SEEL4213 SOFTWARE ENGINEERING

GROUP PROJECT:

FOOD ORDERING SYSTEM

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Objectives

- To create a food ordering system website using HTML and a SQL database.
- To include an interesting graphical user interface (GUI) on the website for user-friendly uses.

Product Perspectives

Project Overview

The environment of online purchasing and e-commerce has changed dramatically as a result of fast advances in internet and mobile technologies. With the rising affordability of smart gadgets, improvements in communications infrastructure, and increased purchasing power, businesses are obliged to integrate technology into their operations to fulfil customers' changing requirements[1]. The need for convenience, particularly in light of time restrictions and changing lifestyles, has resulted in novel business models such as online food ordering. In response to these changes, the rise of food ordering websites (FOWs) has transformed how people obtain and consume food, particularly in the aftermath of the COVID-19 epidemic. These systems heavily use mobile technology to improve the meal ordering experience, catering to a diversified and large client base[2]. Food ordering websites play a critical part in redefining the dynamics of the food sector in this dynamic setting, offering consumers a smooth and quick way of ordering and enjoying their favourite meals. Therefore, the objectives of this project are: (1) To create a food ordering system website with a database, and (2) to include an interesting graphical user interface (GUI) for easier navigation on the website.

Market Analysis

The market study for the food ordering website system is based on a thorough awareness of the changing environment of online food delivery. Rapid improvements in internet and mobile technologies have resulted in a dramatic shift in consumer behaviour, with an increasing preference for the convenience provided by online platforms. Our research begins with an examination of the larger market, including aspects such as the increasing affordability of smart devices, improvements in communications infrastructure, and the increased spending power of consumers.

Commercial Values

Our food ordering online system's commercial values are deliberately customized to optimize operations and efficiency and enhance customer loyalty. Our platform's emphasis on

simplified operations and efficiency is intended to optimize the whole ordering process. We aim to decrease human errors, lower operating expenses, and improve overall efficiency by integrating robust backend systems. This operational optimization translates into significant cost savings and a more responsive reaction to customer requests, ensuring that a food service business stays adaptable and resource-efficient in a volatile market.

Our user-friendly design and easy ordering experience foster customer loyalty, which is essential for long-term success. We hope to develop long-term partnerships by emphasizing customer contentment and promoting repeat business and positive reviews. Therefore, improved processes and higher customer loyalty position our food ordering system as a potential driver for commercial success in the competitive food industry landscape.
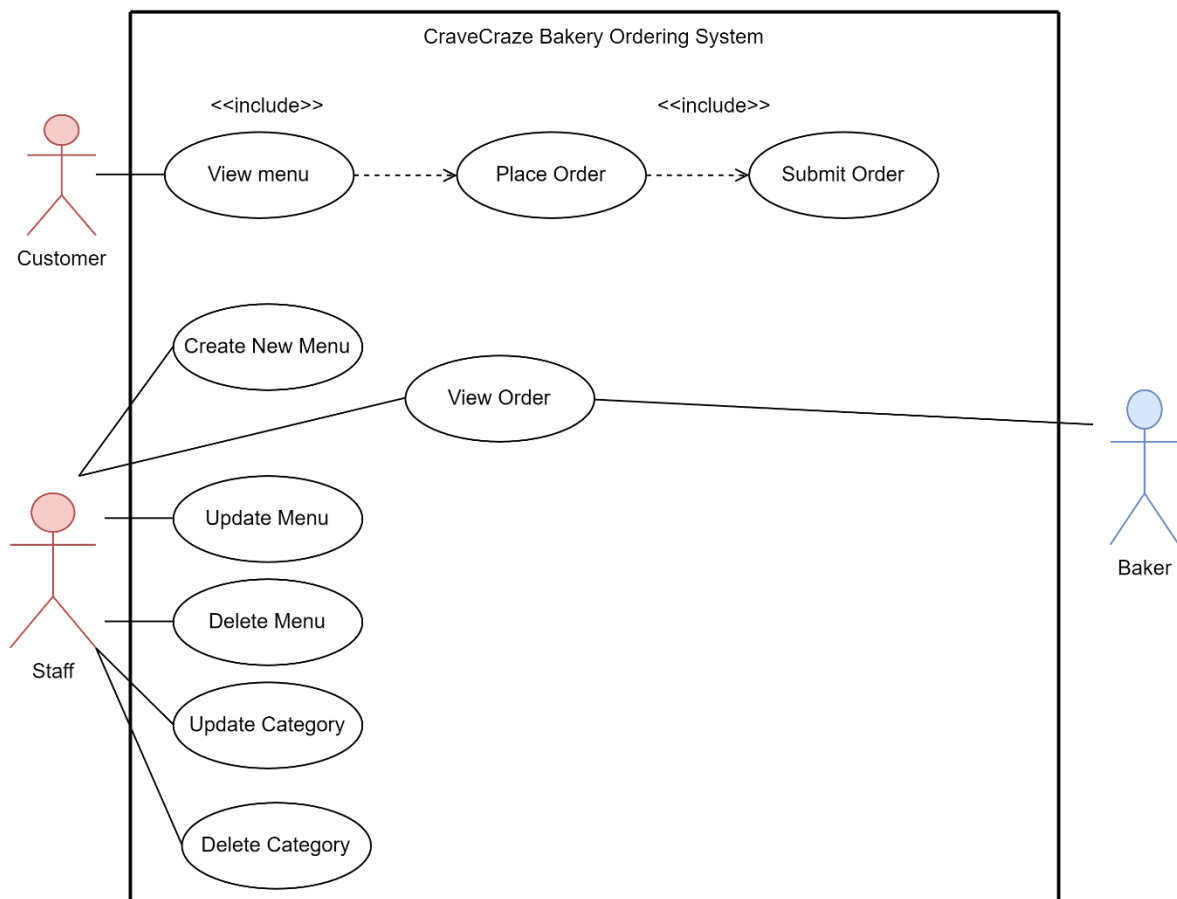
System Design

Figure 1. Use Case Diagram.

Figure 1 shows the use case diagram of the CraveCraze Bakery Ordering System. There are some functions provided by the system.

1. View menu.

    The customers can view the menu through this system. They can view the menu according to the category.

2. Order food

    The customers can order the food after they view the menu. They need to enter the quantity of each category.

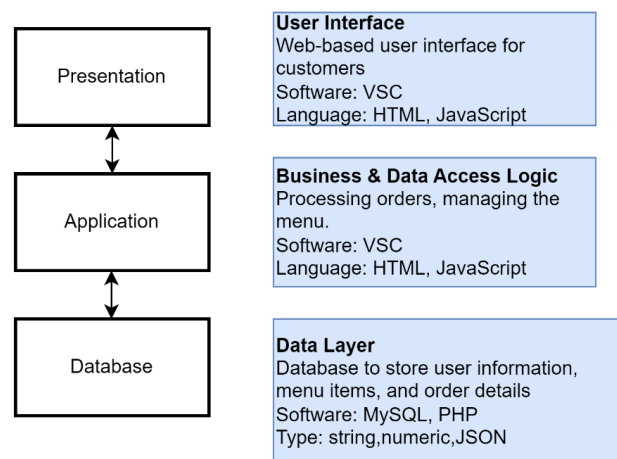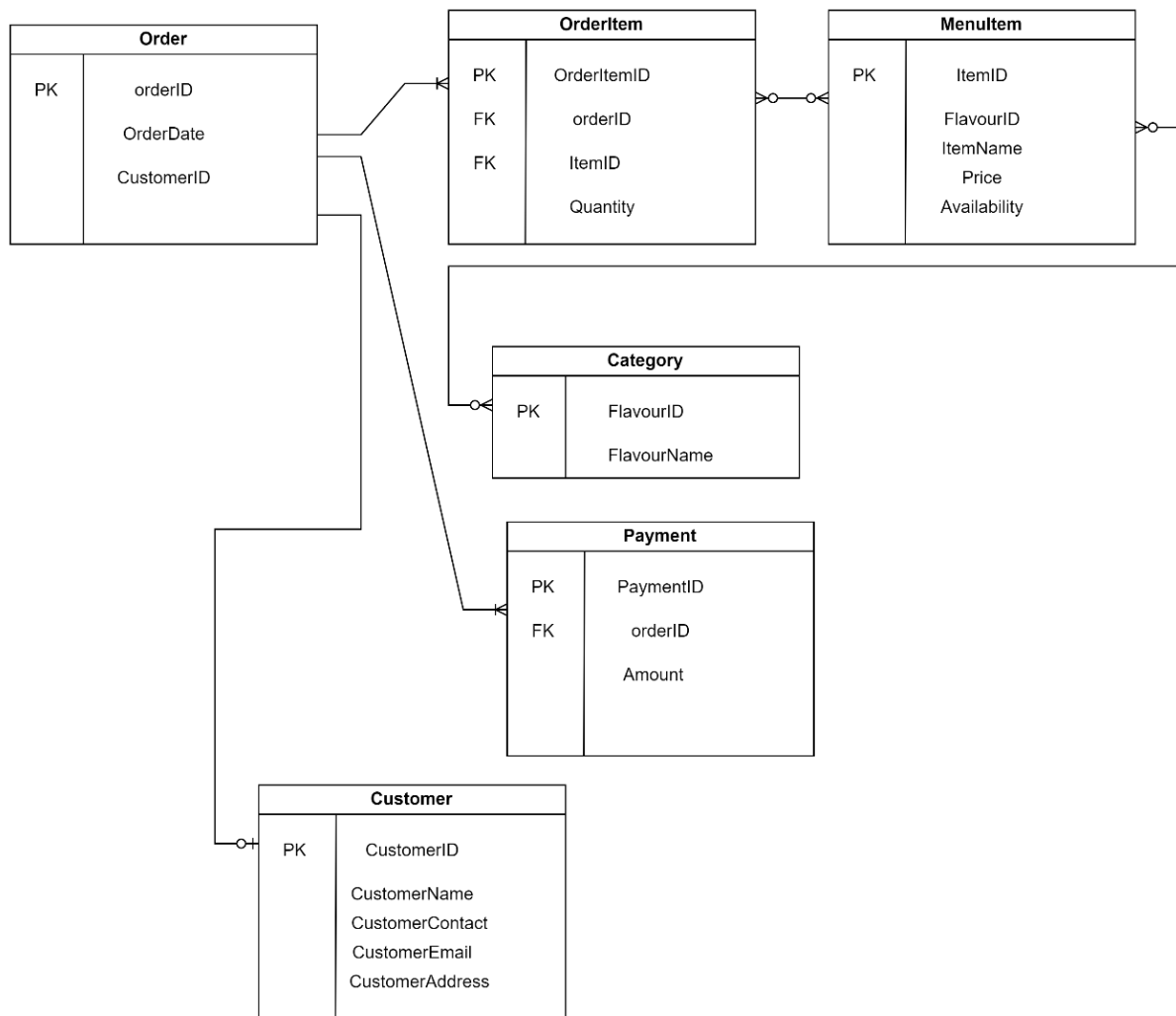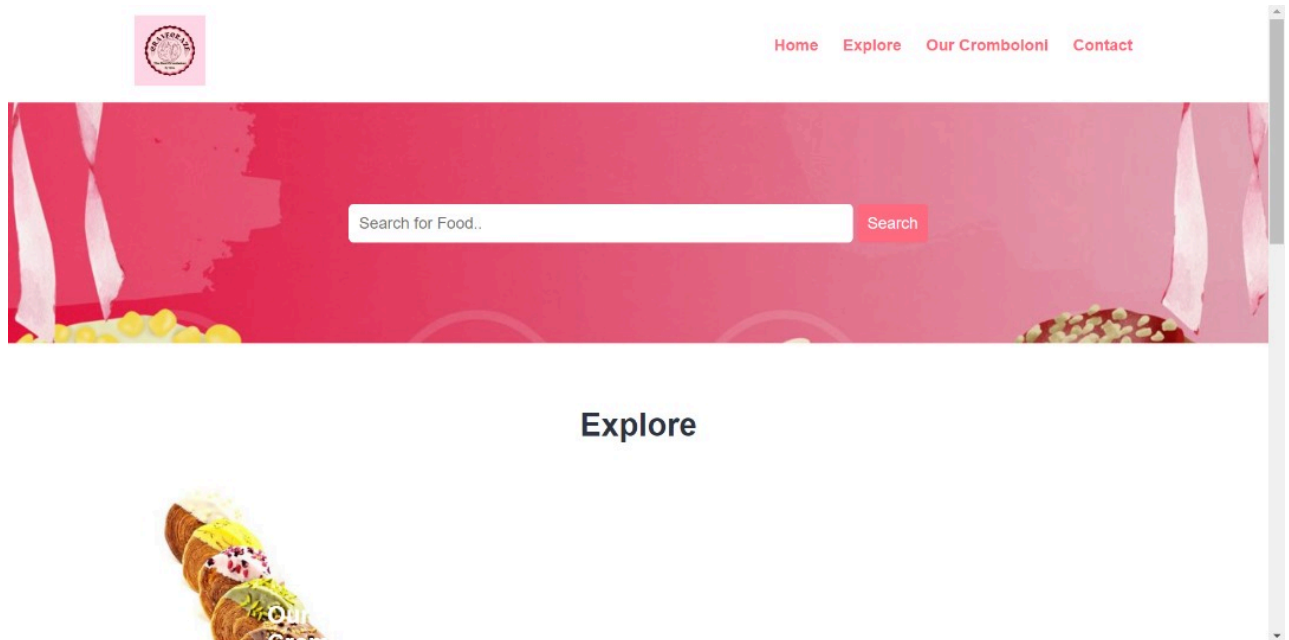Software Design Description (SDD)

Figure 2: High- Level Design: System Architecture of CraveCraze Bakery Ordering System

Order

PK	orderID
	OrderDate
	CustomerID

OrderItem

PK	OrderItemID
FK	orderID
FK	ItemID
	Quantity

MenuItem

PK	ItemID
	FlavourID
	ItemName
	Price
	Availability

Category

PK	FlavourID
	FlavourName

Payment

PK	PaymentID
FK	orderID
	Amount

Customer

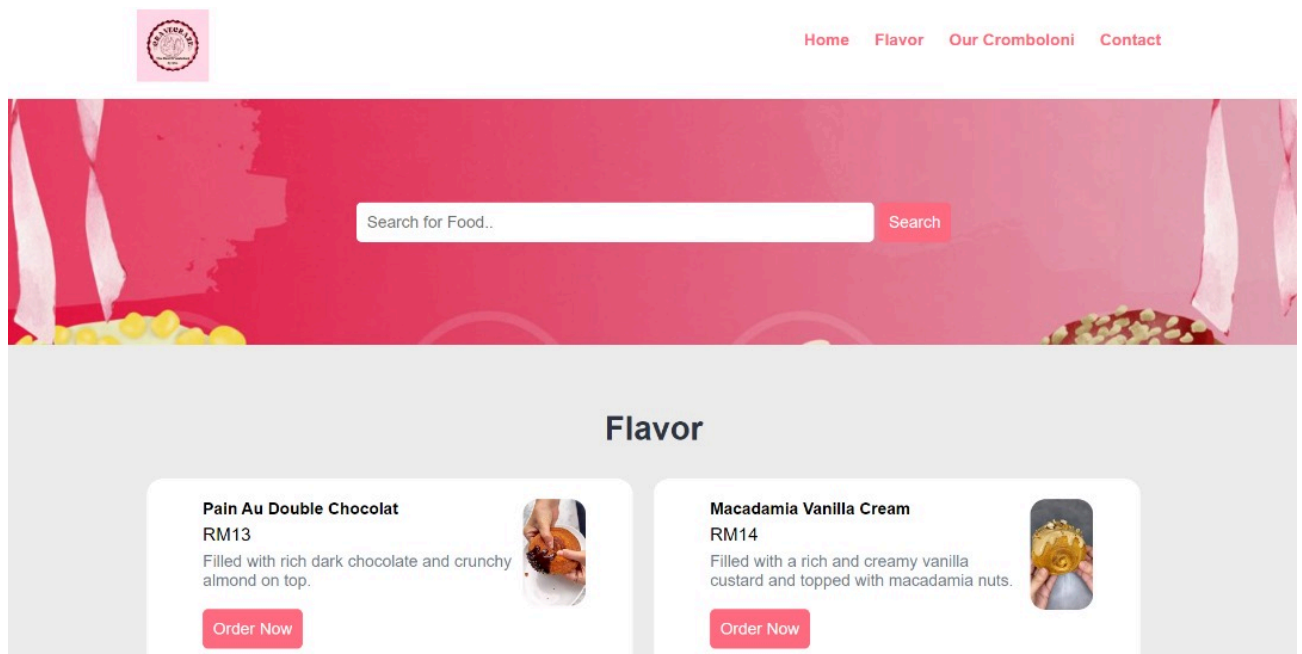| PK	CustomerID
	CustomerName
	CustomerContact
	CustomerEmail
	CustomerAddress

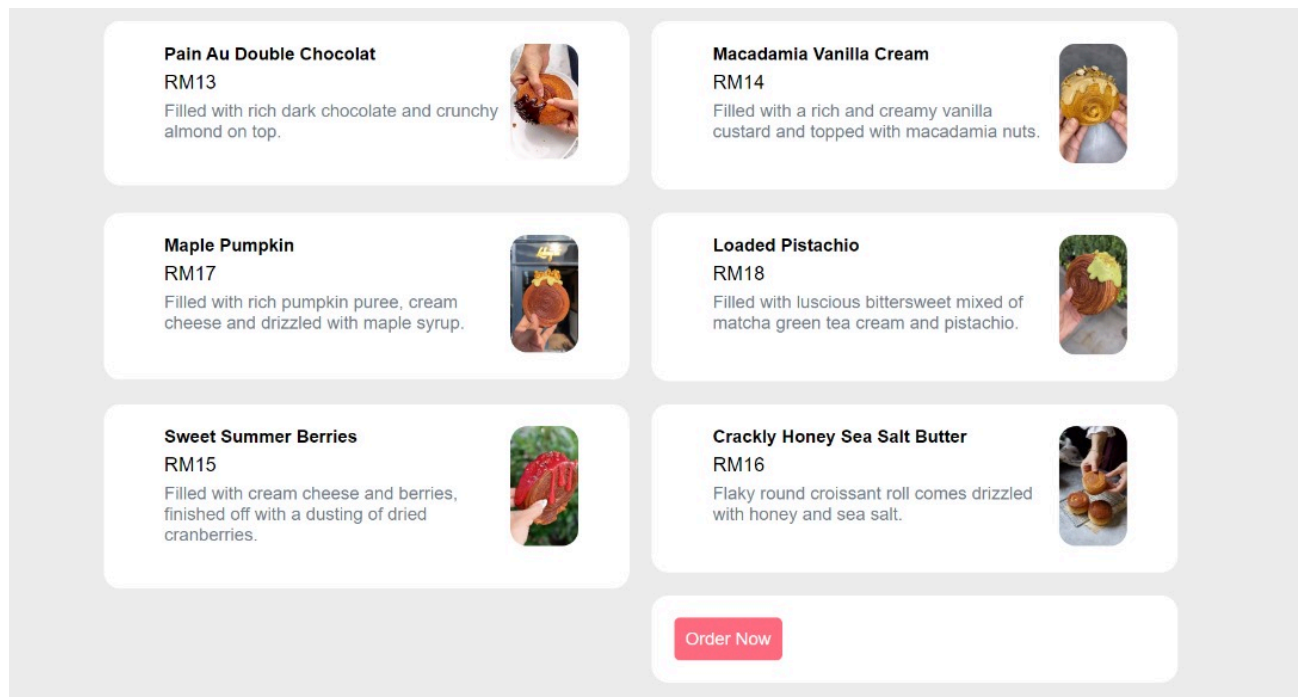Detailed Designed: Entity-Relationship Diagram (ERD)
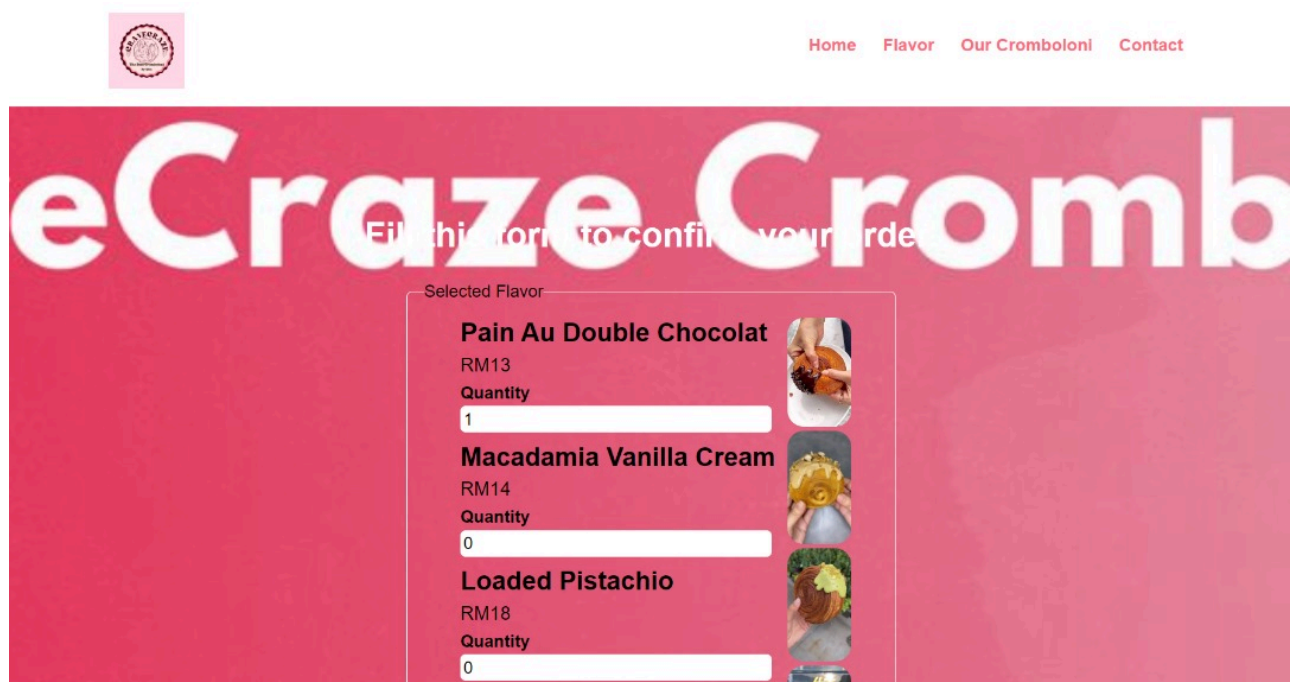
Results

System Integration

This is the homepage of the system. The customers can click on the Explore button to view the list of Flavors.

This is the order page of the system. It will show the category, name, description, picture and price of the food.

After the customers click the "Order Now" button, this page will be displayed to the customers. If the customer wishes to order the food, they can insert the quantity of the food they want.

Quantity

0

Sweet Summer Berries

RM15

Quantity

0

Crankly Honey Seasalt Butter

RM16

Quantity

0

Customer Details

Full Name

Ahmad Ali Abu

Phone Number

0123456789

Confirm Order

Total Price: RM13

After the customer has finalized their order, they need to fill in their details such as Full Name and Phone Number and then can proceed by clicking the "Confirm Order" button.

Graphical User Interface (GUI)

The graphical user interface (GUI) of our food ordering system website is thoughtfully designed to offer users a seamless and enjoyable experience. Leveraging HTML and CSS, our design prioritizes ease of navigation, aesthetic appeal and functionality.

Homepage

The homepage serves as the entry point to our food ordering platform. It features an intuitive layout with the following key elements:

1. Header:

   The header contains the logo, providing brand visibility and recognition. Navigation menu with clear categories for easy access to different sections of the website.

2. Search Bar:

   Prominent search bar to facilitate quick searches for specific cuisines or dishes.

Menu Page

Our menu page is designed to make it easy for users to browse and select their desired dishes. Key features include:

1. Categorized Flavour:

   Items are organized into different flavours so the user can choose to their likings.

2. Images and Descriptions:

   High-quality images of dishes accompanied by concise descriptions to enhance user understanding.

<u>Order Page</u>

Order page is important as it is the connection between the customer and the seller, so the seller knows the orders made from the webpage.

1. Customer details :

   Customers will insert their details in this section for delivery purposes.

2. Order Summary :

   The order will be totaled up and summarized in this page for customers to look back to their orders made.

General Constraints

Our food ordering system website was developed with care to handle different limits and offer a well-rounded solution. From a technological viewpoint, we prioritized browser compatibility and device speed to ensure a consistent user experience across several platforms. We also targeted reducing load times to improve overall website speed, recognizing the value of a quick and efficient interface.

Effective time management was essential throughout the course of the project, with a stronger emphasis on adhering to predetermined timelines and deadlines. The development phase, including coding, testing, and debugging was meticulously planned to achieve project deadlines effectively. Resource concerns were critical in our project planning, with a focus on maintaining under budget and matching technological choices, such as HTML and CSS, with available resources and experiences.

Conclusion

Nowadays, people enjoy great conveniences because of technological innovation. Since management systems are effective for both sellers and customers, many businesses employ them to expand. The use of management systems by businesses was soon adopted by the food and beverage sector as well. In summary, this system contributes to the restaurant's increased output and effectiveness. It lessens the staff's manual labour. The customers are able to place their orders using this ordering system. In the end, it can save both time and energy.

References

[1]   Attaran, M. (2021). The impact of 5G on the evolution of intelligent automation and industry digitization. *Journal of Ambient Intelligence and Humanized Computing*, *14*(5), 5977–5993. https://doi.org/10.1007/s12652-020-02521-x

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[3]   GeeksforGeeks. (2024, January 17). *Use case diagrams Unified Modeling Language UML*. https://www.geeksforgeeks.org/use-case-diagram/