Zero-Waste Food Ordering and Sharing System

Hein Htet Lin
Student, 5th Year, B.C.Sc.
University of Computer Studies, Hinthada

Supervised by
Daw Khin Shin Thant
Faculty of Information Science
University of Computer Studies, Hinthada

Abstract: In today's digital era, reducing food waste has become an important challenge that requires innovative solutions. The Zero-Waste Food Ordering and Sharing System is designed to provide a centralized online system that connects restaurants with surplus food to customers seeking affordable or free meals. The system streamlines the process of surplus food management, making it easier for restaurants to list leftover food and for customers to order it at discounted prices or free of cost. The system promotes real-time food sharing, requiring customers to pick up their orders within 30 to 60 minutes to ensure freshness and minimize spoilage. The system includes key features such as customers and restaurants registration, admin approval for accounts and food listings. Customers can search available food items, place pickup orders, and view order histories, while restaurants can add surplus food and manage incoming requests. Admins have full control over approvals, system monitoring, and generating reports. By reducing food waste and providing affordable meals, the system promotes sustainability and community support while ensuring an easy and reliable experience for all customers.

Keywords: discount, ordering, pick-up, surplus food, zero-waste

INTRODUCTION

The Zero-Waste Food Ordering and Sharing System is developed using PHP to minimize food waste by connecting restaurants and customers. The system allows customers to browse surplus food items, place orders at discounted or free rates, and manage customer's claim history. Customers must log in to access features such as viewing available food, checking restaurant menus, adding items to the carts, and updating profiles. Restaurants can log in to upload surplus food listings, which require admin approval before being displayed. Restaurants can also manage user orders by approving or rejecting customers and update restaurant details when needed. Administrator oversee the platform by managing customers and restaurants registrations and approving or rejecting food items. Administrator also monitor customer orders, and maintain system security. This structure ensures all functionalities are clear, easy to use, and well-organized. Overall, the system provides a sustainable solution to reduce food waste while benefiting both customers and restaurants.

PROBLEM

Food surplus and ordering information is often scattered across multiple sources, making it difficult for customers to find available foods and for restaurants to reach potential consumers

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efficiently. This disconnects between customers, restaurants and administrator results in missed opportunities to reduce food waste and underutilized surplus food. The system requires customers to register and log in to place orders, while restaurants must wait for admin approval to activate customers' accounts and post food listings. If a restaurant adds new food without proper approval, it cannot be displayed, preventing customers from ordering it. Similarly, customer orders require restaurant approval before pickup, creating delays if the restaurant does not respond promptly. This can inconvenience customers who rely on timely access to discounted or free meals. Restaurants also face delays if admin approval for new food takes time, limiting their ability to share surplus efficiently. Overall, it bridges the gaps in the food-sharing process, reducing waste while supporting all stakeholders in the ecosystem.

APPROACH

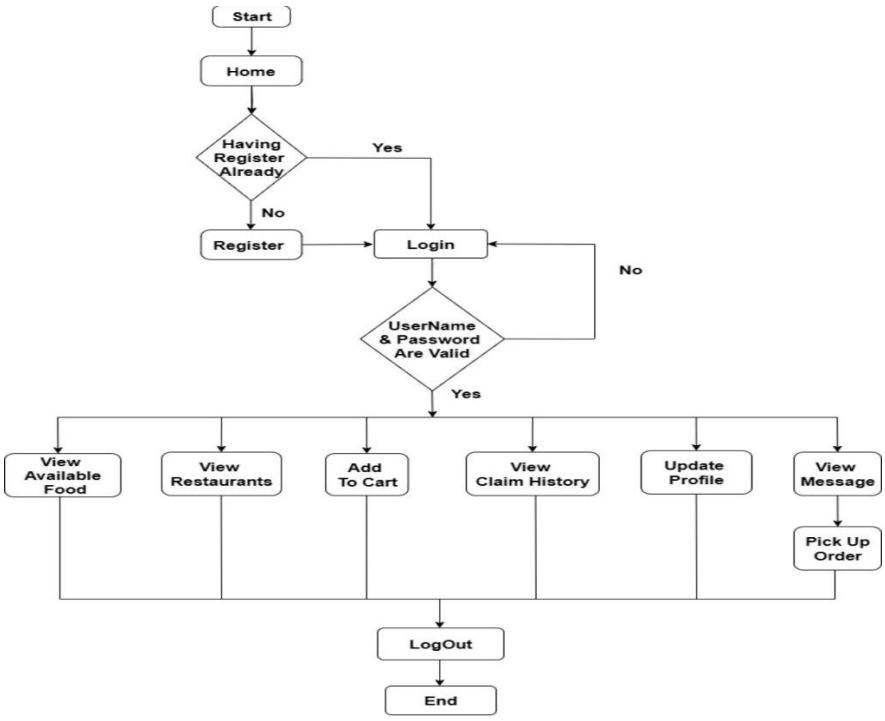

Figure 1: System Flow Diagram for User

The Zero-Waste Food Ordering and Sharing System connects Users, Restaurants, and Administrator to manage surplus food efficiently. The users register to browse food, place pickup orders at discounted or free rates, and track order history. Restaurants add food listings and manage user orders, which require admin approval before being displayed. Administrator oversee registrations, approve or reject new food and accounts and monitor orders. Restaurants approve or reject user orders, and then users can only pick up food after confirmation. The system maintains accurate records and allows admins to generate reports on user orders. Overall, it ensures smooth, secure, and efficient operations while promoting the zero-waste food sharing. These processes are as shown in Figure 1, Figure 2 and Figure 3.

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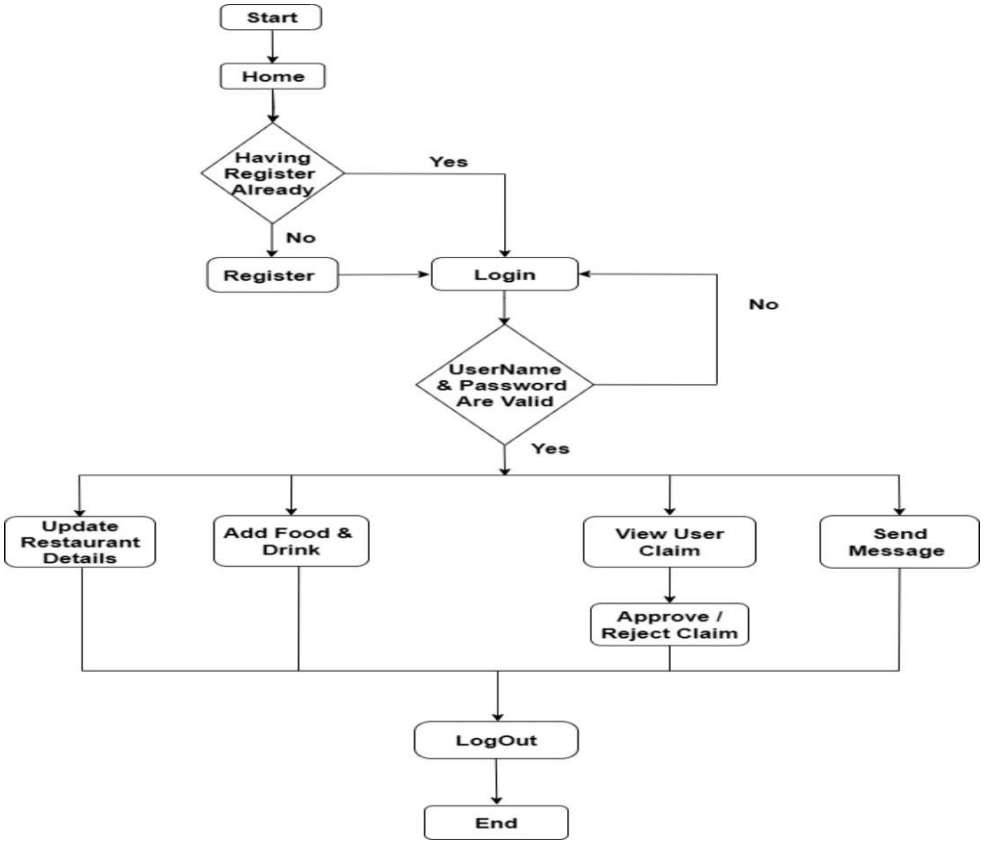

Figure 2: System Flow Diagram for Restaurant

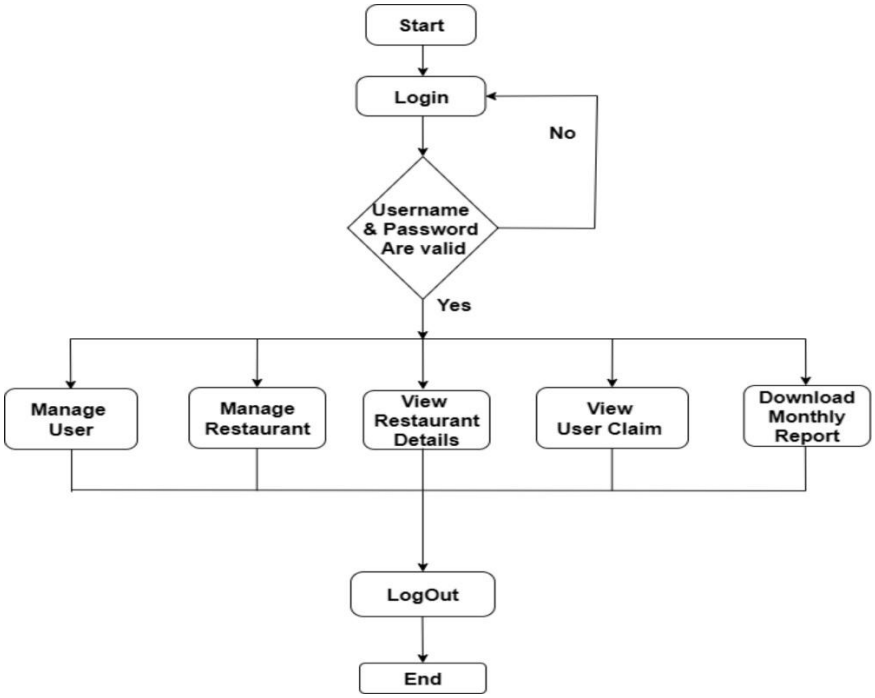

Figure 3: System Flow Diagram for Admin

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An Entity-Relationship (ER) diagram has been constructed to represent the data architecture and relationships among the key entities. The system aims to reduce food waste by allowing users to order surplus or excess food at a discount or even for free, with a pickup-only model. The system includes three main roles: Users, Restaurants, and Admins. Figure 4 is a breakdown of the core entities and their relationships:

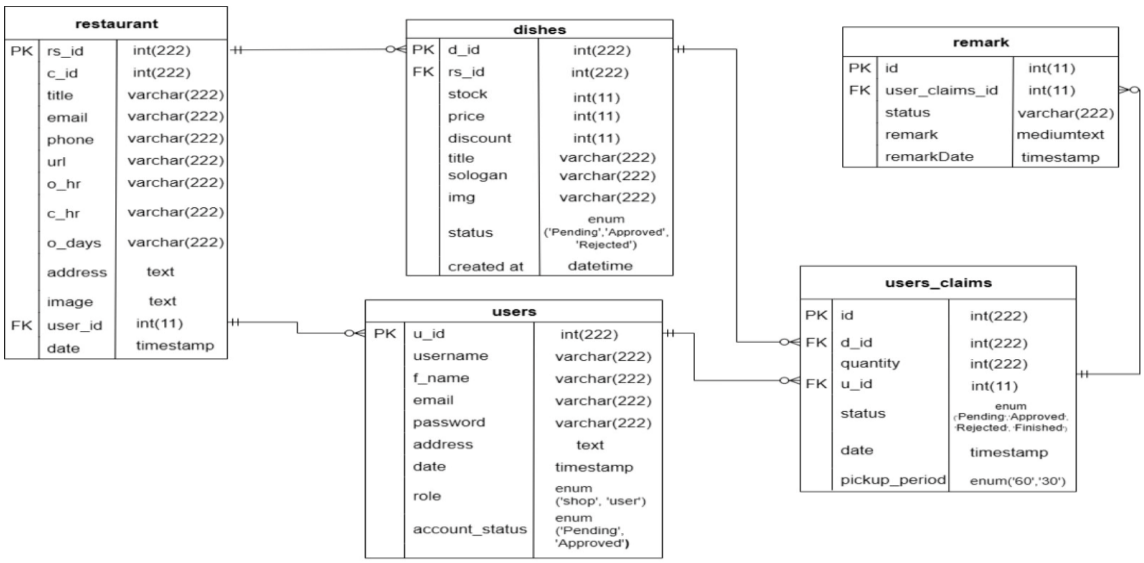

Figure 4: Database Design

RESULTS

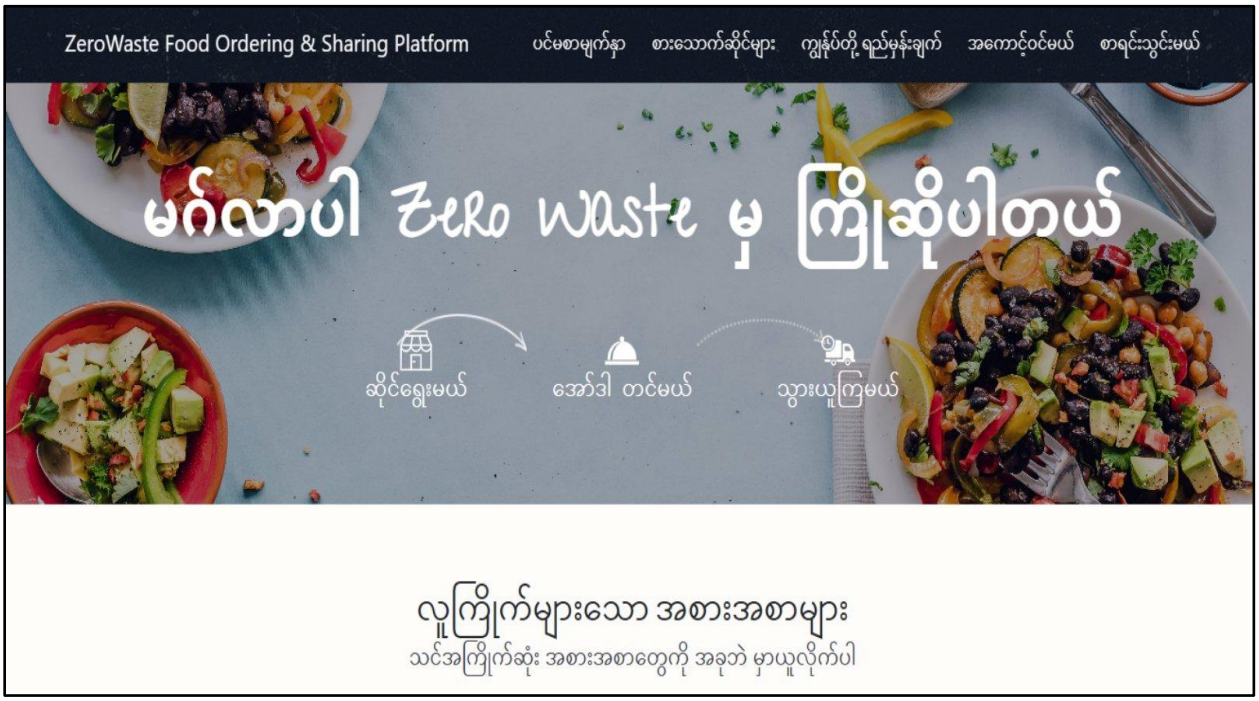

Figure 5: Home Page

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The Zero-Waste Food Ordering and Sharing System is designed as a comprehensive solution for reducing food waste while supporting community needs. Key features include user registration, profile management, menu browsing, food ordering, and donation options for restaurants with excess stock. Restaurants can easily add, update, or remove menu items, while administrators manage users, restaurants, orders, and system content efficiently. Overall, the platform aims to provide a reliable, user-friendly service that promotes sustainability and community welfare. Figure 5 illustrates the implementation of Zero-Waste Home Page for Users. Figure 6 illustrates the implementation of viewing about us page.

Figure 6: About us Page

CONCLUSION

The Zero-Waste Food Ordering and Sharing System effectively addresses the growing need for sustainable solutions to reduce food waste while supporting community welfare. By providing a centralized platform for ordering surplus food and facilitating donations, it creates a seamless connection between restaurants and customers. By centralizing processes such as food ordering, surplus sharing, and donation management, the platform ensures an organized and efficient experience for all users. In conclusion, the Zero-Waste Food Ordering and Sharing Platform serves as a valuable tool for promoting sustainability, reducing waste, and fostering a culture of responsible consumption while meeting the needs of both restaurants and communities.

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