University of Science and Technology of Southern Philippines

E-commerce System:
Campus Snacks and Fruitful Finds

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An Object Oriented Programming Project

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I. Background of the Study

The increasing demands of academic life often leave individuals with limited time to procure meals. Traditional methods of purchasing food, such as visiting physical cafeterias or canteens, can be time-consuming. To address this issue, there is a growing need for a user-friendly and efficient system that enables individuals to order snacks. Such a system would allow users to browse menus, place orders, and payments after delivery (Cash on Delivery) saving valuable time and effort.

Recognizing the importance of convenient access to better snack choices, the **Campus Snacks and Fruitful Finds** system was conceived. This innovative system aims to provide a comprehensive and user-friendly platform for snacks ordering and delivery on campus, bridging the gap between students, faculty and staffs' snack needs and the available options on campus. By providing a variety of chips, pastry, drinks, and fruits in easily accessible locations. The system seeks to promote better eating habits, enhance overall student well-being, and support academic performance.

II. Objectives

The "Campus Snacks and Fruitful Finds" project aims to develop an e-commerce platform to cater the chips, pastries, drinks, and fruits needs of the campus community. This platform will offer a convenient shopping experience, allowing students, faculty, and staff to purchase a variety of snacks and fresh fruits.

- To help students and faculties to order snacks and fruits easier.
- To provide variety of chips, fruits, pastries, and drinks on campus.
- To help students and staffs for convenient payment.
- To provide a quick and hassle free purchasement of snacks and fruits.
- To improve and enhance campus life.

III. Scope and Delimitation of the Study

The Campus Snacks and Fruitful Finds system is an ordering platform that aims to enhance the student experience by providing convenient access to snacks and fruits at various locations across campus. While it provides a simple way to place orders, its current functionality is severely limited by its lack of essential features, hindering its user experience and potential for growth.

Scope:

Basic Ordering: The system allows users to browse a limited selection of products and place orders for delivery. This is the primary function of the system, but it lacks the features necessary for a robust and user-friendly experience.

Cash on Delivery: The system relies solely on cash on delivery, which may be convenient for some users but limits options for online payment methods.

Campus-Specific: The system's focus on campus snacks suggests a targeted audience within a specific geographical area.

Limitations:

Manual Operations: The absence of a "select all" button, checkboxes, and other features requires users to manually select each item, making bulk orders tedious and prone to errors.

Limited Product Information: The system lacks product descriptions and details leaving users with minimal information to make informed decisions about their purchases. This deficiency can lead to dissatisfaction and uncertainty about the quality and nature of the products.

No Notifications: The system lacks any notification system for order confirmations, updates, or other important information. This can lead to confusion and dissatisfaction among users who may not be aware of the status of their orders.

Limited Payment Options: The system's reliance on cash on delivery limits its potential customer base and restricts its ability to cater to users who prefer online payment methods.

Continuous monitoring and evaluation will also require significant resources. Despite these challenges, the system seeks to create a more comfortable, secure, and productive campus environment.
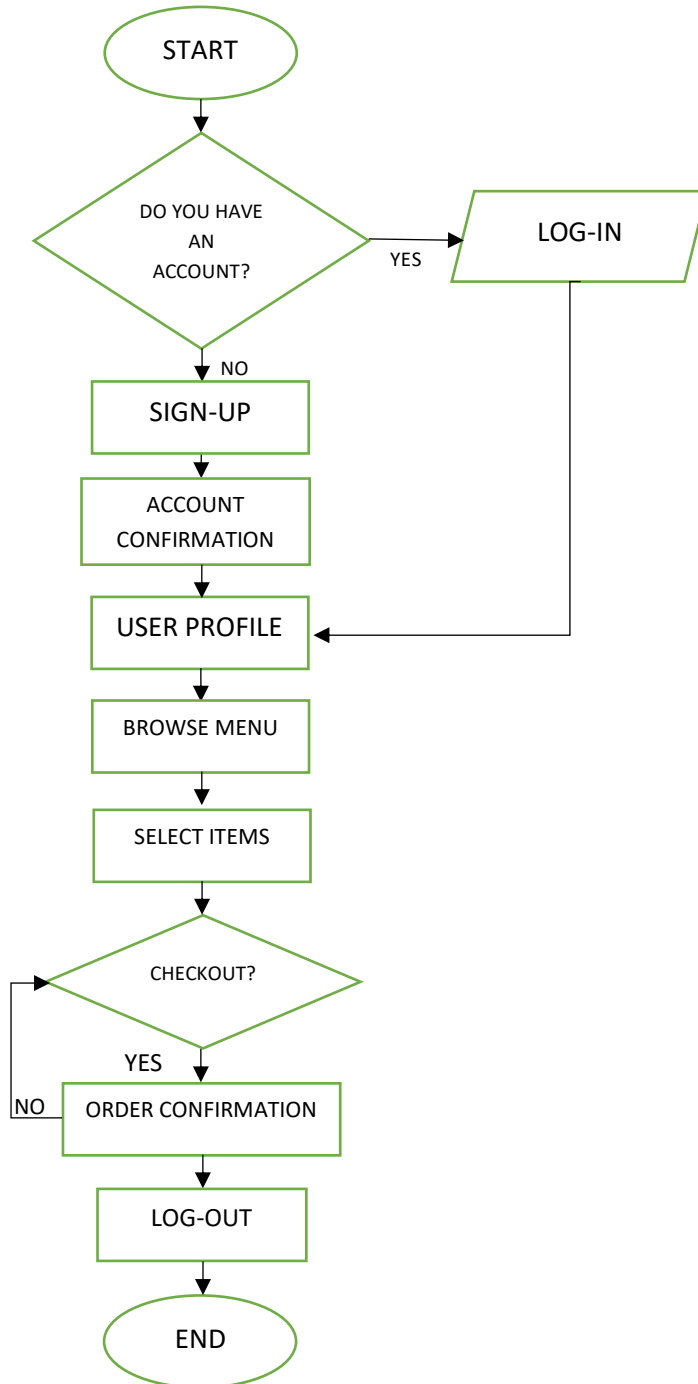
IV. Flowchart

USER

The process begins with the user entering the system. The system then asks if the user has an existing account. If yes, the user logs in using their valid credentials, and if no, the user is directed to create a new account through the sign-up process. If a new account was created, the system confirms the account details. The user can then view and enter the user profile where the user can explore different options. The user can browse through different menus available and can select items to their shopping cart. The user proceeds to the checkout page where the user reviews their order details, and if they want to proceed to payment or if the user wants to continue browsing menus. Upon successful payment, the system generates an order confirmation to the user. The user can log out of their account whenever they want and the process concludes with the user logging out of the system.
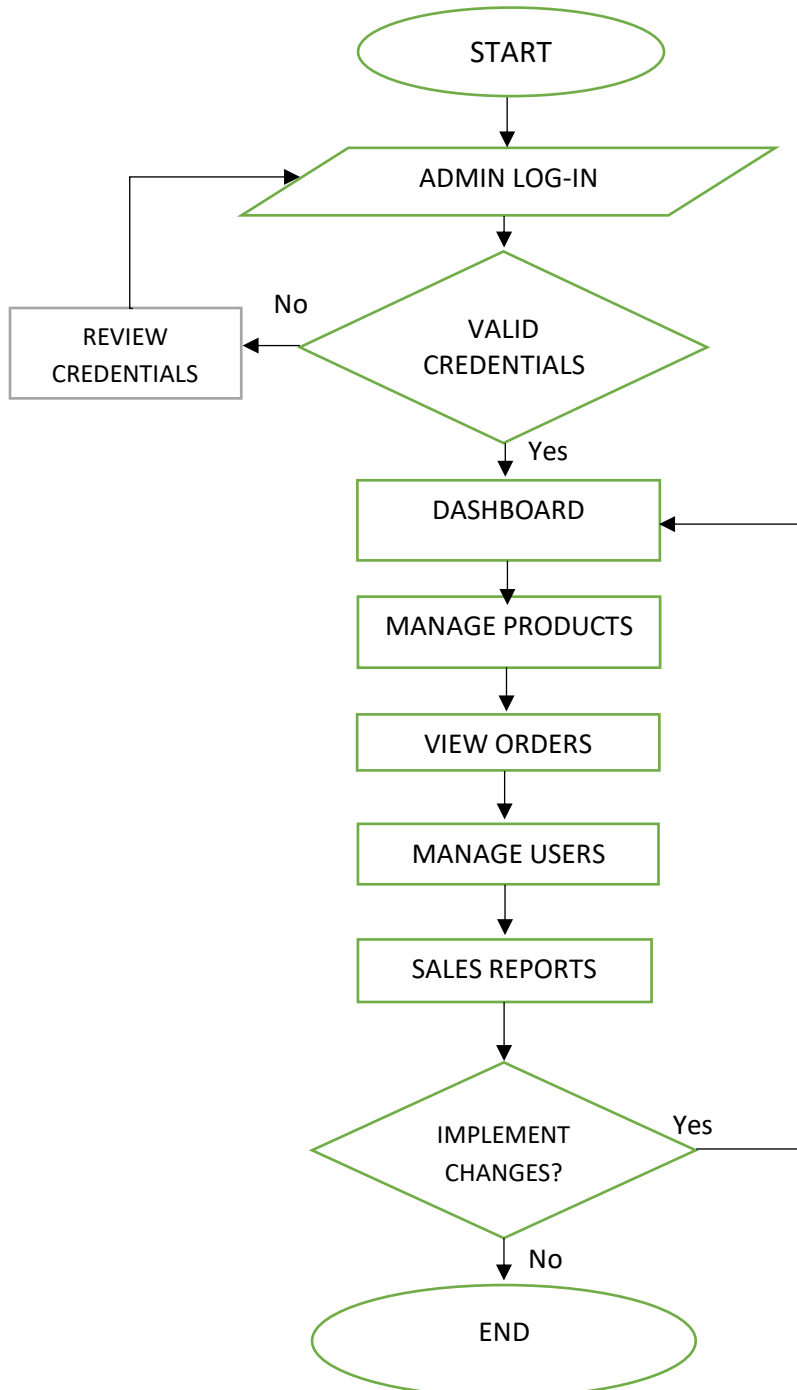
Figure 1

ADMIN

Figure 2

The process begins with the **'Admin Log-In'**. Once the admin attempts to log in, the system checks whether the credentials provided are valid. - If the **'credentials are not valid'**, the admin is asked to review credentials, until correct credentials are entered. - If the **'credentials are valid'**, the admin is granted access to the **'Dashboard'**. The dashboard serves as the central hub from which various administrative tasks can be managed. From the dashboard, the admin has several options. First, **'Manage Products'**, the admin can add, remove, or update products within the system. Second, **'View Orders',** the admin can view the list of orders placed by customers, along with relevant details. Third, **'Manage Users',** the admin can oversee user accounts, modifying user information, or deleting users. Lastly, **'Sales Reports'**, the admin can create reports based on various metrics or data points within the system. After performing any of the above tasks, the system asks whether the admin wants to **'implement changes'**. If **'no changes are needed'**, then process ends and If the **'admin decides to implement changes'**, the admin may continue managing the platform to implement changes. The process is then complete, leading to the **End** of the session.

V. Gantt Chart

CAMPUS SNACKS AND FRUITFUL FINDS					
PROCESS	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**
Planning	3rd Week				
Research	3rd Week				
Design Process		1st Week	3rd Week		
Development			3rd Week	-	2nd Week
Database Implementation				3rd Week	2nd Week
Testing					2nd Week

Figure 3

        The chart outlines the project timeline spanning from August to December.

Planning: This phase, which seems to have been completed in August, involved defining the project scope, identifying project goals, and creating a detailed project plan.

Research: This phase, completed in August, involved gathering information on market trends, target audience preferences, and analysis.

Design Process: This phase, which started in August and extended into September, involved creating the user interface designs.

Development: This is the phase starting in September and extending into December. It involves building the actual e-commerce platform, including the frontend (user interface) and backend (server-side logic and database).

Database: This phase involves designing and implementing the database to store product information, user data, and order details.

Implementation: This phase, starting in November and extending into December, involves deploying the developed system to the production environment, making it accessible to users.

Testing: This phase, starting in November, involves testing the system to identify and fix bugs, ensuring it functions correctly and meets user requirements.

VI. System Design

USER

Figure 3: Log in or Sign-up   *Figure 5: Log-in Page*   *Figure 6: Forgot Password*   *Figure 7: Sign-up Page*
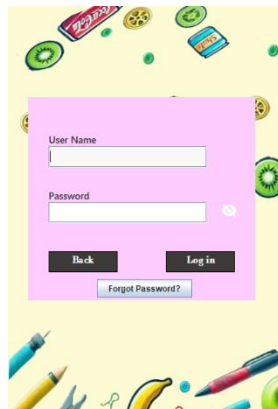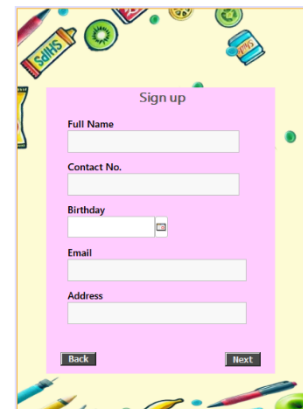
Figure 4: Log in or Sign-Up page is designed to facilitate seamless access on the application. Existing users can quickly log in by entering credentials, while new users can effortlessly create a secure account by providing basic information. This streamlined process ensures that both new and returning users can start using the application with minimal effort.

Figure 5: Users can easily log-in by entering existing credentials like user name and password.

Figure 6: Users can use email address when they forgot their password.

Figure 7: Sign-Up page is tailored to facilitate the creation of a new account and unlock the full range of features offered by the application. The process is they need to fill their information details to proceed.
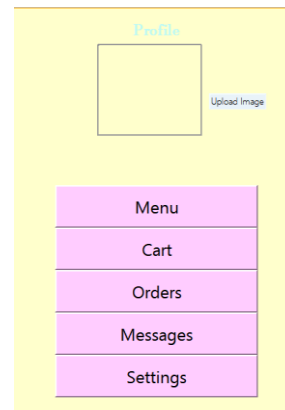
Figure 8: Account confirmation

Figure 9: User Profile

Figure 8: In this part, users need to create their username and password then confirm their account.

Figure 9: Menu feature allows users to explore a diverse range of products, including snacks, drinks, pastries and fresh fruits. Users can easily browse through the menu, update quantities, and add items to their cart with just a few taps. This functionality ensures that users can satisfy their cravings efficiently.
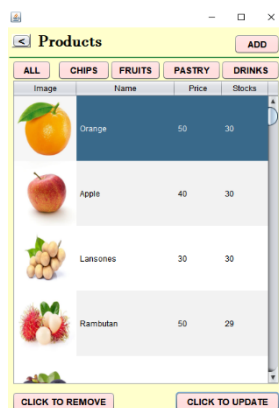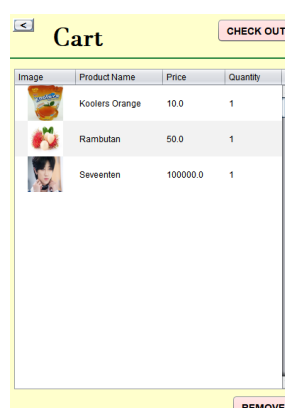

Figure 10: User menu

Figure 11: User Cart

Figure 10: This page displays the list of available products including snacks, fruits, pastry and drinks where users can view and choose for purchase. It also includes the product image, product name, price, and stock

Figure 11: This section displays the items that the user has added to their shopping cart including the image and name of the product, price, and quantity. Users can also remove an item from the cart. And can then proceed to checkout.
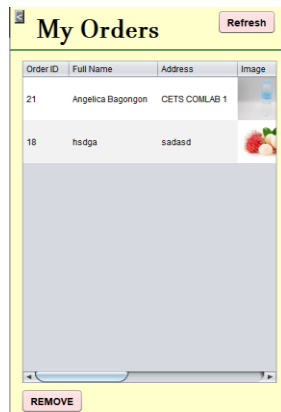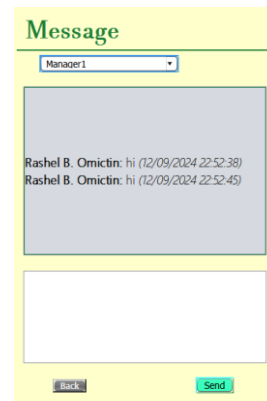
Figure 12: User Orders

Figure 13: User Message

Figure 12: This page displays the "My Orders." It includes a 'Refresh' button at the top right corner. The interface displays a list of orders with columns for 'Order ID,' 'Full Name,' and 'Address.'

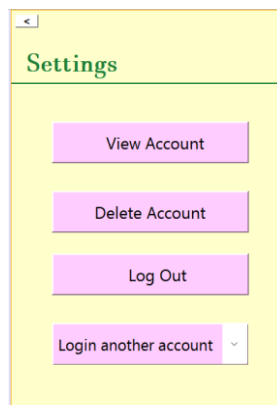***Figure 13:*** This page allows user to message admins for feedback and inquiries.

Figure 14: User Settings

Figure 15: User Account Profile

Figure 14: This page displays various settings options available to the user including view account where users can view and manage their account information. Delete account, which enable users to permanently delete their account from the system. Log out, which allows users to log out of their account, and log-in with different account which allows user to change accounts.

Figure 15: This page displays the user's personal profile information including users profile picture, email, password, full name, contact number, birthday, email, and address.
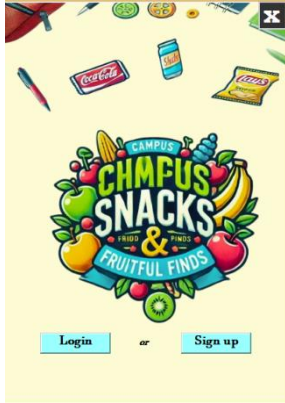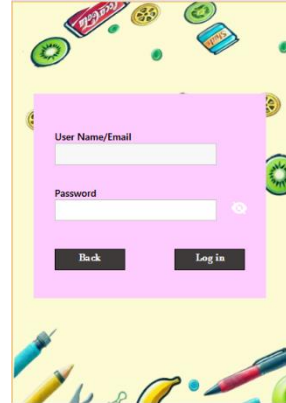
ADMIN

Figure 16: Admin Log-in or Sign-up

Figure 17: Admin Log-in

Figure 16: Log in or Sign-Up page is designed to facilitate seamless access on the application. Admin account exist already and can quickly log in by entering credentials. This streamlined process ensures that admin users can start using the application with minimal effort.

Figure 17: Admin users can easily log-in by entering existing credentials like user name and password.
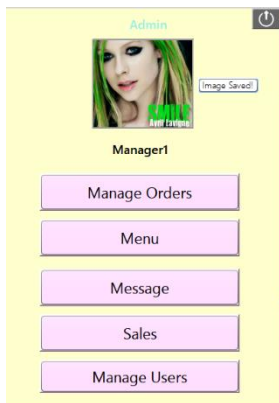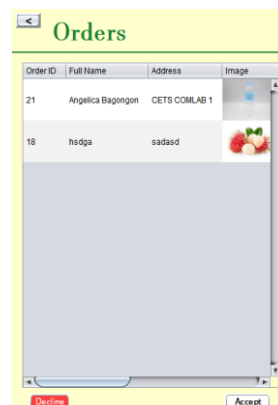

Figure 18: Admin Dashboard

Figure 19: Admin Manage Orders

Figure 18: Admin dashboard provides a centralized dashboard for managing various aspects including orders, menus, messaging, sales, and users.

Figure 19: The main section displays order details with fields for Order ID, Full Name, Address, and the product image. This screen is used to manage and view order details efficiently.
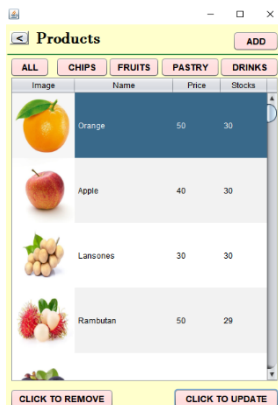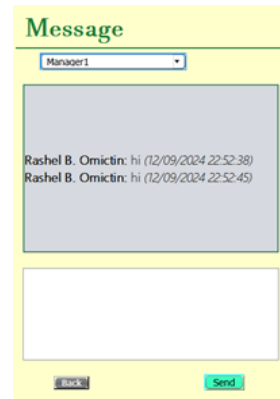
Figure 20: Admin Manage Products

Figure 21: Admin Message

Figure 20: Admin users can manage products information including adding new products, modify details of existing products, and removing products that are no longer available.

Figure 21: This page allows admin users to message users for feedback and respond queries.
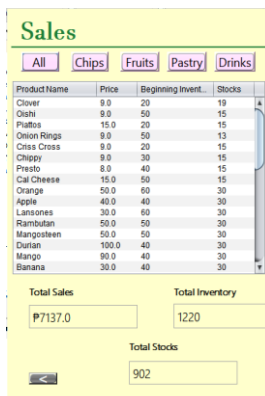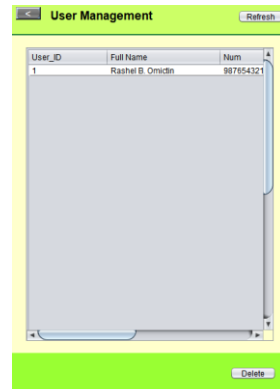

Figure 22: Admin Sales Report

Figure 23: Admin Manage Users

Figure 22: Sales has each category lists items with their prices and quantities. It includes a "Total Sales" row at the bottom, showing the total number of items sold in each category, and a "Total Inventory" column summing up the stock for each item.

Figure 23: This page shows a user management interface titled "User Management." It includes a table with columns for "User ID," "Full Name," and "Num". Below the table are buttons labeled 'Refresh' and 'Delete.' For the admin, this interface is used to manage users. They can use the 'Refresh' button to see the latest user data and can also use the 'Delete' button to remove user entries from the system.

VII. Conclusion

To conclude, "Campus Snacks and Fruitful Finds" is an online platform designed to provide the university community with easy access to a wide range of snacks and fruits. The app aims to modernize campus dining by offering convenient, efficient, and healthy options that fit seamlessly into the busy lives of students, faculty, and staff. It also improves the campus dining experience by introducing ordering, COD payment option, and a feedback system through messaging. This will enhance convenience, reduce wait times, and offer valuable insights into user preferences, promoting healthier eating habits. The key features of this system are menu browsing and ordering, order management, account management, feedback and reviews, sales report.

This application will improve campus dining operations, enhance user satisfaction, and promote healthier eating choices, while providing administrators with insights to improve services. In the end, this platform will create a better, more convenient, and healthier dining experience for everyone on campus.

VIII. Recommendation

To enhance the user experience and expand the system's capabilities, several improvements are crucial:

Implement Automation: Introduce features like "select all," checkboxes, and automated order processing to streamline operations and reduce manual effort.

Enhance Product Information: Provide detailed descriptions, images, and specifications for each product to enable informed purchasing decisions.

Add Notification System: Integrate a notification system to inform users about order confirmations, updates, and other important information.

Explore Online Payment Options: Consider integrating online payment gateways to offer users a wider range of payment options.

Search Bar: This enable users to filter products. This can help users find products faster and more accurately.

By addressing these limitations and implementing necessary improvements, "Campus Snacks and Fruitful Finds" can become a more user-friendly and efficient platform, expanding its reach and catering to a wider audience.