

Flavor Flow: Web Implementation of Food Ordering System

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Abstract

Our proposed framework is a web food request framework that enables customers to use it easily. It subdues the disadvantages of the queuing system. The proposed framework could serve as a platform for convenient online food ordering from restaurants. This system enhances the process of receiving orders from customers. The online food ordering system presents a menu online, allowing customers to place orders according to their preferences easily. Additionally, customers can track their orders efficiently with the menu. This system also includes a feature for users to rate the food items. Key-features include real-time order tracking, personalized recommendations based on user preferences and history, and robust back-end tools for eateries to monitor orders, manage inventory, and analyze sales data. Our proposed food ordering system demonstrates notable improvements in operational efficiency, customer contentment, and service quality in the food industry. Furthermore, the suggested framework can be used to suggest food items based on user ratings. Payments can be completed either online or upon delivery. For more secure requests, partitioned accounts are kept up with each client by giving them an ID and a password. This is to ensure security and avert any false act for both parties.

Keywords: Web-based application, ordering system, online management system, online food ordering, order tracking

INTRODUCTION

The online food ordering system sets up a food menu online, and customers can effortlessly place an order. Along with food menus, online customers can effortlessly track their orders. Management maintains the customer database and improves food delivery services. The food ordering system persuaded us to develop the system. Different offices are provided so that the framework users can benefit successfully. The framework also considers restaurants and mess offices for customers. It is thought that, for the most part, mess users are individuals who are moved for different reasons in modern cities. Therefore, they were interrelated. Expanding the utilized keen phones is also considered an inspiration, so any system user receives all the benefits with a single press. Another inspiration can be considered, as the system will be designed to prevent clients from making lethal mistakes, clients can

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track their food items through GPS, clients can give criticism and proposals, and give ratings, which will deliver suitable feedback to the restaurant. Due to the need for a full-fledged application that can fulfill the client's necessities by giving him food from restaurants as well as from mess services, there is a need for the system. This proposed framework will be utilized by individuals who keep moving from city to city. It is also for understudies to examine who is in numerous ties. The proposed framework allows users to arrange restaurants or messes. It will provide recommendations to clients from the restaurants/mess owners transferred daily. Within the proposed framework, there are no restrictions on the sum of orders that the client needs.

Table 1. Latest food ordering system-related work.

Ref. no.	Title	Year	Summary
1.	Online Food Ordering System	2017 [1]	The proposed online food ordering system aims to improve convenience by addressing traditional queuing system limitations and offering features like online menu setup, easy order placement, and real-time order tracking. It also emphasizes customer feedback and secure payment options, catering to smartphone users and city-shifters' needs for comprehensive applications. Leveraging IoT technology, the system focuses on reliability, user-friendliness, and efficient communication between consumers and providers to enhance the overall ordering experience for a diverse user base, ensuring seamless transactions, real-time updates, and personalized services tailored to individual needs.
2.	Implementing Customizable Online Food Ordering System Using a Web-Based Application	2015 [2]	The growing importance of online food ordering and electronic payments is due to the proliferation of internet-based businesses, particularly in food delivery. It examines the economic impact of digital transactions and stresses the advantages for restaurants, such as flexibility and efficiency. Moreover, it outlines a proposed customizable system for Android devices to optimize processes, reduce workload, and improve customer feedback, with components like User Tablet, Manager's Tablet, and Kitchen Display leveraging wireless technology for efficient communication.
3.	E-Food Cart: An Online Food Ordering Service	2019 [3]	Technological advancements drive the surge in online food ordering, prioritizing speed, and convenience. E-commerce expansion, propelled by millennials' online shopping preferences, sees a rise in virtual card payments. The food cart app, built with App Inventor, streamlines food ordering with Menu, Cart, Tracking, and Account features, catering to UiTM Perak Branch, and Tapah Campus students' demand for late-night snack deliveries.
4.	An Online Food Court Ordering System	2016 [4]	The study aimed to develop an Online Food Court Ordering system to enhance customer experience by streamlining the process, offering efficiency, flexibility, and sophistication. Features like E-ordering and personalized accounts aim to improve service quality and satisfaction. The system's architecture prioritizes real-time feedback and user convenience, with plans for expanded payment options and integration with multiple restaurants for an enhanced dining experience.
5.	Online Food Ordering System	2019 [5]	The online food ordering system integrates homemade food options with restaurant choices, employing mobile technology for efficient ordering. Specific logins streamline operations, facilitating menu selection and payments. Android and web-based apps enable order tracking, feedback, and healthier eating options, catering to a mobile population, and offering a user-friendly experience with an emphasis on online transactions and access to homemade food.

Moreover, the same application can be utilized as Startup Commerce for designers. It will give genuine time to clients' criticism and ratings at the side of the comments to the restaurants/mess owner. It provides fitting feedback to clients, so in case there is any mistake, there will be a criticism exchange toward clients.

LITERATURE REVIEW

Table 1 shows the related work by various institutes.

OBJECTIVES

An online platform that is easy to use and facilitates menu browsing, order placement, and payment processing is what a food ordering system aims to achieve when it comes to improving consumer experience and convenience. Order tracking, inventory control, and sales data analysis are simplified by the system's powerful back-end administration features, which also optimize restaurant operations [6]. The objective is to enhance customer loyalty and improve the user experience by including real-time order tracking and personalized recommendations. Furthermore, the system employs sophisticated algorithms to optimize delivery procedures, guaranteeing timely delivery using precise time estimation

and effective routing. To maintain user confidence and trust, data confidentiality and privacy must be guaranteed by implementing strict security protocols. In addition, the system seeks to enhance service quality and lower operational errors, both of which support restaurant growth and profitability [7]. The goal of the meal ordering system is to improve restaurant revenue and operational efficiency, while simultaneously providing consumers with a smooth, dependable, and pleasurable experience. Ultimately, it hopes to be an essential instrument for the food and beverage sector, adjusting to changing customer preferences and technological advances [8].

METHODOLOGY

The technical feasibility of our flavor flow website consists of HTML, CSS, JavaScript, React, and Bootstrap, which help in front-end development and back-end: SQL, Node.js, and Express. It enables a dynamic and responsive fundamental platform that can be renovated to be quick and straightforward to use to engage customers [9]. React component-based construction enables a reusable, simple UI that saves the developer's effort while also improving the user's experience. Bootstrapping makes styling easy and responsive to mobile devices. This involves a potent combination of efficient database manipulation, server-side logic, and API requests. As opposed to node.js, which is suitable for scalable and fast processing for real-time binding, ExpressJS simplifies the routing and middleware integration method through which the development of the server-side functions becomes much easier and faster because there are no worries of coding—the described technology stack to support efficient scaling, upgrading, and stable feature implementation, as shown in Figures 1 and 2.

RESULTS AND DISCUSSION

User feedback and usability testing analysis indicated a significantly higher satisfaction rate among users interacting with the website. Positive feedback emphasizes the intuitive interface, seamless navigation, and visually appealing design, contributing to a more enjoyable browsing and ordering experience. The results of our framework application incorporated a web-based application [10]. Once clients arrange an eatery/mess, they will obtain the arranged ID on the screen seamlessly. The client can check the arranged status through the Arrange-Status interface given within the GUI of the application. We created the framework application so that the client could order the food and enter the specified accreditation during checkout.

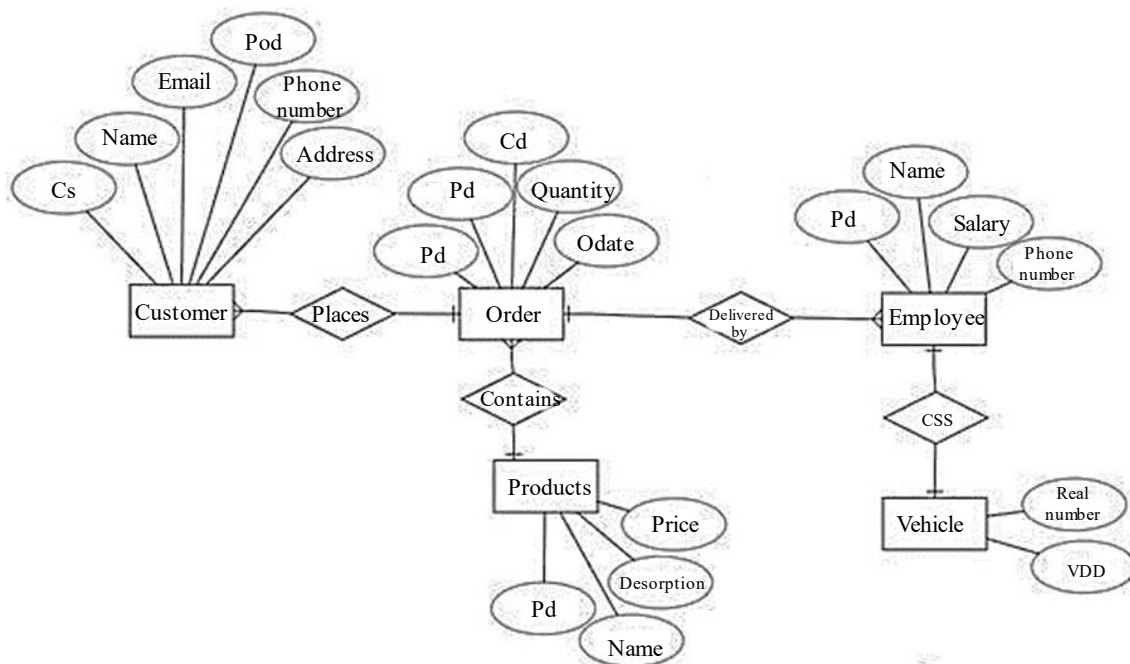


Figure 1. ER diagram of FOMS.

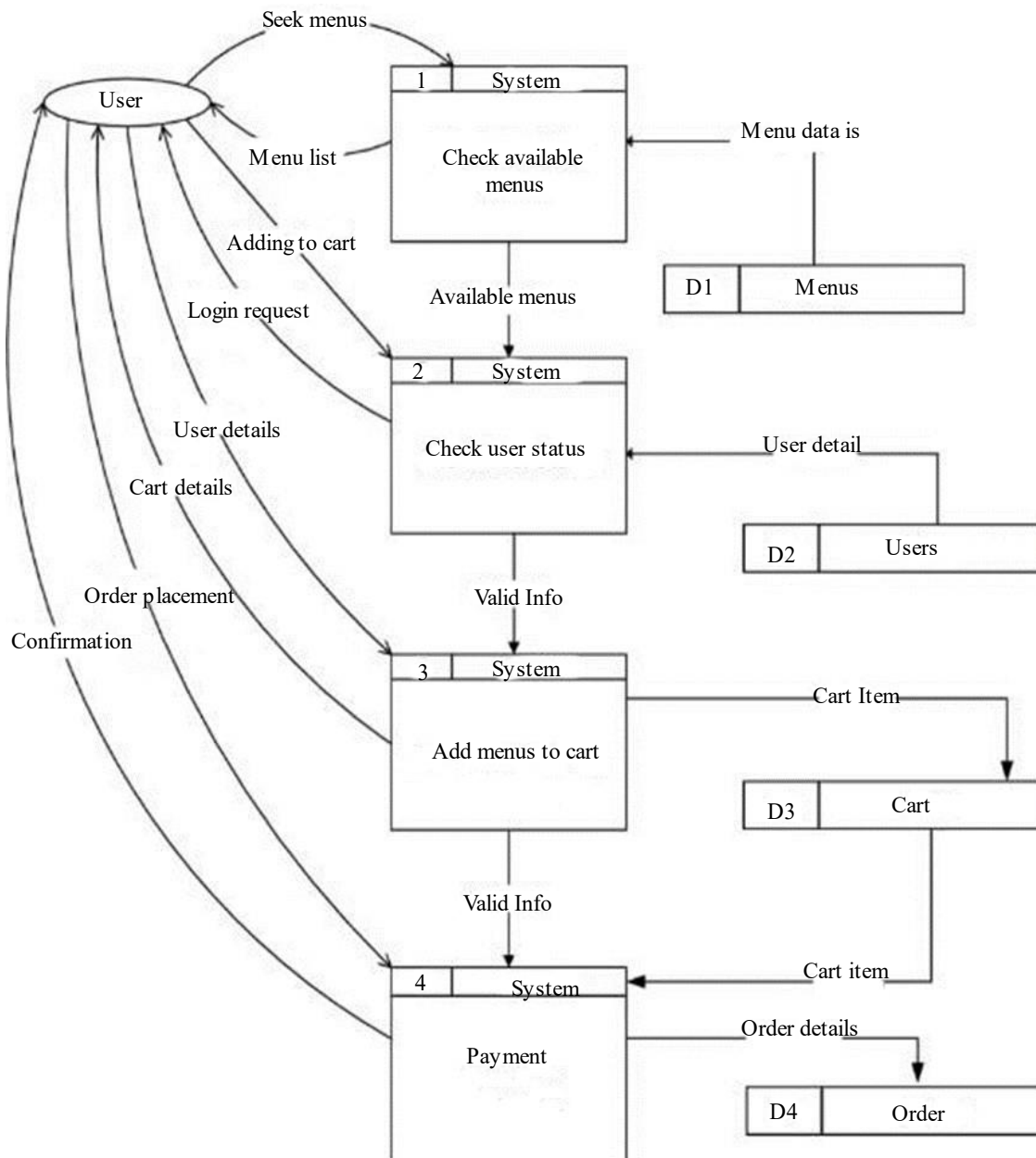


Figure 2. Data-flow diagram.

Once the arrangement is conveyed to the customer, a letter of criticism is sent to the client concerning his encounter with the complete application. Mail criticism comprises star ratings and comments from the client. The client can track his/her order through the following interface provided within the application's GUI [11]: The eatery/mess proprietor and client can track the arrangement using the proposed framework application.

CONCLUSION

Finally, obtaining a food ordering web portal could be a turning point in fulfilling the requirements and expectations of the present generation of digital-age customers. The site has a user-friendly interface, the widest selection of dishes, and a very good customization feature that users will benefit from in terms of convenience, accessibility, and satisfaction in their dining life. In addition, the transparent and reliable nature of this platform makes people believe it better, resulting in lasting memory and purchase of products or services. This fact has been effectively demonstrated by data from

the experiments and user feedback that the food ordering website turns out to be a transformational tool that assists the food service industry in operations and, at the same time, revolutionizes the customer's interaction and experience of foods. The progress made by these digital platforms in terms of their enhanced innovativeness and (further) refinement of the food industry will not fade away, as it will only make life more comfortable and develop sustainable growth in this sector.

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