Tatique:User-friendly catering website for BS Foods

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***Abstract*— Ordering catering is a consumer activity to order products in the form of food packages. At this time, catering ordering is still done manually. Consumers see a list of products through brochures, even though consumers do not necessarily know the shape of the product written in the brochure, it will make it difficult for consumers to determine which product to choose, and these difficulties will make consumers have to meet with the owner of the catering frequently which will hinder time and drain costs. The existence of technology encourages researchers to build a catering ordering website that is expected to facilitate consumers in the catering ordering process. Consumers can find out the list and pictures of the products provided, which can be facilitated in determining the product to be selected. This project focuses on developing a user-friendly catering service website for BS Foods Catering services. The website allows users to explore caterer details, customize menus, and place orders seamlessly. Customers can submit event details, view menu summaries with pricing, and confirm their selections, ensuring a hassle-free experience.**

***Keywords*— Catering website, online booking, user experience, menu customization, email conformation.**

I. INTRODUCTION

As businesses continue to embrace digital transformation, industries worldwide are shifting toward online platforms to enhance customer engagement and streamline operations. However, catering services still rely heavily on traditional order placement methods, where customers must browse physical brochures, make multiple inquiries, and finalize orders through direct communication. This outdated approach often results in inefficiencies, time constraints, and additional costs. Tastique, developed for BS Foods, aims to modernize catering service management by offering a digital, user-friendly platform. Key features of the website include: Interactive digital menus with high-quality images and descriptions. Customization options for dietary preferences and portion sizes. Seamless event booking through an interactive form. Instant email confirmations for enhanced order transparency. This paper outlines the system architecture, user preferences, and economic impact of the Tastique catering platform, demonstrating its potential to revolutionize the catering industry.

II. LITERATURE REVIEW

The rapid advancement of digital platforms has transformed industries by enabling businesses to offer streamlined services, enhancing customer convenience and operational efficiency. The catering industry has also witnessed significant digitalization, with many businesses shifting to online platforms to meet customer demands for seamless ordering and personalized service. This section reviews relevant literature on catering service digitization, online food ordering systems, user experience in web applications, and security considerations.

A. Digitalization in the Catering Industry

The global catering market has experienced a shift toward online platforms, driven by the increasing adoption of digital solutions. According to **Statista (2024)**, digital transformation in the food and catering industry has resulted in improved accessibility, faster service, and increased revenue generation. Studies suggest that customers prefer digital platforms for ordering food due to ease of access, time efficiency, and customization options (**Chaffey, 2023**).

B. Online Food Ordering Systems

Online food ordering systems have become an essential aspect of the food service industry, allowing customers to browse menus, customize orders, and make payments

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online. Research by **Kotler & Keller (2023)** highlights that successful online food platforms integrate user-friendly interfaces, secure payment options, and efficient order management systems to enhance customer satisfaction. Moreover, real-time tracking and email notifications have been shown to improve user engagement (**Web FX, 2024**).

C. User Experience and Web Application Design

Design A well-designed user interface plays a crucial role in retaining customers on an online platform. **Nielsen (2023)** emphasizes the importance of intuitive navigation, responsive design, and seamless interaction for effective effective web applications. The **MDN Web Docs (2024)** further elaborate on how front-end technologies such as **HTML, CSS, and JavaScript** contribute to an engaging and interactive web experience. Studies indicate that a clutter-free, mobile friendly design significantly enhances user engagement and satisfaction.

D. Backend Technologies for Catering Platforms

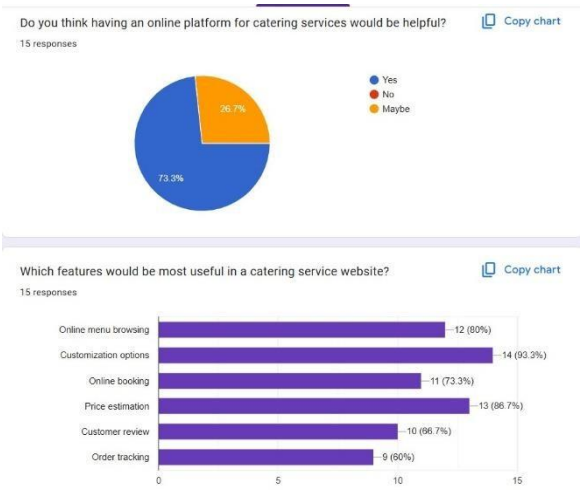
The efficiency of an online catering platform depends on its backend architecture. The **Flask Documentation (2024)** explains that Flask, a lightweight Python web framework, is well-suited for building scalable and efficient web applications. **MySQL Documentation (2024)** supports the use of SQL-based databases for structured data storage and management, ensuring quick access to menu items, customer orders, and event details. Integration of RESTful APIs allows smooth communication between the frontend and backend, facilitating seamless order processing.

E. Economic and Environmental Benefits of Online Catering Services

Research by **Chaffey (2023)** and **Statista (2024)** highlights the economic and environmental advantages of digitizing catering services. Online platforms reduce reliance on paper-based processes, streamline inventory management, and minimize food wastage by allowing precise order customization. Furthermore, expanding catering businesses to an online marketplace enhances market reach and revenue potential.

III. SURVEY ANALYSIS

A survey was conducted among individuals with prior experience in catering services to assess their preferences and trust in online platforms. This survey on the demand for an online catering platform showed strong interest, with 73.3% of respondents finding it useful. Key feature preferences included online menu browsing (80%), customization options (93.3%), and online booking (73.3%). Price estimation was prioritized by 86.7%, while 66.7% valued customer reviews, and 60% requested order tracking. These results highlight the need for a flexible, transparent, and user-friendly catering service platform. Top feature preferences included menu browsing (80%), customization (93.3%), online booking (73.3%), and price estimation (86.7%). Additionally, 66.7% valued customer reviews, while 60% wanted order tracking.



Demand for an Online Platform:

73.3% of respondents agreed that an online catering platform would be helpful.

Feature Preferences:

80% preferred online menu browsing.

93.3% valued customization options.

73.3% wanted online booking.

86.7% considered price estimation important.

66.7% found customer reviews essential. 60% requested order tracking.

Communication Preferences:

73.3% preferred both online ordering and the option to speak with a caterer.

26.7% preferred speaking to a caterer before finalizing an order.

Importance of Instant Pricing:

53.3% considered instant pricing very important. 20% considered it important.

27% were neutral or found it slightly important

Trust in Online Catering Platforms:

66.7% of respondents trusted an online platform if it had verified caterers and customer reviews.

33.3% remained uncertain.

Likelihood of Using an Online Catering Platform:

46.6% were likely or very likely to use an online platform.

40% were neutral.

13.3% were slightly likely.

Additional Preferences:

Some respondents emphasized the importance of a transparent ordering process and the ability to customize dishes.

Conclusion

The survey results indicate strong interest in an online catering platform, provided it includes essential features like menu browsing, customization, pricing transparency, and customer reviews. While online ordering is preferred, many users still value direct communication with a caterer. Trust factors such as verified caterers and customer reviews play a crucial role in adoption. Future developments should focus on a hybrid approach that combines digital convenience with personalized customer support.

IV. SYSTEM ARCHITECTURE

The system architecture of TASTIQUE is designed to create an efficient, scalable, and secure catering service platform. The architecture follows a three-tier model, which consists of the presentation layer (frontend), business logic layer (backend), and data layer (database). This model ensures smooth interactions between users and the system, offering high performance, maintainability, and security. *1.Presentation Layer(Front-End)* The front-end is responsible for delivering an interactive and visually appealing user experience. Built using HTML, CSS, and JavaScript, it ensures responsiveness across different devices. To enhance interactivity, JavaScript is integrated into the platform, enabling dynamic elements such as dropdown menus, modals, and form validations. These features provide a responsive and engaging user experience, ensuring that every interaction is smooth and efficient. Moreover, the website is designed with cross-device compatibility, utilizing CSS media queries to adapt to different screen sizes. Whether accessed on a desktop, tablet, or smartphone, the interface adjusts seamlessly, maintaining accessibility and ease of use across all devices.

2. Business Logic Layer(Back-End): The back-end of TASTIQUE is built with Flask, handling all the core operations like processing requests, applying business rules, and managing system functions. Flask keeps things lightweight yet powerful, making sure everything runs smoothly and efficiently.

Flask powers the RESTful APIs that connect the front-end with the database, handling everything from fetching menus to processing orders. When a customer selects menu items, customizes their order, and submits event details, the back-end (Flask) checks everything before confirming it. This includes validating the order to ensure all required details (like date, menu selection, and contact information) are provided, processing any customizations the customer made, such as dietary preferences or portion sizes, storing the order details in the database for the caterer to review. Basically, it ensures that the order is complete, accurate.

3.Data Management Layer (Database) The database is the backbone of TASTIQUE, storing all the important information needed for smooth operations. A SQL-based database like MySQL is used to keep data well-organized and easily accessible. It manages orders and menus, storing details like customer orders, menu items and customization options. The system also keeps track of event bookings, saving key details such as event dates, venues, and guest counts to help caterers plan efficiently.

It maintains data integrity and security, SQL constraints and relational mappings are in place. These measures prevent duplicate entries and unauthorized changes, ensuring that all stored information remains accurate and secure.

4.*Communication & Notification System*

An integrated email notification system sends automatic booking confirmations and order updates to customers. This ensures better customer engagement and transparency in transactions. The system architecture of TASTIQUE is designed to create an efficient, scalable, and secure catering service platform. The architecture follows a three-tier model, which consists of the presentation layer (frontend), business logic layer (backend), and data layer (database). This model ensures smooth interactions between users and the system, offering high performance, maintainability, and security.

V. TECHNOLOGY STACK

The table below summarizes the key technologies used in TASTIQUE, their roles, and benefits:

TABLE I. Technology Stack

Technology	***Role of Tastique***	***Key Benefits***
HTML, CSS, JavaScript	Front-end development	Provides visually appealing and user-friendly interface
Flask	Backend server and API management	Ensures fast, scalable request handling and efficient API communication
MySQL	Database management	Enables structured data storage, relational queries, and high security
Email Notification System	Sends order confirmations and updates	Enhances customer engagement through automated messaging
Authentication & Security Measures	Handles user verification and data protection	Protects sensitive user data through secure authentication mechanisms

VI. METHODOLOGY STACK

Communication

During the initial stage of the project, an analysis of the catering ordering business process was conducted, identifying several inefficiencies in the traditional manual ordering method done based on a literature review and research questionnaires.

Planning

At this stage the time for web design and human resource required were estimated. The communication stage is estimated to last for a week, the planning stage is estimated to last two weeks, the modelling stage is estimated to two weeks, the construction stage is estimated to last one month, and report preparation is estimated to last a week. The human resources in this study are:

Lead Guide: Dr.Sinciya P.O

Researcher: Neha Ann Biju

Researcher: Reema Elsa Shaji

Researcher: Rhea Maria James

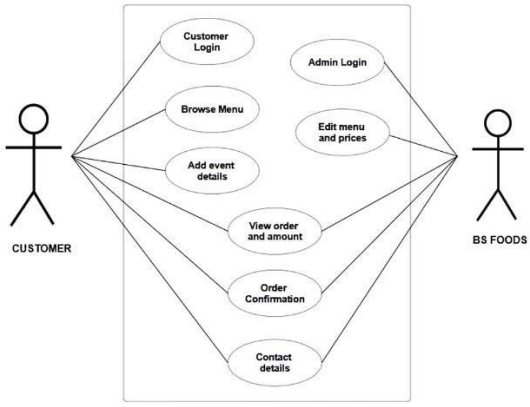
Researcher: Richy Sara George

Respondents: Survey participants

Modelling

The system was designed using Unified Modelling Language (UML), to create an initial picture of the system based on the problems and results of data collection that has been done previously. The system depiction is implemented into:

Use Case Diagram, used to find out what functions exist in the system and who can use these functions can be seen in Figure 4.



Activity Diagram explain the interaction between the user and the system to model the system according to the use case. The login activity diagram can be seen in Figure 5.

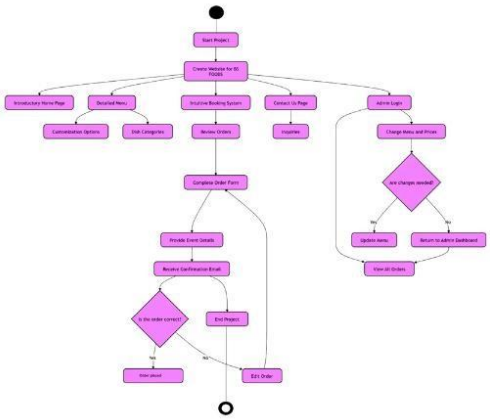


Figure 5.

Sequence diagrams describe the interaction of objects in the use case by describing the life time of the object with messages sent and received between objects. The login sequence diagram can be seen in Figure 6

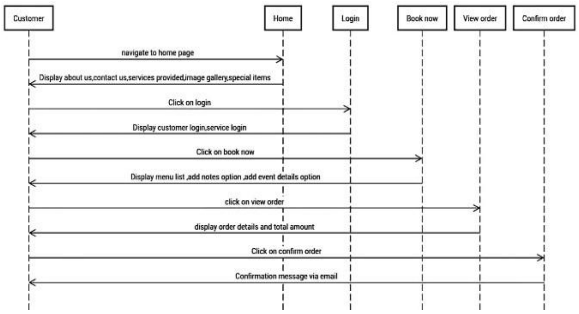
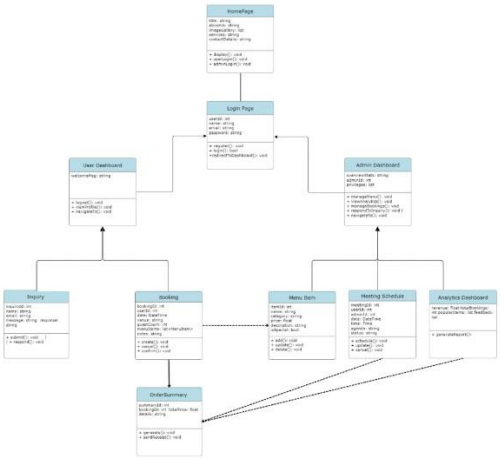
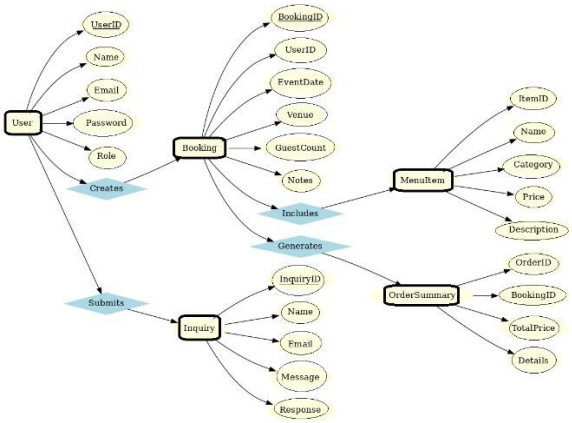


Figure 6.

Class diagrams, are used to display several classes that exist in the software system to be developed. Class diagrams show the relationships between classes in the system and how they relate to each other to achieve a goal. Figure 7. is a class diagram of the catering sales website.



Entity-Relationship (ER) model is used to define and visualize the relationships between different entities in a database system. Figure8. shows the required ER model



VII. HEALTH INFORMATICS

Health informatics is an interdisciplinary field that leverages information technology, data analytics, and health sciences to improve the collection, management, and utilization of health-related data. It has transformed various industries, including healthcare, by promoting efficient decision-making, personalized services, and improved health outcomes. In the context of catering services, health informatics plays a significant role in enhancing the overall customer experience while prioritizing health and well-being. By integrating health informatics principles, catering platforms can offer a more tailored service by recording and analyzing customer-specific dietary preferences, allergies, and nutritional requirements. This helps in generating personalized menu recommendations that align with individual health needs, such as low-sugar options for diabetic customers, allergen-free dishes for those with sensitivities, and low-calorie or heart-healthy meals for health-conscious users.

Additionally, health informatics supports food safety and hygiene by enabling better tracking of ingredients, nutritional information, and compliance with food safety regulations. This ensures that food preparation processes are transparent and adhere to established health guidelines, thereby increasing customer trust. With the growing awareness of the impact of diet on overall health, the integration of health informatics in catering services has become increasingly relevant. It not only enhances customer satisfaction by providing safe and healthy food options but also contributes to broader public health objectives by encouraging informed food choices and promoting a healthier lifestyle. By effectively managing health data and applying it in the food service context, catering services can bridge the gap between convenience and well-being, ultimately creating a more responsible and health-oriented dining experience.

VIII. RESULTS AND DISCUSSION

1) Results

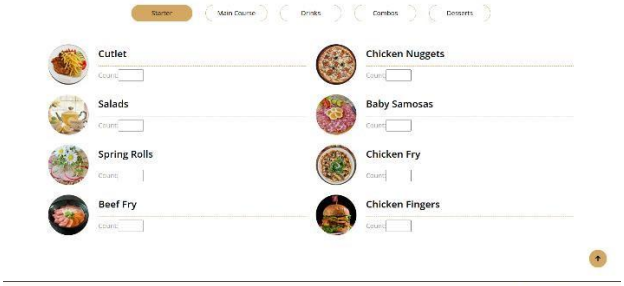
This stage is running the application by the user, the following are the results of the analysis obtained after the user runs the website for sales and catering orders. This stage is carried out by consumers using the web and then filling out a questionnaire containing questions about the web. This test was carried out on 10 consumers with the result that 100% of users can find out the shape of the product through images available on the web, 100% of consumers know product details through detailed features and 100% of consumers can find out product prices when choosing their own products to order. In addition, 100% of consumers felt that they did not need to go to a catering place to place an order and 97% of consumers felt that they did not need to often ask about product details to the catering owner, 95% of consumers found it easy to use the web and 5% found it difficult to use it.

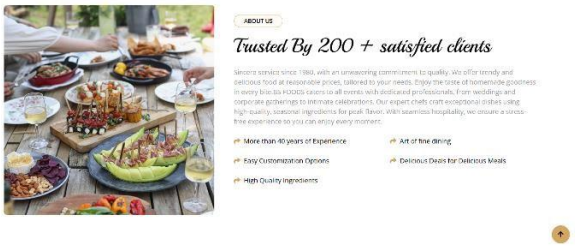
2) Deployment

A) Login View : To place an order, the user must first create an account via the register page. In registering, the user fills in his full name, email, phone number After the user has an account, to be able to access the web and be able to place an order, the user must login by filling out the username and password form. On this page there is also a button in the form of text that can be selected if the user does not have an account or to create an account. The login display can be seen in Figure 9

B) Home View : This page is the main page of the web catering sales and reservations. This page contains a navbar menu that is interconnected with their respective pages, landing pages and several products with package categories. The home display can be seen in Figure 10.

C) Menu View : This page contains a list of products provided by catering. The product includes the name, price, picture and product description. On this page the user can add products to the cart and can also view product details by selecting the detail button. Product display can be seen in Figure 4.





Discussion

The Table 2 is an analysis of the results of the discussion with previous similar studies:

TABLE II. DISCUSSION RESULT

Aspect	***Findings in This Study***	***Findings in Previous Studies***
Ordering Method	Traditional manual ordering was inefficient and timeconsuming.	Similar findings, highlighting delays and miscommunication.
Customer Challenges	Difficulty in understanding brochures, frequent meetings required.	Previous studies also noted brochure limitations and the need for frequent interactions.
CostEffectiveness	63%found meetings cost-effective; others found them costly.	Studies suggested mixed responses regarding cost efficiency.
Distance Barrier	60% found it challenging to meet the caterer due to distance.	Research also highlighted location-based limitations.
Digital Platform Acceptance	83% supported a catering booking website.	Similar studies indicated increasing customer preference for digital ordering systems.
User Experience with Digital Platform	95% found the website easy to use.	Previous research reported positive feedback on digital system usability.

IX. CONCLUSION

Tastique is a user-friendly online catering platform designed to enhance customer experience and streamline the operational management of BS FOODS. In today's digital era, businesses are increasingly adopting online platforms to expand their reach and improve service efficiency. Traditional catering services that rely on word-of-mouth and physical interactions risk missing opportunities to grow their customer base.

By providing a visually appealing and intuitive interface, Tastique simplifies the catering process, allowing users to browse menus, customize orders, and book catering services effortlessly. The mobileresponsive design ensures seamless access across devices, while real-time updates and automated notifications keep customers informed throughout their booking journey. Beyond customer convenience, Tastique also contributes to economic growth by expanding BS FOODS' market reach, increasing sales efficiency, and reducing operational costs through

digital order management. The platform's data-driven insights enable better menu planning and promotional strategies, while its strong online presence enhances brand visibility, attracting both private and corporate event bookings.

Overall, Tastique not only enhances customer satisfaction but also modernizes catering operations, making the service more efficient, accessible, and adaptable to the evolving digital landscape.

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