



The Open University of Sri Lanka
இலங்கை திறந்த பல்கலைக்கழகம்
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Software Requirements Specification for 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

➤ **Document Revision**

Date	Version	Description	Author
05/07/2024	1.0	This iFood ordering system is designed so that customers can easily get restaurant food from home.	Group Alpha

➤ **Supervisor's Approval:**

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

Signature:  *Uditha Ratnayake*

Date: 06/07/2024

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1. Introduction

The rapid advancement of technology has transformed the food industry, leading to the development of iFood ordering systems. These systems enhance the dining experience by offering a convenient way for customers to browse menus, place orders, and make payments via their devices. Features such as personalized recommendations, loyalty programs, and customer reviews boost engagement and satisfaction, while data analytics help restaurant owners improve operations, manage inventory, and enhance customer service. The iFood system meets the growing demand for digital convenience, benefiting both customers and restaurant management by efficiently handling orders, menus, and deliveries.

1.1 Purpose

The iFood online ordering system aims to revolutionize the food and beverage industry by providing a seamless and user-friendly platform. It enhances the dining experience with features like real-time order tracking, personalized recommendations, and multiple payment options. For restaurant owners, it offers data analytics for better inventory management, targeted marketing, and informed decision-making, ultimately increasing efficiency and profitability.

1.2 Summary

The iFood system offers a cutting-edge solution for digital convenience in the food and beverage industry. It provides customers with an efficient way to browse menus, place orders, and make payments, enhancing the dining experience with a user-friendly interface and real-time order tracking. For restaurant owners, it offers valuable data analytics to improve operations and manage inventory effectively. The system streamlines order processing and improves delivery logistics, leading to higher efficiency and profitability.

1.3 Company Overview

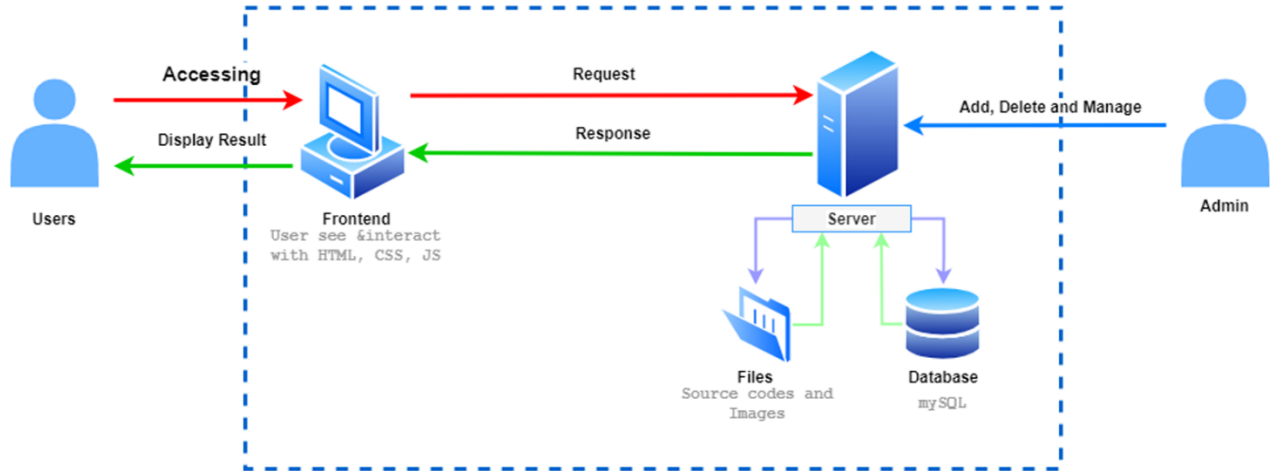
iFood is a pioneering company dedicated to transforming the dining experience with advanced online ordering systems. Its platform offers customers a convenient way to browse menus, place orders, and make payments. For restaurant owners, iFood provides tools and data analytics to optimize operations and manage inventory, leading to increased efficiency and profitability. iFood stands at the forefront of digital transformation in the food and beverage industry.

1.4 Project Overview

The iFood online ordering system project aims to revolutionize the food and beverage industry by providing a seamless platform for customers and restaurant management. The system enhances the dining experience with a user-friendly interface, real-time order tracking, and various payment options. For restaurant owners, it offers data analytics for better operational decisions, improved inventory management, and enhanced customer service. The iFood system addresses the growing need for digital convenience, effectively managing orders, menus, and deliveries, and supporting the industry's digital transformation.

1.5 Scope

This document outlines the requirements for the iFood Online Ordering System project. It includes the detailed functionalities, design, and implementation strategies for developing a comprehensive online food ordering platform. The scope contains the entire lifecycle of the project, from initial requirement analysis to the final deployment and maintenance. This document is associated with the iFood Online Ordering System project and influences all stakeholders involved, including developers, designers, testers, and end-users (customers and restaurant staff)



Web Application Architecture

1.6 Assumptions

The following assumptions were made during the requirement analysis and functional specification:

- Customers have access to the Internet and a compatible device to use the online ordering system.
- Restaurants participating in the system are equipped with the necessary technology to receive and process orders.
- Secure payment gateways are available for integration to handle online transactions.
- All participants will follow to the proposed project timeline and milestones.
- The system will be developed for web platforms.
- Internet access is required for system functionality.
- Users have basic computer knowledge.

1.7 Definitions, Acronyms and Terminology

- **iFood:** The name of the proposed online food ordering system.
- **UX:** User Experience.
- **API:** Application Programming Interface.
- **Customer:** User placing food orders.
- **Restaurant:** Seller providing food services.
- **Admin:** System administrator managing overall operations.
- **Order:** Customer request for food delivery.
- **RDBMS (Relational Database Management System):** A type of database management system that stores data in a structured format using rows and columns.
- **UI (User Interface):** The space where interactions between humans and machines happen.
- **HTML (HyperText Markup Language):** The standard language for creating web pages.
- **CSS (Cascading Style Sheets):** A style sheet language used for describing the presentation of a document written in HTML or XML.
- **PHP (Hypertext Preprocessor):** A server-side scripting language designed for web development.
- **MySQL:** An open-source relational database management system.
- **React.js:** A JavaScript library for building user interfaces.

2. Project Scope and Impact

The iFood online ordering system aims to accomplish several objectives to enhance system performance, customer service, and task effectiveness. These improvements include increased order accuracy, faster and more reliable delivery times, secure payment processing, and a user-friendly interface. The system will update the food ordering process, minimize errors, and improve overall customer satisfaction.

2.1 Scope Inclusion

The iFood Online Ordering System aims to address the following features, functionalities, and issues present in the current system:

Features and Functionality

1. User Registration and Authentication

- Allow customers to create accounts and securely log in.
- Enable password recovery and account management.

2. Menu Browsing and Food Ordering

- Display a complete menu with categories, descriptions, and prices.
- Ease the addition of items to the cart and customization of orders.
- Enable the review and submission of orders.

3. Order Tracking and History

- Provide real-time tracking of orders from preparation to delivery.
- Maintain a history of past orders for easy reordering and reference.

4. Payment Gateway Integration

- With secure payment gateways for all transactions.
- Support payment methods, Cash on Delivery.

5. Customer Support Chat System

- Implement a live chat system for customer inquiries and support.
- Provide automated responses for common queries and intensify complex issues to human representatives.

6. Notifications (SMS, Email)

- Send real-time notifications for order status updates, promotions, and offers.
- Allow customers to customize their notification preferences.

Issues Addressed

1. **Delayed Deliveries:** Implement improved logistics and real-time tracking to minimize delivery delays.
2. **Communication Errors:** Improve communication between customers, restaurants, and delivery personnel to ensure order accuracy.
3. **Address Identification:** Improve address verification and mapping to reduce delivery failures and delays.
4. **Payment Processing Issues:** Ensure reliable and secure payment processing to prevent transaction failures and delays.
5. **Lack of Order Visual Confirmation:** Provide visual confirmation of order placement to support customers.
6. **Cost Concerns:** Optimize delivery fees and service charges to enhance affordability without flexible service quality.
7. **Operational Inefficiencies:** Simplify internal restaurant operations to improve order processing and supply management.

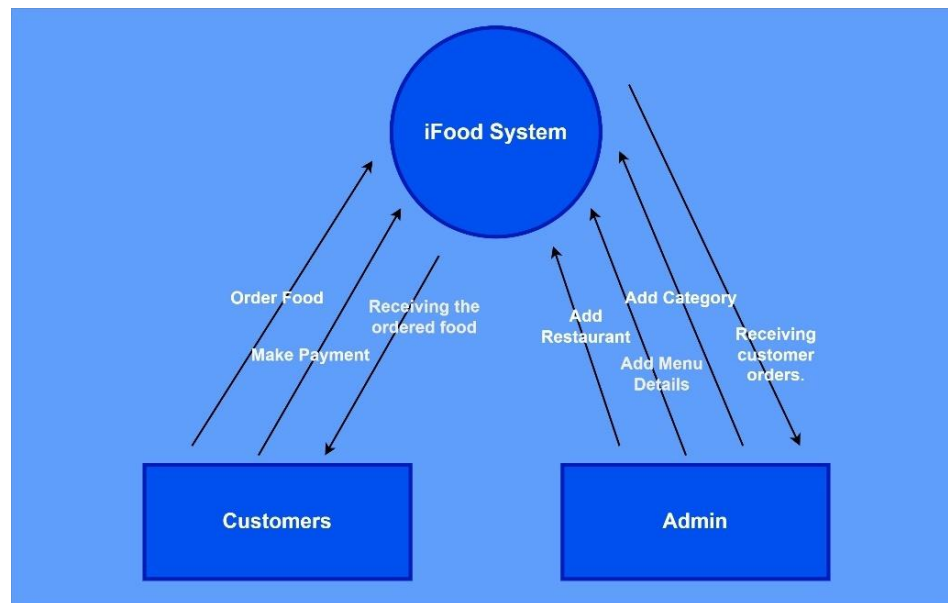
2.2 Scope Exclusions

Features and Functionality

1. **Hardware Providing for Delivery Persons:** The project will not supply or manage the hardware devices used by delivery personnel.
2. **Offline Order Processing:** The system will not handle orders that are placed offline, such as phone orders or walk-in orders.
3. **Marketing Movements and Promotions:** The project will not include the development or management of marketing works and promotional activities.
4. **Advanced Analytics and Reporting:** The project will not focus on implementing complex data analytics or generating detailed business reports.
5. **Third-Party Delivery Integrations:** This project does not include mixing with third-party logistics providers or external delivery services.
6. **In-house Dining Management:** The system will not manage in-house dining reservations or seating arrangements.
7. **Complete Restaurant Management:** Full-scale restaurant management features such as detailed inventory management, staff scheduling, and payroll processing will not be included.

Issues

1. **Customer Reliability Programs:** This system will not implement or manage customer reliability or rewards programs.
2. **In-Depth Customer Feedback Analysis:** The system will not include advanced features for analyzing customer feedback beyond basic ratings and reviews.
3. **Internationalization and Multi-language Support:** The system will not support multiple languages or accommodate to internationalization requirements



Context Diagram

2.3 Impact on other system

2.3.1 Affected by Other systems

Third-Party Payment Gateways

- Integration with payment gateways like Stripe, PayPal, etc., will be required for processing payments.

Third-Party Delivery Services

- Integration with delivery services such as Uber Eats, DoorDash, etc., to handle the logistics of delivering orders to customers.

External API Services

- Dependencies on external APIs for functionalities like geolocation, SMS notifications, and email services.

2.3.2 Affects on Other System

Restaurant POS Systems

- Potential integration with existing POS systems could streamline operations and improve efficiency in order processing and inventory management.

Accounting Systems

- The integration with accounting systems can enhance the accuracy of financial records and ease the process of financial audits.

Customer Relationship Management (CRM) Systems

- Feeding customer data into CRM systems can improve marketing strategies and personalize customer experiences, leading to better customer satisfaction and loyalty.

3. Functional Requirements

3.1 Functions 01

1. System Administration

- **Manage Restaurants:** The admin can log in, navigate to 'Manage Restaurants', and add, update, or remove restaurant information, then save the changes.
- **Manage Menu Items:** The admin can log in, navigate to 'Manage Menu Items', and manage the menu items for each restaurant by adding, updating, or removing items, then save the changes.
- **Manage Orders:** The admin and the system can manage customer orders by logging in, navigating to 'Manage Orders', viewing, processing, or updating the order status, and then saving the changes.
- **Manage Site Content:** The admin can log in, navigate to 'Manage Site Content', and update site content, including banners, promotions, and informational pages, then save the changes.

2. Customer Functions

- **Login:** Customers can log in to access their account and various functionalities.
- **Register:** Customers can navigate to 'Register', fill in the registration form, submit it, and the system will create their account.

- **Browse Menu:** Customers can log in, navigate to 'Browse Menu', select a restaurant, and view its menu items.
- **Place Order:** Customers can select menu items, add them to the cart, proceed to checkout, confirm the order, and make the payment.
- **View Order History:** Customers can log in, navigate to 'View Order History', and view a list of their past orders.
- **Track Order:** Customers can log in, navigate to 'Track Order', and view the real-time status of their current order.
- **Make Payment:** Customers can proceed to payment during checkout, select a payment method, enter payment details, and confirm the payment.
- **Contact Support:** Customers can navigate to 'Contact Support', fill in the contact form or use live chat, and submit their request for help.



Use Case Diagram

3.2 Data Archival and Retention

This section outlines how long data is maintained and the process for archiving and retrieving it within the iFood Online Ordering System.

Process Flow:

1. Define Retention Policies:

- **Retention Period:** Determine the retention period for different types of data (e.g., orders, customer information, transaction records).
- **Archival Conditions:** Specify the conditions under which data will be archived.

2. Archival Process:

- **Policy Check:** Periodically check data against holding strategies.
- **Data Archival:** Move data that exceeds the retention period to an archival storage system.
- **Security:** Ensure archival storage is secure and accessible only by authorized users.

3. Retrieval of Archived Data:

- **Access Request:** Admin can request access to archived data.
- **Data Retrieval:** System retrieves the requested data from the archive.
- **Data Restoration:** Archived data can be restored to the main database if needed.

Security Measures:

- **Encryption:** Ensure all archived data is encrypted both in transit and at rest.
- **Access Control:** Implement strict role-based access controls to manage who can archive, retrieve, or restore data.
- **Audit Logs:** Maintain detailed audit logs of all archival, retrieval, and restoration activities for compliance and monitoring purposes

3.3 User Roles and Access Levels

1. Admin

Role Description:

Admins have the highest level of access within the system. They are responsible for managing system configurations, user accounts, content, and overall system operations.

Access Levels and Privileges:

- **User Management:** Admins can create, update, and delete user accounts. They can also assign roles to users.
- **Restaurant Management:** Admins have the ability to add, update, and remove restaurant profiles. They manage restaurant details and operational status.
- **Menu Management:** Admins are able to create, update, and delete menu items for any restaurant.
- **Order Management:** Admins can view, update, and manage all orders within the system. They also handle order disputes and refunds.
- **Site Content Management:** Admins manage static and dynamic content on the site. They update system-wide notifications and announcements.
- **System Configuration:** Admins configure system settings and preferences. They also manage payment gateways and integration settings.
- **Reporting:** Admins generate and view reports on orders, user activity, and financials. They can export reports in various formats, such as PDF and CSV.

2. Customers

Role Description:

Customers use the system to browse menus, place orders, and manage their personal profiles. Their access is limited to functionalities that enhance their ordering and dining experience.

Access Levels and Privileges:

- **Profile Management:** Customers can register and create a personal profile. They can also update personal details and contact information.
- **Order Placement:** Customers can browse restaurant menus. They can place orders for delivery or pickup. Additionally, they can apply discounts or promo codes during checkout.
- **Order Tracking:** Customers can track the status of their orders in real-time. They can also view order history and past transactions.
- **Payment:** Customers can make secure payments for their orders. They can save payment methods for future use.

- **Support:** Customers can contact customer support for assistance with orders. They can also provide feedback and rate their dining experience.

3.4 Reporting Requirements

This section outlines the reporting requirements necessary for managing the iFood Online Ordering System.

1. Sales Report:

- **Overview:**
 - Summarize sales data over a chosen period.
 - Display total income, total number of orders, and average order value.
- **Filters:**
 - Allow filtering by date range, specific restaurant, or product category.
- **Visuals:**
 - Include bar charts showing sales trends over time.
 - Pie charts displaying revenue distribution among different products.

2. Order Report:

- **Details:**
 - List all orders with detailed information.
 - Include order number, date, items ordered, customer details, and status (e.g., pending, completed, cancelled).
- **Filters:**
 - Allow filtering by date range, customer, order status, or restaurant.
- **Visuals:**
 - Provide trend analysis graphs for order volumes over time.

3. User Activity Report:

- **Summary:**
 - Summarize user activities such as login times, pages visited, and actions taken (e.g., placing an order, providing feedback).
- **Filters:**
 - Allow filtering by user, activity type, or date range.
- **Visuals:**
 - Include line charts for login activities over time.
 - Bar charts for the most visited pages.

4. Non – Functional Requirements

4.1 Performance and Load Requirements

The iFood ordering system should function seamlessly across most platforms and be compatible with a range of devices. The system should ensure optimal performance during peak usage times without degrading the quality of service.

The application should be able to operate on all major web-browsers with all of its fundamental functions. It should not slow-down the system even at peak hours without affecting the quality of service of the system.

Current User Load	This system is not yet developed
Expected Growth	50– 80 new Users
Number of concurrent users	20 to 50 users concurrently
Transaction Size (files sizes etc.)	5MB to 10MB
Maximum Average Transaction Time Acceptable	5 Seconds to 10 Seconds

4.2 Compatibility Requirements

The iFood ordering system will be developed to support the latest and most functional hardware, software, and operating systems in use.

HTML Versions to be supported	HTML5
Browser Versions to be supported	Latest versions of Chrome, Firefox, Safari and Edge.
Database Versions to be supported	MySQL 8.0 or later
Communication Protocol	HTTPS for secure communication
Platform Version to be supported	Windows 10 and 11, macOS 10.15 and later,
Any other external systems or standards	Integration with popular payment gateways and delivery services.

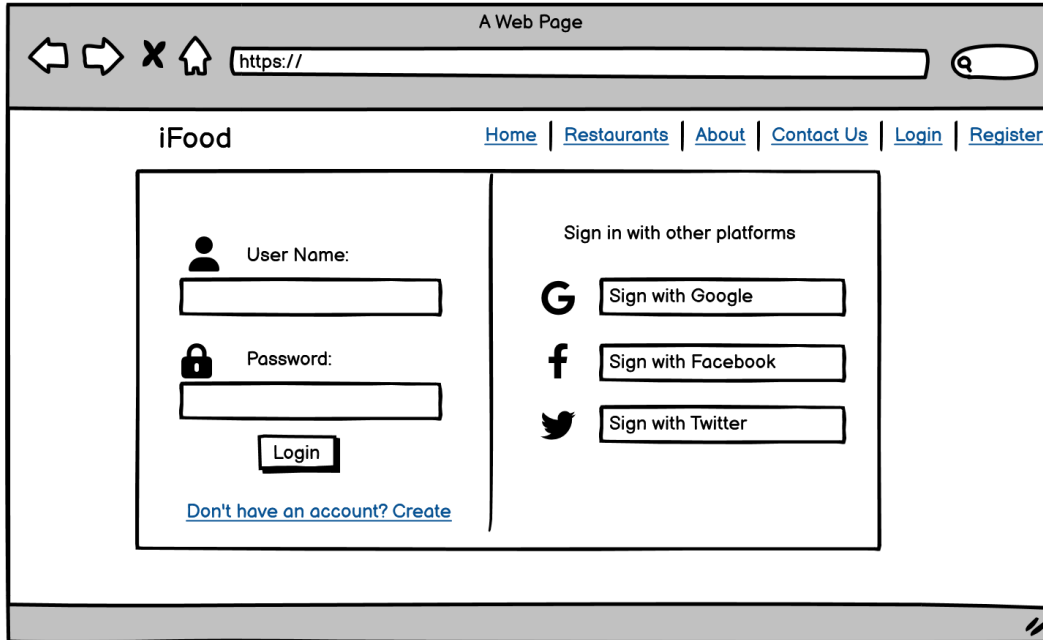
4.3 External Interface Requirements

Interfaces for the iFood ordering system will support various learning and interaction modes, providing users with an intuitive and effective ordering experience.

4.3.1 User Interface

Login Page

The login interface enables you to integrate user login with the content of our website. The system offers protection by storing passwords in encrypted form



A Web Page

https://

iFood

[Home](#) | [Restaurants](#) | [About](#) | [Contact Us](#) | [Login](#) | [Register](#)

User Name:

Password:

Login

Sign in with other platforms

Sign with Google

Sign with Facebook

Sign with Twitter

[Don't have an account? Create](#)

Registration Page

The registration interface enables a new user to register to the system. Customers can also create their account with Google, Twitter and Facebook accounts.



A Web Page

https://

iFood

[Home](#) | [Restaurants](#) | [About](#) | [Contact Us](#) | [Login](#) | [Register](#)

Sign up

Sign in with other platforms

Sign with Google

Sign with Facebook

Sign with Twitter

User Name:

Password:

Confirm Password:

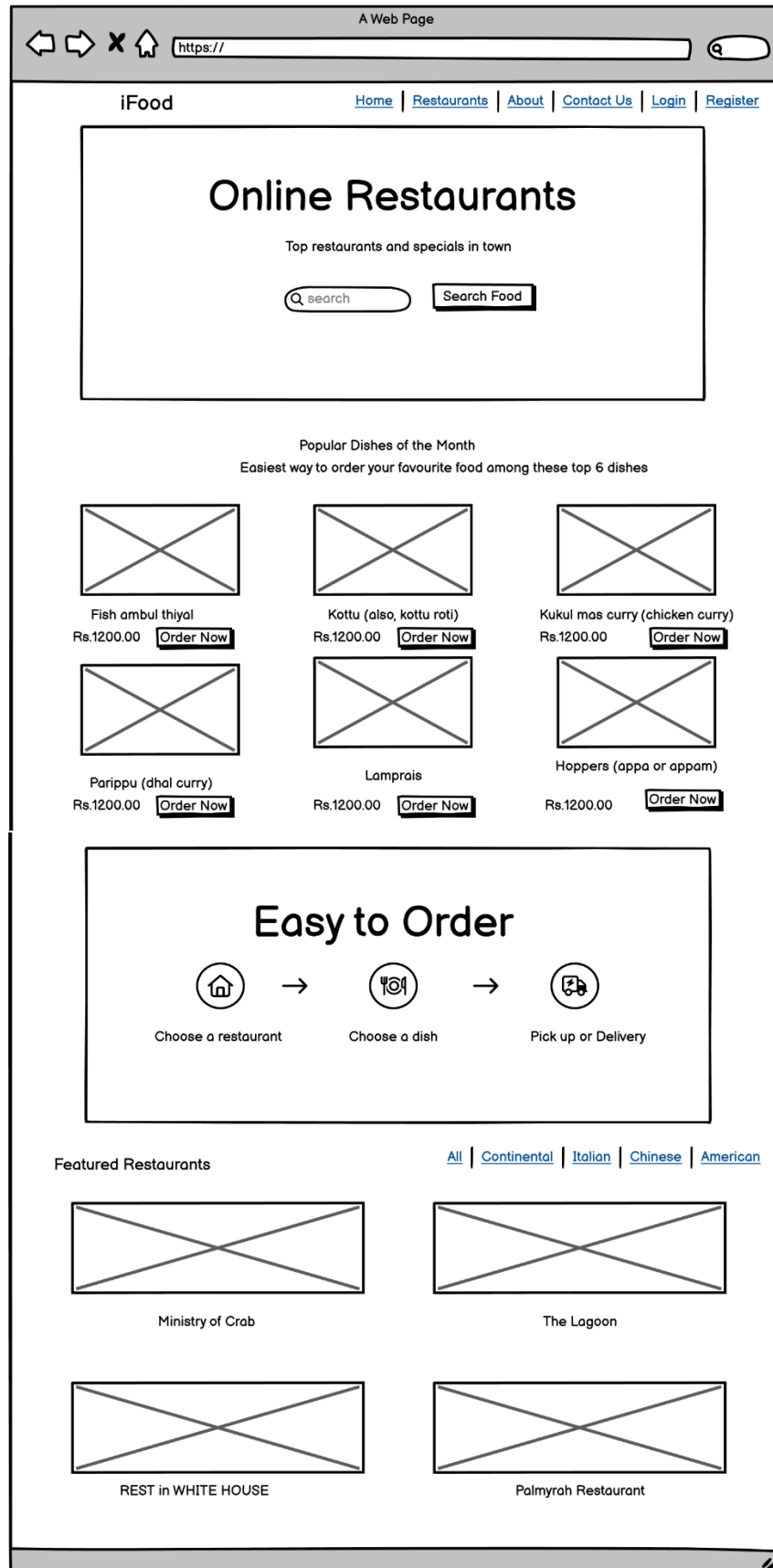
Email ID:

Delivery Address:

Sign Up

Home Page






Customers will see their welcome page after their initial login. This will show their name. And Also, they can know order details and place orders.



Restaurants details page

In this, customers can select their desired restaurant.

A Web Page



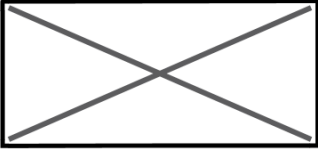
iFood

[Home](#) | [Restaurants](#) | [About](#) | [Contact Us](#) | [Login](#) | [Register](#)

1 Choose Restaurant

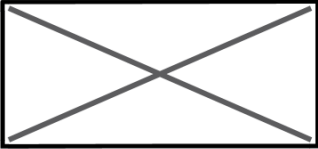
2 Pick Your Favourite food

3 Order and Pay



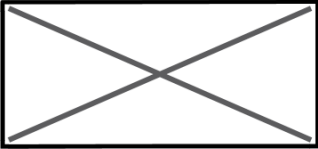
Ministry of Crab

View Menu



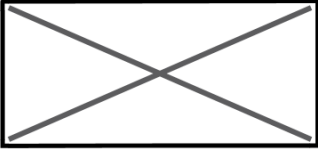
The Lagoon

View Menu



REST in WHITE HOUSE

View Menu




Palmyrah Restaurant

View Menu

Food Details Page

In this, customers can select their desired food in the restaurant of their choice.

A Web Page



https://

Q

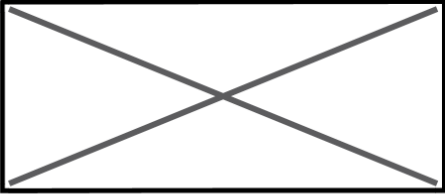
iFood

[Home](#) | [Restaurants](#) | [About](#) | [Contact Us](#) | [Login](#) | [Register](#)

1 Choose Restaurant

2 Pick Your Favourite food

3 Order and Pay



Ministry of Crab

Old Dutch Hospital Complex, 04 Hospital St, Colombo 00100


Your Cart

TOTAL

Rs3600.00

Free Delivery

Checkout



Fish ambul thiyal

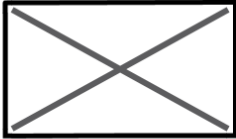
Rs.1200.00

1

+

-

Add to Cart



Kottu (also, kottu roti)

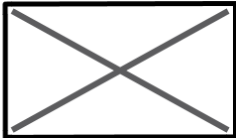
Rs.1200.00

1

+

-

Add to Cart



Kukul mas curry (chicken curry)

Rs.1200.00

1

+

-

Add to Cart

Payment page

In this, customers can pay for their food through Cash on delivery.

A Web Page

X

https://

iFood

[Home](#) | [Restaurants](#) | [About](#) | [Contact Us](#) | [Login](#) | [Register](#)

1

Choose Restaurant

2

Pick Your Favourite food

3

Order and Pay

Cart Summary

Cart Subtotal

Rs3600.00

Delivery Charges

Free

Total

Rs3600.00

☐ Cash on Delivery

Order Now

List of items page

In this, customers can see the details of Item, Quantity, Price, status, date and action of the food ordered by them.

A Web Page

X

https://

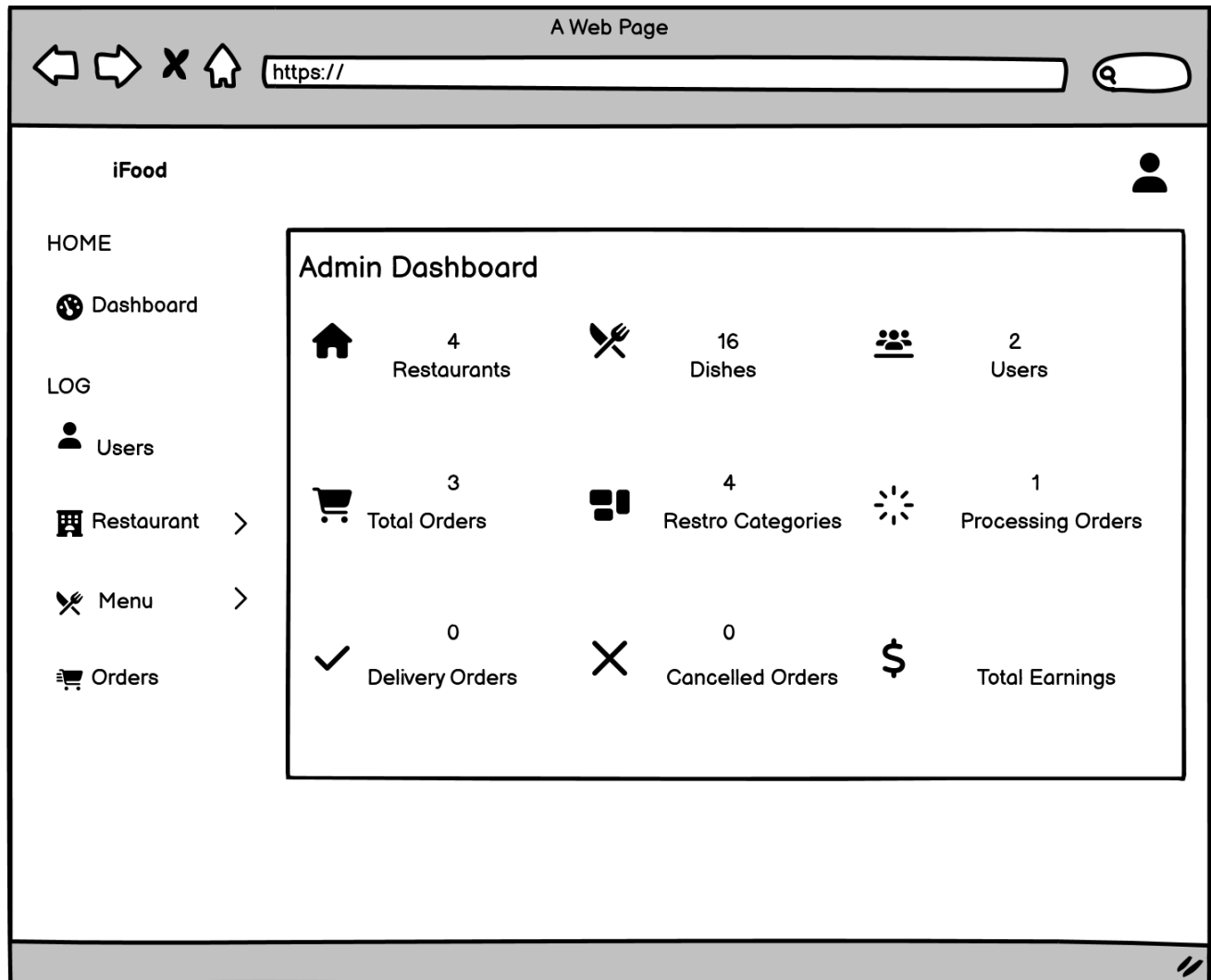
iFood

[Home](#) | [Restaurants](#) | [About](#) | [Contact Us](#) | [Login](#) | [Register](#)

Item	Quantity	Price	Status	Date	Action
Fish ambul thiyal	1	Rs.1200.00	<div><div></div>Dispatch</div>	2024-06-27 21.00.00	<div></div>
Kottu (also, kottu roti)	1	Rs.1200.00	<div><div></div>On the Way</div>	2024-06-27 21.00.00	<div></div>
Kukul mas curry (chicken curry)	1	Rs.1200.00	<div><div></div>Dispatch</div>	2024-06-27 21.00.00	<div></div>

System Admin Page

Admins can add/remove Restaurants details, Menu details on this website. and manage orders. And restaurants owners can perform add/remove operations on food menu details.



4.3.2 Hardware Interface

- **Internet Connection:** A minimum internet speed of 1 Mbps is required to ensure smooth operation.
- **Recent Computer:** The system should run on computers with sufficient memory and hard drive space. While there are no specific requirements for RAM or CPU speed, a processor equivalent to or better than a post-2000 processor (e.g., Pentium IV or Celeron II) and at least 512MB of memory is recommended. Most computers purchased within the last 7-8 years should meet these requirements.
- **Monitor:** A screen size of 15 inches or larger is recommended for optimal viewing and interaction with the iFood ordering system.

4.3.3 Software Interface

- **Operating System:** The system should be compatible with up-to-date operating systems such as Windows 10, Windows 11, and macOS.
- **Email Address:** Users will need an email address for account setup and communication. Common email services like Gmail, Yahoo, or Hotmail are acceptable.
- **Payment Gateways:** We have used only cash on the delivery system to handle transactions safely and efficiently.
- **Database:** MySQL 8.0 or higher for data storage and management.

4.3.4 Communication Interface

- **Local Area Networks (LAN) and Wi-Fi:** The system should be able to operate over standard LAN and Wi-Fi configurations.
- **Protocols:** HTTPS for secure web communication, SSL/TLS for data encryption.

4.4 Security and Authentication Requirements

➤ Data Storage Security:

The server hosting the iFood ordering system must have security measures to prevent unauthorized access. Secure login mechanisms should be implemented to ensure that only authorized users can access the system. User credentials must be kept confidential.

➤ Data Communication Security:

Ensure end-to-end encryption of data in transit with an SSL certificate. A Secure Socket Layer certificate refers to small digital files that encrypt plain text to be transmitted into ciphertext using public-key cryptography. SSL certificates are of three types, depending on the level of validation chosen.

4.5 Quality Assurance Requirements

4.5.1 QA Test Scope

➤ Testing Levels:

- Unit Testing
- Integration Testing
- System Testing
- Performance Testing
- User Acceptance Testing (UAT)

➤ Performance Metrics:

- Measure response times
- Transaction processing times
- System throughput

4.5.2 QA Environment

➤ QA Tools:

- Selenium for automated testing
- JMeter for performance testing

➤ Hardware Requirements:

- QA testing should be conducted on a range of devices, including:
 - Desktops
 - Laptops
 - Mobile devices (both Android and iOS)

4.6 Development Requirements

4.6.1 Development Environments

The development environment for the iFood ordering system will include modern Integrated Development Environments (IDEs) such as Visual Studio Code for coding efficiency and ease of use. The database system used will be MySQL to manage and store data efficiently. Version control will be handled using Git to ensure smooth

collaboration and version tracking. Developers will require computers with at least 8GB of RAM and 50GB of free disk space to ensure optimal performance and smooth development processes.

4.6.2 Development Data

The development of the iFood ordering system will utilize various data sources, including menu items, user data, order history, and transaction logs. Tools like Faker will be used to generate test data, ensuring that the development environment is populated with realistic and diverse datasets for thorough testing and validation.

4.6.3 Coding Standards

Among the coatings we expect for this system PHP in MySQL are considered essential apart from this some coding stack is also expected for front-end development and back-end development.

Frontend Development: HTML5, CSS, JavaScript

Backend Development: PHP,

Database: MySQL

4.6.4 Implementation Packages Requirements

As this system is under development currently the package, we expect is MyPhp database. It's used for username and password, Restaurant details, Menu items, and order details will be recorded.

4.7 Deployment Requirements

4.7.1 Installation Packages Requirements

After our iFood ordering system is fully developed, the source code file and database file of the website will be fully developed. After adding them to the local disk of our PC or laptop, the user can access this website through the local host section of the browser.

In the future, if possible, our team will try to get a unique domain for this website and run it through a separate URL.

4.7.2 Deployment Requirements

Users and administrators will have secure access to the system with their unique usernames and passwords. Database access will be managed securely.

4.7.3 Documentation Requirements

As part of our project development process, we received a request for an onsite meeting from iFood organization, seeking comprehensive documentation for the newly developed iFood app. The meeting outlined the need for detailed information on various aspects of the app to ensure its success and maintain high standards of quality and performance.

4.8 Special Documentation Requirements

The iFood ordering system is proprietary, with unique source code and design. A unique logo will be designed to avoid compliance issues.

4.9 Applicable Standards

Standards: The system's benchmarks include user satisfaction, ease of use, cost-effectiveness, and positive feedback from users.

4.10 Online User Documentation and Help System Requirements

Basically, our platform is very easy to understand. We mainly focus on our user interface and user experience components. I think that our iFood ordering system will easily meet the needs of customers.

4.11 Usability Requirements

- We will describe our user interface part in the previous part as well.
- Our platform is a website, so user can access the platform through the pc or laptop as well and The user interface should be compatible with major browsers (Chrome, Firefox, Edge, Safari).
- If they wish to use in tablets, they can but pc or laptop is the good option for feel the better quality.
- Focus on a responsive design that provides a consistent experience across devices.

5. Functional Requirements

1. **Enhanced AI and Machine Learning Capabilities:** The system will feature predictive analytics with advanced algorithms to anticipate customer preferences and trends, enabling more accurate personalized recommendations and improved inventory management. Additionally, natural language processing (NLP) will facilitate more intuitive interactions through voice assistants and chatbots, allowing customers to place orders and receive support through natural conversation.
2. **Integration with Emerging Technologies:** The system will incorporate augmented reality (AR) to allow customers to visualize dishes in 3D before ordering. Blockchain technology will be used for secure transactions and transparent supply chain management, while the Internet of Things (IoT) will connect kitchen appliances and inventory systems for real-time monitoring and automation.
3. **Improved User Experience:** User interface (UI) enhancements will make the system more intuitive and visually appealing, improving ease of use. Multi-platform support will ensure seamless experiences across various devices, including smartphones, tablets, smartwatches, and smart TVs.
4. **Advanced Delivery Systems:** Autonomous delivery methods, such as drones and robots, will be employed for faster and more efficient deliveries. Enhanced GPS tracking systems will provide customers with accurate delivery times and live updates.
5. **Sustainability and Eco-friendliness:** The system will encourage and facilitate the use of eco-friendly packaging materials. Additionally, waste reduction systems will be implemented to minimize food waste through better inventory and supply chain management.

6. Appendix

A. Glossary of Terms

- **iFood Ordering Systems:** Digital platforms that allow customers to browse menus, place orders, and make payments through their devices.
- **Personalized Recommendations:** Suggestions for dishes based on a customer's previous orders and preferences.
- **Loyalty Programs:** Systems where customers earn points or rewards for their purchases to encourage repeat business.
- **Customer Reviews:** Feedback provided by customers that help others make informed decisions and provide insights to restaurant owners.
- **Data Analytics:** The process of analyzing data to extract useful information that can help improve business operations.
- **Augmented Reality (AR):** A technology that overlays digital information (such as 3D images) onto the real world, viewed through devices like smartphones or AR glasses.
- **Internet of Things (IoT):** A network of interconnected devices that can collect and exchange data.
- **Natural Language Processing (NLP):** A field of AI that focuses on the interaction between computers and humans through natural language.

B. Project Objectives

1. Enhance customer dining experience through digital convenience.
2. Increase customer engagement and satisfaction with personalized features.
3. Improve restaurant operations, inventory management, and customer service with data analytics.
4. Meet the growing demand for efficient order handling, menu management, and delivery systems.

C. System Architecture

1. **Front-End Interface:** User-friendly interface for customers to browse menus, place orders, and make payments.
 - Mobile App
 - Website
 - Integration with Smart Devices (e.g., smartwatches)
2. **Back-End Infrastructure:** Robust system to handle data processing, storage, and analytics.
 - Cloud-based Servers
 - Database Management Systems
 - Data Analytics Engines
3. **Integration Modules:**
 - Payment Gateway Integration
 - Delivery Management Systems
 - Customer Relationship Management (CRM) Systems

D. Functional Requirements

1. **User Registration and Authentication:** Secure methods for customers to create accounts and log in.
2. **Menu Browsing:** Dynamic and interactive menus that display up-to-date information.
3. **Order Placement:** Simple and efficient order placement process.
4. **Payment Processing:** Secure and varied payment options (credit card, mobile payments, etc.).
5. **Review and Feedback:** Easy-to-use interface for customers to leave reviews and feedback.

6. **Loyalty Programs:** Integrated system to manage and track customer loyalty points and rewards.
7. **Data Analytics Dashboard:** Tools for restaurant owners to access and analyze operational data.

E. Non-Functional Requirements

1. **Scalability:** Ability to handle increasing numbers of users and transactions.
2. **Security:** Strong measures to protect customer data and transaction security.
3. **Performance:** Fast response times and minimal downtime.
4. **Usability:** Intuitive design for ease of use by both customers and restaurant staff.
5. **Reliability:** Consistent and dependable service.

Thank You