source web server software. It will serve as the HTTP server for hosting the web application, ensuring reliable delivery of web content to users. Apache's flexibility and extensive module support make it a suitable choice for the project.

➢ Frontend

1. **UI Design Tools**

- **Balsamiq:** A wireframing tool for creating low-fidelity wireframes, allowing early visualization of the application layout.
- **Figma:** A design tool supporting real-time collaboration for consistent and user-friendly interface design.

2. **Frontend Development**

- **HTML5:** The standard markup language for structuring web content.
- **CSS3:** A styling language for creating visually appealing and responsive designs.
- **JavaScript:** A scripting language for dynamic and interactive user experiences, handling client-side logic and asynchronous operations.
- **React.js:** A JavaScript library for building component-based user interfaces, enhancing performance and responsiveness.

Project Timeline

Activities	03rd February 2024	31st March, 2024	8th May 2024	22nd June 2024	30th June 2024	30th July 2024	30th July 2024	3rd, 5th, 7th August 2024	22nd November 2024	25th November 2024
Milestone 0: Preparation for the course	■									
Milestone 1: Form Groups		■								
Milestone 2: Assignment of Mentors			■							
Milestone 3: Project Proposal Report Submission				■						
Milestone 4: Submission of SRS					■					
Milestone 5: Progress Review Presentation						■				
Milestone 6: Report Submission							■			
Progress Review Presentation								■		
Milestone 7: Final Report Submission									■	
Milestone 8: Final Presentation										■

Conclusion

In conclusion, the proposed iFood online ordering system represents a major breakthrough in the digital food service industry, aiming to overcome existing challenges and improve the overall customer experience. By integrating real-time order tracking, secure payment processing and optimized logistics, the system seeks to streamline operations and reduce common problems such as delivery delays and communication errors. Using robust backend technologies like MySQL and PHP combined with a responsive frontend built on HTML5, CSS3, JavaScript and React.js ensures a seamless user interface and efficient performance. With a structured timeline for development and collaboration with stakeholders, the system promises to not only meet current needs but also set new standards for reliability, affordability and operational efficiency in online food ordering.

Thank You