FOOD ORDER SUPPORTING SYSTEM FOR RESTAURANT

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Abstract. The Food Order Supporting System for Restaurants is an advanced digital solution designed to optimize the ordering and payment processes in a restaurant environment. This system provides tailored functionalities for both waiter and cashiers, ensuring a seamless workflow from order placement to payment processing. Waiter can easily input orders, track their status in real-time, and manage multiple tables efficiently. Cashiers, on the other hand, can oversee the entire operation, processing payments, generating invoices, and maintaining an up-to-date database of orders and transactions. The system reduces manual tasks, minimizes errors, and accelerates service delivery, ultimately enhancing customer satisfaction and operational efficiency.

Keywords: invoice, generation, order management, payment management, receipt printing, customer, database

INTRODUCTION

In today's digital age, the importance of a Food Order Supporting System (FOSS) for restaurants cannot be overstated. Restaurants are evolving from traditional dining establishments to sophisticated operations that require efficient management of orders, payments, and customer interactions. An effective FOSS is crucial for streamlining these processes, enhancing accessibility, and providing seamless services to both customers and waiter. One of the primary objectives of implementing a FOSS in a restaurant is to develop a reliable, convenient, and accurate system that transitions from manually managed orders to automated, efficient processes. The FOSS will handle a wide range of restaurant operations, including taking orders, applying discounts, tracking sales, and generating receipts, all from a single interface. The system keeps detailed records of orders, payments, and customer preferences, making it a valuable tool for both daily operations and long-term business analysis.

PROBLEM

This system is designed to offer convenience for restaurant cashier, waiter, and customers by streamlining the food ordering process. In a fast-paced restaurant environment, efficiency is key to customer satisfaction and overall operational success. The most desired outcome for restaurant owners is to provide a seamless dining experience where customers

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can place orders swiftly, and kitchen staff can prepare meals without unnecessary delays. Accurate order management is critical for maintaining a smooth workflow and ensuring customer satisfaction. Therefore, it is essential to design a system that enables efficient food ordering, tracks order statuses, and minimizes the potential for errors. The system will provide accurate and timely information, allowing restaurant staff to handle orders and customer preferences effectively [1]. Moreover, it will empower restaurant management to monitor sales and inventory levels easily, making it a valuable tool for improving overall service quality and restaurant operations.

APPROACH

This system consists of two roles. There are cashier and waiter, the system flow is designed primarily for the administrator. The admin must log in first. After logging in, the admin can manage various aspects of the system, such as adding and managing waiters, managing categories, and handling products. The cashier can also oversee orders and payments by viewing and updating counts related to these entities. Additionally, the cashier has the ability to log out of the system after completing their tasks. Figures 1 illustrate the system flow diagrams for both the cashier and waiter roles, highlighting the seamless integration and management capabilities of the Food Order Supporting System.

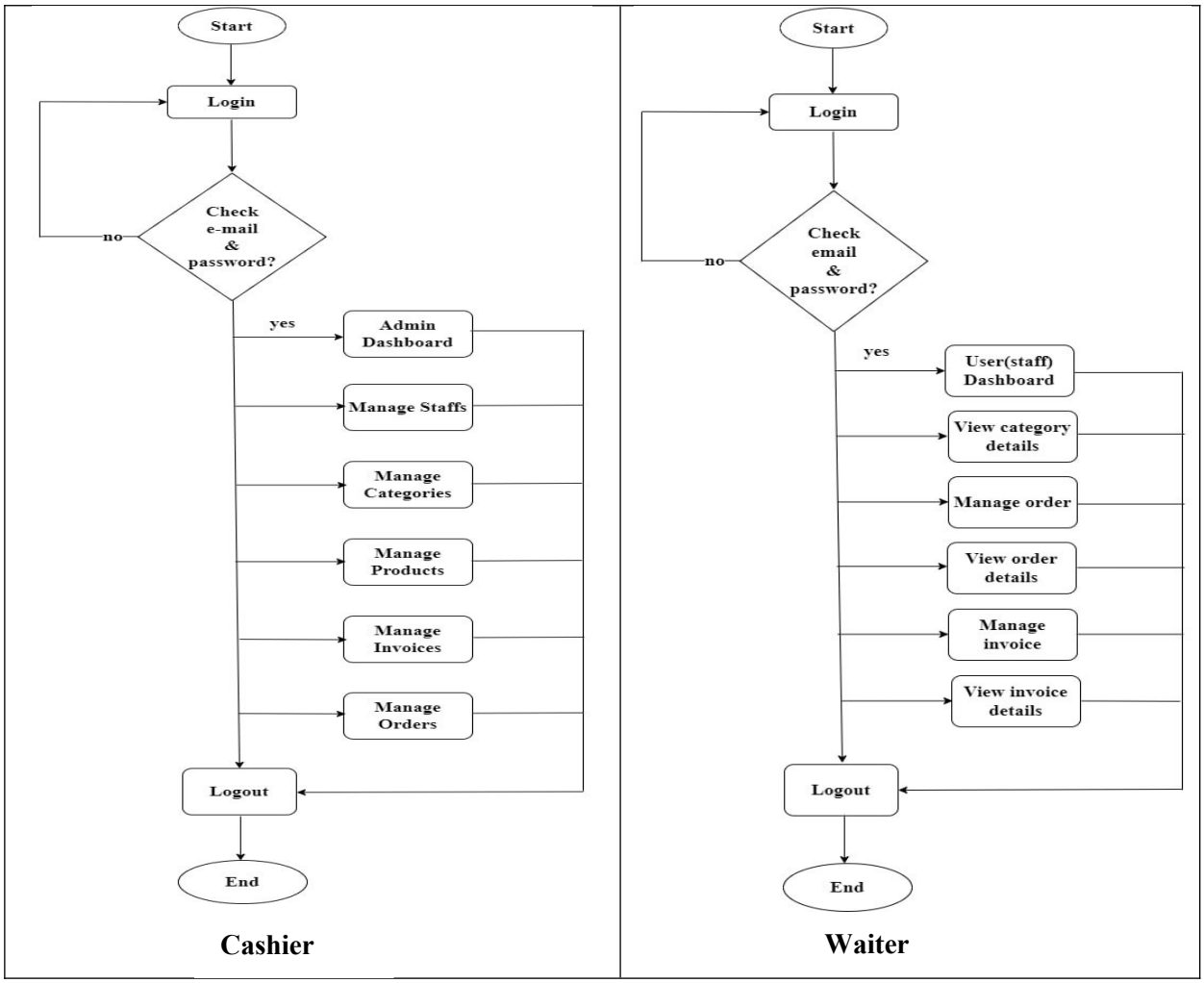

Figure 1: System Flow Diagram

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An ER Diagram is a type of flowchart that illustrates how “entities” such as people, products, or orders related to each other within a system. It serves to develop a conceptual design for the database, using a defined set of symbols such as rectangles, diamonds, ovals, and connecting lines to depict the relationships among entities and their attributes [2]. These diagrams mirror grammatical structures, with entities functioning as nouns and relationships as verbs. The ER Diagram is a high-level conceptual data model that provides a clear overview of the system’s structure. Figure 2 shows the database design of invoice management system. In this system, twelve database tables are used to manage data. The tables include admin, product, user, order, category, invoice, payment, order_items, feedback, stock, and printer.

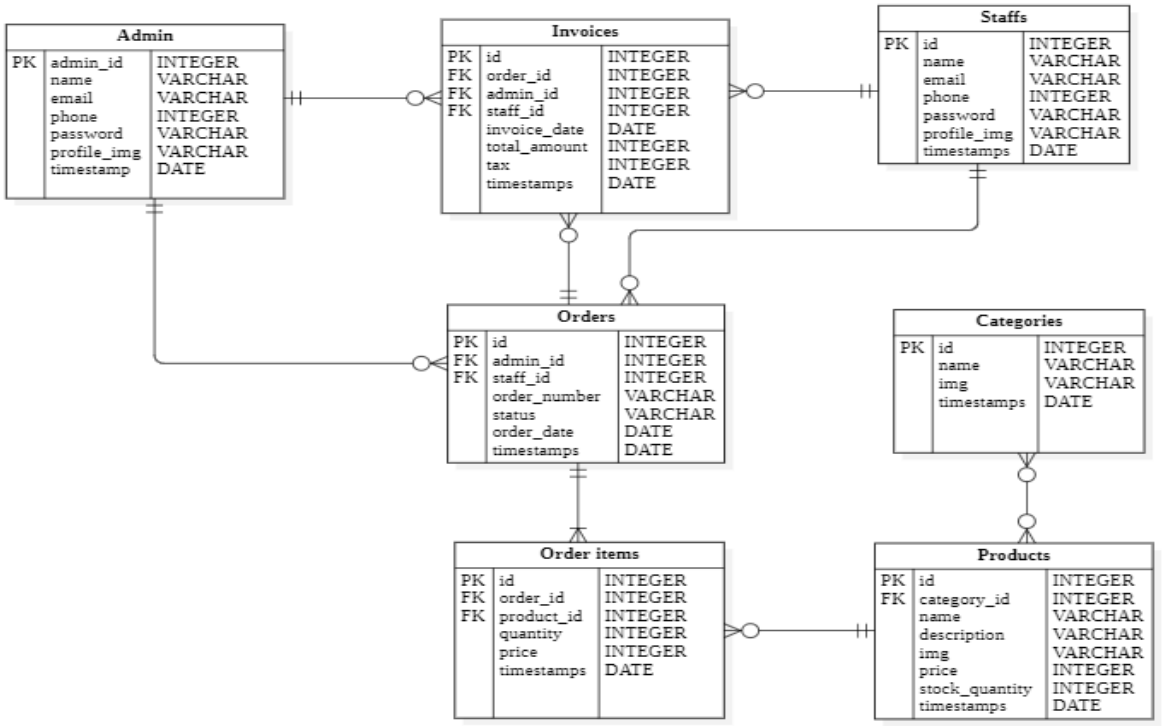

Figure 2: Database Design

RESULTS

The Food Order Supporting System (FOSS) is pivotal in modernizing restaurant operations, serving as a powerful tool to streamline order management, enhances service efficiency, and improves the overall dining experience. Its robust features—such as efficient order processing, product tracking, and comprehensive reporting—significantly elevate administrative workflows within restaurants. Looking ahead, the future of FOSS is promising, with potential integrations of emerging technologies like artificial intelligence and block chain poised to further revolutionize restaurant management and meet evolving customer expectations. While the system has its current limitations, it remains a crucial asset in optimizing restaurant operations, enabling establishments to better serve their customers and stay competitive in an increasingly digitalized industry. Figure 3 illustrates the implementation of the Food Order Supporting System, showcasing its effectiveness in streamlining restaurant operations and enhancing service delivery [3].

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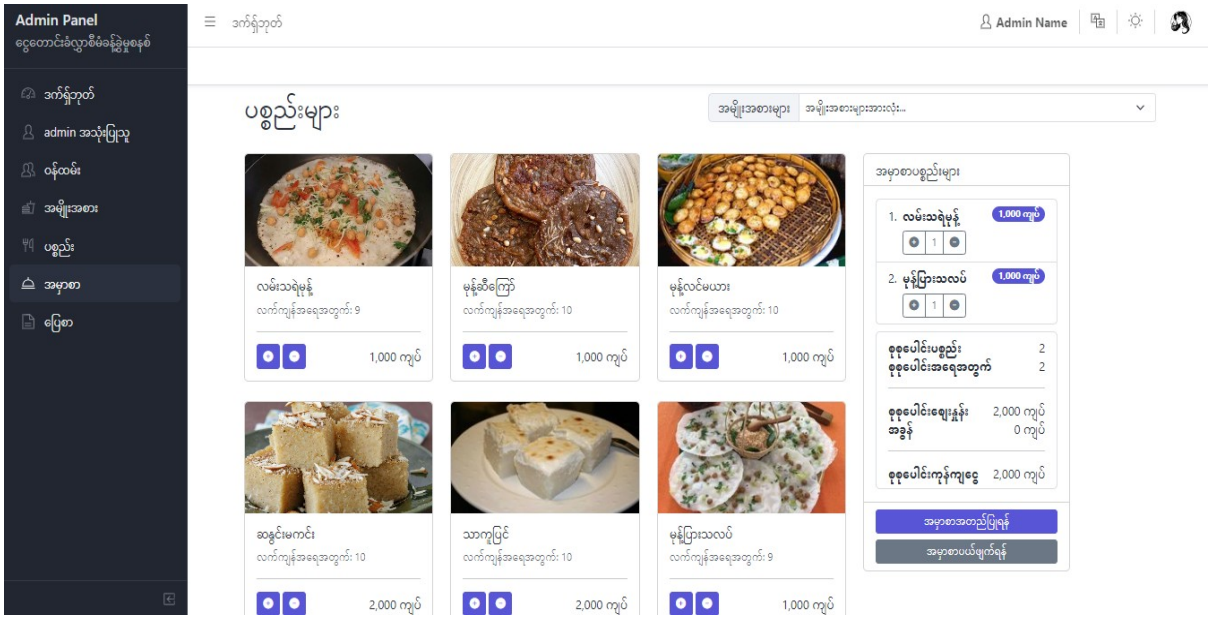

Figure 3: Implementation of the System

CONCLUTION

The Food Order Supporting System (FOSS) is an invaluable tool for restaurants, enabling efficient management of ordering and billing processes. By automating tasks, streamlining operations, and enhancing accessibility, it simplifies the roles of restaurant staff and provides a seamless experience for both customers and employees. With its numerous benefits, this software represents a cost-effective and practical solution for modern restaurants, helping them adapt to the digital age while preserving the quality of their services. The implementation of FOSS will significantly reduce the time required for order processing and billing, making it easier for staff to handle customer transactions. Furthermore, the system is designed to be flexible and scalable, allowing it to accommodate various types of restaurant operations and grow with the needs of the business.

REFERENCES

[1] Arefin Mehedi, Restaurant-Management-System---Laravel, https://github.com/rafin 007, 2018

[2] Hege, Stale, and Jan Egil, dsa, Programming Language, https://www.w3schools .com, 1998

[3] Waifier Kolar, PHP and Laravel Frame Work, https://www.youtube.com/, 1998

[4] Pan Myint Mo, Thu Zar Myint, Ye Lin Oo, Easy Invoice Myanmar, https://mm easyinvoice.com, 2019

[5] Zaw Thiha, PHP with Laravel, https://www.let'slearnprogrammingmyanmar.com/, 2020

[6] Yan Aung, Data Structure and Algorithm, https://www.ITvisionhub.com/, 2019

[7] Alena Holligan, Build a Basic Website with OOP Concepts, https://www.treeHouse. com/, 2019

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www.ucsh.edu.mm