

# KIMCHI QUEUE

SKIP THE QUEUE, EMBRACE  
CONVENIENCE!

KYUNGPOOK NATIONAL UNIVERSITY  
TEAM DOSA

Capstone Design Project Proposal			
Project Name	University Cafeteria Website		
Participatory Department	Computer Science and Engineering	Project Representative	Sanketh Prakash 2020117825
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# KIMCHI QUEUE

A savior for university students battling long lines and time restraints is the cafeteria food coupon website.

Our initiative, the Cafeteria Food Coupon Website, was inspired by university students' frequent challenges in packed cafeterias. We observed that students with busy schedules were becoming frustrated due to lengthy lines and time constraints. Our team set out to develop a solution to alter the way students interact with the cafeteria on their campus because they were inspired to make a difference.

## MEET THE TEAM

### Sanketh Prakash



Sanketh Prakash, a skilled UX Designer, played a key role in conceptualizing and framing the Kimchi Queue project. His expertise in user experience design, front-end design and meticulous documentation skills ensured a comprehensive and well-presented project.

### Oswin Noel Anthony



Oswin Noel Anthony, a skilled full-stack developer, focused on the back-end development of the Kimchi Queue website, implementing robust logic and data handling processes for smooth operation.

### Atle Clive Churchill



Atle Clive Churchill is a talented full-stack developer who contributed to the front-end design and user experience of the Kimchi Queue website, creating an aesthetically pleasing and intuitive interface.

### Dharathi Venkatesh



Dharathi Venkatesh, a versatile full-stack developer, made significant contributions to both the front-end and back-end aspects of the project, integrating visual elements with underlying functionality and employing strong problem-solving skills.

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# PROBLEM STATEMENT

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University cafeterias frequently experience an increase in student attendance during busy times, resulting in lengthy queues that waste time and add unnecessary stress. These lines can be especially intimidating for students with busy schedules who struggle to fit meals in between classes, homework, and other obligations. University students have little time to enjoy their meals because they spend about 50% of their lunchtime getting meal tickets. Additionally, the fact that there are numerous canteens on campus presents a problem because students find it difficult to choose where to eat due to a variety of menus and dining experiences. Long wait times have a negative effect on students' general well-being and productivity, which cannot be disregarded.



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# OPPORTUNITY & SOLUTION

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As we learned more about the difficulties experienced by college students, the enormous potential of a digital platform that might speed up the ordering and payment of food became clear to us. We could greatly cut wait times and give students a convenient solution by utilizing technology and connecting it with the current cafeteria infrastructure, improving their overall campus experience.



The Cafeteria Food Coupon Website provides a thorough response to the problems college students encounter when selecting and effectively acquiring their meals. Our portal enables students to look through several canteen options, review menus, and decide where to dine with knowledge. Students can quickly purchase their food coupons using our online system, notifying the cafeteria in advance. Once their order is almost ready, they can go right to the designated counter. Students may quickly pick up their meal using the QR code they acquired after making an online payment, ensuring a smooth and efficient dining experience.

## KEY FEATURES & BENEFITS

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- **Canteen Selection:** Using our site, students may browse all of the available canteen alternatives (menus updated consistently) and select the one that best suits their needs, preferences, and past meal experiences.
- **Menu accessibility:** Through the website, students have access to the menus of several canteens, giving them the knowledge they need to make educated judgments about their dietary preferences.
- **Online Coupon Purchase:** By making it possible for students to buy their meal tickets online, we are removing the requirement for paper tickets and the necessity for line waiting.
- **Fast Food Pickup:** After a purchase, the system notifies the cafeteria of the order, ensuring that food preparation can start right away. The order will then be almost ready for collection at the specified counter, where students can proceed immediately.
- **QR Code Integration:** Students can download a special QR code linked to their order after making the online payment. This QR code acts as a digital coupon, making it possible to quickly and easily retrieve your food at the counter.
- **Support Requests:** The Cafeteria Food Coupon Website not only streamlines the process of obtaining meal tickets but also prioritizes user support and assistance. In recognition of the importance of addressing user queries and concerns, we have incorporated a dedicated support section within the website. This section allows users to contact our team and receive prompt resolution to their questions and issues through a user-friendly Google form. By introducing this feature, we aim to enhance the user experience and ensure that users have a reliable avenue for obtaining support and assistance.



# FUTURE SCOPE

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## Canteen Rush Status and Live Ticket Count

As part of the future scope for the Cafeteria Food Coupon Website, we propose the addition of two innovative features: Canteen Rush Status and Live Ticket Count. These features aim to enhance the user experience, optimize meal planning, and contribute to the reduction of food wastage.

### 1. Canteen Rush Status:

The integration of the Canteen Rush Status feature provides real-time updates on the crowd status of each canteen. Students can conveniently access this information on the website, allowing them to make informed decisions about their dining choices. By knowing the current rush status in advance, students can avoid crowded canteens and long queue lines, saving valuable time and ensuring a more efficient dining experience. This feature provides students with the convenience and flexibility to plan their meals according to their preferences and schedules.

### 2. Live Ticket Count:

The Live Ticket Count feature displays the real-time availability of meal tickets for each canteen. Students can easily view the ticket count on the website, enabling them to gauge the availability of tickets before making their meal choices. This feature empowers students to make informed decisions based on the ticket count, ensuring that they can secure their preferred meal options. By knowing the availability of tickets in real time, students can avoid disappointment and explore alternative canteens if necessary.

The benefits of these new features extend beyond the user experience for students. Canteens also stand to gain several advantages from the implementation of the Canteen Rush Status and Live Ticket Count features.

### 1. Optimal Food Preparation:

With access to real-time data on ticket counts, canteens can make more accurate predictions about student demand for different food options. By monitoring the live ticket count, canteens can adjust their meal preparation accordingly, ensuring that an appropriate quantity of food is available. This optimization helps to minimize food wastage, as canteens can better align their food production with actual demand. The ability to accurately plan and prepare meals reduces costs and contributes to a more sustainable food service system.

### 2. Enhanced Efficiency:

By providing students with real-time information on the rush status and ticket availability, canteens can distribute the crowd more evenly throughout the day. Students can make well-informed decisions about their dining choices, spreading the demand across multiple canteens and time slots. This results in a more efficient utilization of resources and facilities within the cafeteria, reducing congestion and optimizing the overall dining experience for all students.

Together, these essential components speed the ordering and pickup of food, cutting down on wait times and improving the eating experience for college students as a whole.



# METRICS TO BE CONSIDERED

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- **User Adoption:** Track the number of people who have signed up and are actively using the Cafeteria Food Coupon website to determine how well-liked and well-accepted it is with the intended demographic.
- **Conversion Rate:** By purchasing meal vouchers online, you can determine the conversion rate—the proportion of website visitors who eventually become paying clients. This indicator aids in assessing how well the platform encourages transactions.
- **Order Volume:** Keep track of how many orders were placed overall and processed by the system to determine demand and utilization. Determine peak times, well-liked canteens, and user preferences by analyzing data.
- **Order Accuracy:** Evaluate order processing accuracy to make sure the right meals in the right quantities are cooked and ready for pickup depending on the user's choices.
- **Waiting Time Reduction:** Quantify the average waiting time saved by students using the platform as opposed to more conventional approaches. Keep an eye on how well the system works to reduce wait times.
- **User Satisfaction:** Measure customer satisfaction with the Cafeteria Food Coupon website by conducting surveys or gathering user comments. Examine their general happiness with the food pickup procedure, convenience of use, and experience overall.
- **System Uptime:** Keep an eye on the website's uptime and accessibility to ensure minimal downtime and continuous service for users. To ensure a dependable user experience, strive for a high uptime %.
- **Payment Success Rate:** Keep track of the online payment success rate to spot any potential problems and make sure that users have easy and secure transactions. Keep an eye out for issues with payments and fix them right away.
- **Mobile Responsiveness:** Assess the platform's usability and responsiveness on mobile devices since many people may access it via smartphones. Adapt the user interface to various screen sizes and devices.
- **Loyalty and Repeat Use:** Calculate the proportion of users who use the platform frequently and become repeat clients. Track participation in loyalty programs and examine the elements that affect client retention.
- **Customer service Response Time:** Assess how quickly and effectively customer service responds to user questions, concerns, or technical issues. Strive to quickly and satisfactorily address user issues.
- **Cost Savings:** Examine the cost savings made possible by the university cafeteria's streamlined procedures, less use of physical tickets, and better resource management.

We may evaluate the Cafeteria Food Coupon Website's efficacy, efficiency, and user happiness using these measures. Analyze and track these indicators often to find areas for development and to inform data-driven decisions for platform optimization.



## **GAP ANALYSIS**

The Cafeteria Food Coupon Website currently provides basic functionality for users to browse canteens, view menus, add items to their cart, and make online payments. However, there are opportunities for improvement in user experience, payment process efficiency, mobile responsiveness, data security, and analytics/reporting capabilities.



Enhancements such as streamlining the user interface, optimizing the payment process, ensuring mobile responsiveness, implementing robust data security measures, and integrating an analytics system will bridge these gaps and enhance the overall functionality and performance of the website.

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## **GIT REPOSITORY LINK**

<https://github.com/dharathi/CapstoneDesign-1.git>



# PRODUCT SECTIONS

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## **1. Login Section:**

The login section of our Cafeteria Food Coupon Website aims to provide a seamless and convenient login experience for users. To ensure ease of use and avoid the need for additional credentials, we have integrated the existing login ID and password of the current students. By leveraging their current credentials, we eliminate the burden of creating and remembering new login information. This approach enhances user experience and reduces data memorability concerns.

## **2. Home Section:**

The home section serves as the central hub of our website, providing users with an overview of the available canteens. Users can easily navigate through the different canteens displayed on the home page and access their meal tickets. Additionally, this section offers a quick and accessible option for users to obtain their unique QR codes, enabling a seamless pickup process at the cafeteria counter.

## **3. Menu Section:**

The menu section provides users with a comprehensive view of the food options available at each canteen. Users can explore the menus of different canteens, including detailed descriptions and images of the food items. The user-friendly interface allows users to add their desired food items and specify the quantity to their virtual cart.

## **4. Cart Section:**

The cart section displays the selected food items and quantities that users have added to their cart. Here, users can review and modify their choices before proceeding with the payment process. The cart section also serves as an intermediary step, where users can verify their order details and ensure the accuracy of their selections before issuing the meal ticket for payment.

## **5. Ticket Section:**

After the payment process is successfully completed, the ticket section confirms the order and generates a meal ticket for the user. The ticket section displays a confirmation message, providing users with assurance that their order has been processed. Users can conveniently download their meal ticket, which includes a unique QR code. This QR code serves as a digital coupon that can be presented at the cafeteria counter for a swift and hassle-free food collection experience.

In addition to the existing sections of the Cafeteria Food Coupon Website, we have introduced a new section titled "Support Section." This section serves as a central hub for users to seek assistance, ask questions, and receive support from our dedicated team. Easily accessible from the main page, the support section provides a user-friendly interface through which users can contact us and have their queries sorted efficiently. By dividing our product into these distinct sections, we aim to provide users with a seamless and user-friendly experience throughout their journey on the Cafeteria Food Coupon Website. The integration of existing login credentials, coupled with intuitive interfaces for menu exploration, cart management, and ticket issuance, ensures a streamlined and efficient process for users to access and enjoy their meals on campus.



# PRODUCT EFFECTIVENESS & UTILIZATION PLAN

The effectiveness and utilization of the Cafeteria Food Coupon Website are crucial factors in ensuring its success and achieving the desired outcomes. This section outlines the strategies and approaches to maximize the product's effectiveness and utilization among the target user base.

## 1. User Engagement Initiatives:

To encourage active participation and engagement, the following initiatives will be implemented:

- **Promotional Campaigns:** Launch marketing campaigns targeting university students to raise awareness about the Cafeteria Food Coupon Website and its benefits. This can include online advertisements, social media promotions, and campus-wide announcements.
- **User Education and Training:** Conduct informative sessions or workshops to familiarize students with the website's features and functionality. This will ensure that users understand how to effectively utilize the platform and make the most of its offerings.
- **Incentives and Rewards:** Introduce loyalty programs or reward systems to incentivize regular usage and repeat purchases. This can include discounts, exclusive offers, or bonus points for loyal customers, encouraging continuous engagement.



## 2. Seamless Integration with Campus Infrastructure:

To maximize utilization and integration with existing campus infrastructure, the following steps will be taken:

- **Collaborate with Campus Administration:** Establish a partnership with the university administration to promote the Cafeteria Food Coupon Website as the preferred method of meal ticketing. This can include integration with the campus ID system or cooperation in marketing efforts.
- **Communication Channels:** Utilize existing communication channels, such as university portals, student newsletters, and campus bulletin boards, to disseminate information about the website and its benefits to students.
- **Collaborate with Canteen Staff:** Work closely with canteen staff to ensure a smooth transition to the online coupon system. Provide necessary training and support to help them adapt to the new process seamlessly. The current existing Kiosks' will run in coordination with our software.



### 3. Continuous Improvement and Feedback Mechanisms:

To enhance product effectiveness, continuous improvement and feedback mechanisms will be implemented:

- **User Feedback Collection:** Establish channels for users to provide feedback and suggestions regarding the website's functionality, user experience, and overall satisfaction. This can be done through feedback forms, surveys, or an online support system.
- **Regular Updates and Enhancements:** Based on user feedback and emerging needs, prioritize and implement regular updates and enhancements to the Cafeteria Food Coupon Website. This includes optimizing features, resolving issues, and introducing new functionalities to improve the overall user experience.
- **Data-Driven Decision Making:** Analyze user data, transaction patterns, and user feedback to gain insights into user behavior, preferences, and pain points. Utilize this information to make data-driven decisions for further improvements and refinements.

By implementing these strategies, the Cafeteria Food Coupon Website aims to effectively engage users, seamlessly integrate with existing campus infrastructure, and continuously improve based on user feedback. This approach will result in high utilization rates, increased user satisfaction, and the realization of the product's intended benefits for both students and the university cafeteria.



# USER JOURNEYS

These user journeys outline the typical paths that users may take while using the Cafeteria Food Coupon Website. However, it's important to note that individual journeys may vary based on user preferences, specific scenarios, or customization options available within the platform.

## 1. New User Journey:

- User visits the website for the first time.
- Users create an account or log in using their existing university credentials.
- User explores the home section to view the available canteens.
- User selects a specific canteen and navigates to the menu section to browse the food options.
- Users add desired food items to their cart and specify the quantity.
- User proceeds to the cart section to review their order and make any necessary modifications.
- User moves to the ticket section to initiate the payment process.
- User completes the payment and receives a confirmation message with their meal ticket and QR code.
- Users can download the QR code and proceed to the cafeteria counter for food pickup.



## 2. Returning User Journey:

- Users log in to their existing account.
- Users directly access the home section, where they can view their previously purchased meal tickets and recent order history.
- Users can choose to use their existing meal ticket or purchase a new one for a different canteen.
- If using an existing meal ticket, the user proceeds directly to the ticket section to download the QR code.
- If purchasing a new ticket, the user follows the same steps as the new user journey mentioned above.

## 3. QR Code Redemption Journey:

- User arrives at the cafeteria counter with their downloaded QR code.
- User presents the QR code to the cafeteria staff for scanning.
- The staff verifies the validity of the QR code and prepares the order.
- User collects their food order and enjoys their meal.

## 4. Feedback and Support Journey:

- User logs in to their account and navigates to the support section or feedback form.
- Users provide feedback, suggestions, or report any issues they encountered while using the website.
- Users can also seek assistance or ask questions related to the platform or their account.
- The support team responds to the user's queries or feedback and provides necessary assistance or resolves issues.

## 5. Support Query Resolution Journey:

- User encounters an issue or has a question while using the website.
- User navigates to the support section from the main page.
- Users fill out the Google form with relevant details, including their query or concern.
- User submits the form.
- The support team receives the query and processes it.
- The support team responds to the user's query, providing assistance, clarification, or a resolution to the issue.



# PRODUCT ARCHITECTURE

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Our website uses HTML as the backbone framework, providing the structure and content of all the web pages. It defines elements and their placement, organizing and presenting different types of content. Obviously, HTML and CSS go hand in hand, hence we've used CSS which is responsible for the visual styling of our web pages, controlling layout, colours, fonts, and more. It separates content from presentation, ensuring consistent and cohesive design across our multiple pages.



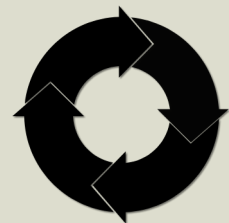
We needed a server-side scripting language hence chose PHP which executes code on the server, allowing dynamic web pages and applications. It simplifies tasks like form processing, database access, and content generation, making it a popular choice. Additionally, we've also used JavaScript, which is a client-side programming language that adds interactivity to web pages. It manipulates the HTML elements, responds to user actions, and performs complex operations. For our backend database management systems, we've employed MySQL which is essential in providing efficient data storage, retrieval, and management capabilities. It also ensures data integrity, offers robust security features, and performs well even under heavy traffic. It seamlessly integrates with PHP.

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## WORK FLOW

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The login page of our website was designed with simplicity in mind, as we planned to implement **university login credentials** for easy access. The focus shifted to the Home page, where the core functionality of our project started. On the Home page, **cafeterias are displayed with their names and placeholder images**, which can be updated later. Each cafeteria is presented in a card format.




Upon selecting a cafeteria, users are **directed to the menu page**, which offers three options: **Breakfast, Lunch, and Dinner**. Clicking on one of these options displays the **available dishes**. Users can add their desired **dishes to the cart**, allowing for multiple choices. The cart page enables users to modify the quantity of each dish and remove items by setting the quantity to zero.

Proceeding from the cart page takes **users to the payment options**, where they can complete the payment process. Once payment is successfully completed, the website redirects to the show QR page. Here, **users can view their ticket ID**, order details, and a QR code representing their order. The QR code serves as a means for cafeteria staff to identify and authenticate the order.

Additionally, users have the option to **visit the My Tickets page** to view their previous tickets and track their dining history.




# PROPOSED PRODUCT USER INTERFACE

 경북대학교

Login

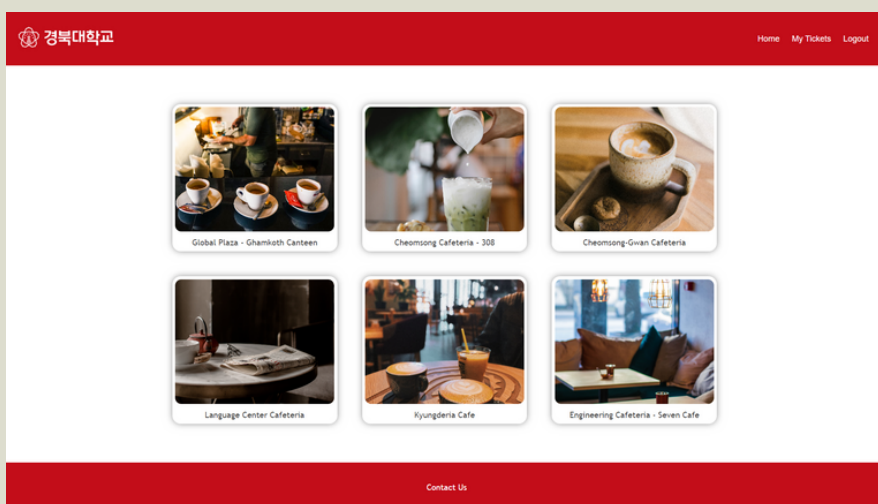
2020118067

\*\*\*\*\*




Submit

## LOGIN PAGE



## MENU PAGE

 경북대학교

HomeMy TicketsLogout

Cheomsong Cafeteria - 308

Select Meal Type


Item Name

Item Price (KRW)

PROCEED

Contact Us

## MEAL TOGGLE

 경북대학교

HomeMy TicketsLogout

Cheomsong Cafeteria - 308

Lunch

BreakfastLunchDinner


Check Menu

Item Name	Item Price (KRW)	
Cheese Pork Cutlet	4500	Add
Today's special Bibimbabg	5000	Add
Stirring Pasta	5000	Add

PROCEED

Contact Us

MENU DETAILS

 경북대학교

HomeMy TicketsLogout

Cheomsong Cafeteria - 308

Lunch

BreakfastLunchDinner


Check Menu

Item Name	Item Price (KRW)	
Cheese Pork Cutlet	4500	Add
Today's special Bibimbabg	5000	Add
Stirring Pasta	5000	Add

PROCEED

Contact Us

DISH ADDED

 경북대학교

HomeMy TicketsLogout

Cheomsong Cafeteria - 308

Your Cart

Item Name	Item Price (KRW)			
Cheese Pork Cutlet	4500	+	2	-
Today's special Bibimbabg	5000	+	1	-

Total = 14000 KRW

PROCEED

Contact Us

CART PAGE

경북대학교

HomeMy TicketsLogout

Payment

Pay With

VISA

MasterCard

Google Pay

Apple Pay

Card Number

5555

5555

5555

4444

Expiry Date

09

27

CVV

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Pay Now

Contact Us

localhost:3000/show\_cart.php?total=14000

PAYMENT PAGE

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HomeMy TicketsLogout

Ticket ID - 10



Dishes : Cheese Pork Cutlet [2], Today's special Bibimbaap [1]

Total = 14000 WON

Contact Us

QR PAGE

경북대학교

HomeMy TicketsLogout

My Tickets

Ticket ID	Time	Cafeteria Name	Total Price(KRW)	
10	2023-06-18 22:43:40	Cheomsong Cafeteria - 308	14000	GET QR
11	2023-06-18 23:06:47	Cheomsong Cafeteria - 308	14500	GET QR

Contact Us

MY TICKETS PAGE

# SUMMARY

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The development and implementation of the Cafeteria Food Coupon Website have been a significant endeavor aimed at addressing the challenges faced by university students in accessing meals efficiently. Throughout this project, we have successfully designed and built a user-friendly platform that streamlines the process of selecting, purchasing, and collecting meal coupons, ultimately saving valuable time for students and enhancing their dining experience.

## **Real-Life Usage and Impact:**

The Cafeteria Food Coupon Website holds immense potential for real-life usage and impact. By providing students with a convenient and efficient means to obtain their meal tickets, the website reduces the time spent in long queue lines, allowing students to make the most of their lunch breaks. The ability to choose specific canteens, view menus, and make informed decisions contributes to a more enjoyable and personalized dining experience. This product has the potential to revolutionize the way university students interact with their campus cafeterias, making their lives easier and more convenient.

## **Learnability Scope for Developing CS Students:**

The development of the Cafeteria Food Coupon Website has not only resulted in a valuable product but has also served as a practical learning experience for us students involved in its development. As aspiring computer science students, this project has provided an opportunity to apply our theoretical knowledge into practice, gaining hands-on experience in designing and building a web application. The project has enhanced our skills in areas such as user interface design, database management, secure payment integration, and user experience optimization. This experience has not only added value to our education but has also prepared us for future challenges in the field of software development.

## **Other Related Aspects:**

The development of the Cafeteria Food Coupon Website has not been limited to technical aspects alone. This project has required effective collaboration, communication, and project management skills. Working as a team, we have learned to coordinate tasks, meet deadlines, and overcome obstacles. The project has also necessitated close collaboration with university stakeholders, including administrators, canteen staff, and students, ensuring that their needs and feedback were incorporated into the development process.



The introduction of the support section reflects our commitment to user satisfaction and addresses the importance of providing effective support and assistance. By incorporating a user-friendly Google form within the support section, we enable users to easily contact us, ask questions, and receive prompt resolution to their queries. This addition enhances the overall user experience and ensures that users have access to reliable support throughout their journey with the Cafeteria Food Coupon Website. We are dedicated to continuous improvement and appreciate the opportunity to address user feedback and needs through our robust support system.

Looking ahead, the Cafeteria Food Coupon Website has the potential for further enhancements and expansion. Continuous user feedback and data analysis will inform future iterations and improvements to the platform, ensuring that it remains up-to-date, relevant, and aligned with the evolving needs of university students. Additionally, the success of this project can serve as a model for similar initiatives in other educational institutions, contributing to the advancement of efficient and user-centric solutions for food services on campuses.

In conclusion, the Cafeteria Food Coupon Website has addressed the challenges faced by university students when it comes to obtaining their meals efficiently. Its real-life usage, potential impact, learnability scope for us, the developing CS students, and collaboration with stakeholders highlight the significance and relevance of this project. With its user-friendly interface and streamlined processes, the website has the potential to significantly improve the dining experience of university students and serve as a valuable contribution to the realm of campus food services.



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	CSE	Male	2020117928	Atle Clive Churchill	Back-End Developer
	CSE	Male	2020117825	Sanketh Prakash	Ideation, Documenting & UI Designer
	CSE	Male	2020118067	Oswin Noel Anthony	Back-End Developer