



University of Cabuyao

(PAMANTASAN NG CABUYAO)

COLLEGE OF COMPUTING STUDIES

ENHANCING THE EFFICIENCY OF SCHOOL CANTEEN OPERATIONS: IMPLEMENTING AN ADVANCED ORDERING SOLUTION

A Capstone Project Proposal

Submitted to the Faculty of
The College of Computing Studies
PAMANTASAN NG CABUYAO
City of Cabuyao, Laguna

In Partial Fulfillment
Of the Requirements for the Degree
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

By:

Delgado, Maria Gabrielle R.
Domoos, Emanuel F.
Regio, Aira Yvette R.

December 2024



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APPROVAL SHEET

PNC:PRE-F0-44 rev.0 03082023



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(UNIVERSITY OF CABUYAO)
Planning, Research, and Extension Division
Research and Development Department
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

Approval Sheet

This research paper titled, Enhancing the Efficiency of School Canteen Operations: Implementing an Advanced Ordering Solution prepared and submitted by Delgado, Maria Gabrielle R., Domoos, Emanuel F., Regio, Aira Yvette R., has been accepted and approved as a final requirement for Student Research Program of the Pamantasan ng Cabuyao.

Certified by:

Prof. John Patrick M. Ogaesco

Thesis Adviser

N/A

Statistician/Data Analyst

Prof. Arcelio Quiatchon

Evaluator 1

Approved by:

Prof. Marvin H. Bicua

Evaluator 2

Mr. Reymond Navasero

Evaluator 3

Noted by:

Mrs. Joanne M. Libosada

Chair, Ethics Review Committee

Dr. Gimel B. Montecillo

Dean
College of Computing Studies

Dr. Joanna Marie A. de Borja

Director
Research and Development Department

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CERTIFICATION OF ORIGINALITY AND AUTHENTICITY

Research Title: Enhancing the Efficiency of School Canteen Operations:
Implementing an Advanced Ordering Solution
Department: Computing Studies

I hereby declare that this submission is my own work, original, and authentic and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which, to a substantial extent, has been accepted for the award of any other degree or diploma of a university or other institute of higher learning, except where due acknowledgment is made in the text. The author takes full responsibility for the accuracy of the data and the interpretation of findings.

I hereby confirm that all the data collected, analyzed, and interpreted in this submission are original and of high quality.

I certify that I followed all ethical guidelines and research protocols, and that the research methodology used is valid and reliable.

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Maria Carmel P. Delgado
Signature over printed name
of Researcher

Date: 12/12/24

Edmar J. Tamayo
Signature over printed name
of Researcher

Date: 12/12/24

Aida Yvette R. Regio
Signature over printed name
of Researcher

Date: 12/12/24

John Farrelle M. Ogalesco
Signature over printed
name of Research Adviser

Date: 12/12/24

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EXECUTIVE SUMMARY

Title: Enhancing the Efficiency of School Canteen Operations:
Implementing an Advanced Ordering Solution

Researchers: Maria Gabrielle R. Delgado
Emanuel F. Domoos
Aira Yvette R. Regio

Degree Program: Bachelor of Science in Information Technology

Adviser: Prof. John Patrick M. Ogalesco

School: Pamantasan ng Cabuyao

Students value lunch breaks because they provide a chance to relax and take a break from academic tasks. However, if students have to wait in long lines for most of their lunch break, the experience can be ruined. The canteen ordering process at Saint Jerome Integrated School of Cabuyao requires students to wait in long lines to select and pay for food, which leads to delays and a crowded environment that affects their dining experience.

To address this issue, the researchers developed a system focused on online ordering, online payment, inventory management, and report generation. Compared to the current methods, this system offers a faster and more efficient solution by improving processes.

This study used descriptive research to observe, record, and analyze the current problems with the traditional canteen ordering process at Saint Jerome Integrated School in Cabuyao, Laguna. The research helped to understand the problems caused by long lines, crowded queues, and manual cash transactions during lunch breaks. Based on these findings, a web-based canteen ordering system was developed and implemented. The results were based on surveys, observations, and interviews, which showed the need for a more efficient



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ordering process to improve customer satisfaction and allow more time for students to focus on their studies.

The researchers concluded that the canteen's manual inventory and payment procedures, as well as the traditional cash transaction method, are prone to errors and inefficiencies. These practices are inconvenient for cashiers and administrators, put security at risk, and affect the accuracy of financial records. This shows the need for a more reliable system to speed up canteen operations.

After conducting a Likert-scale survey, the results from both end-users and IT experts were analyzed using median scores and percentages across categories such as functional suitability, reliability, efficiency, and usability. The overall median score for end-users was 5.0, showing strong agreement that the system met its requirements in all areas. IT experts gave an overall median score of 4.0, indicating agreement that the system met its requirements, particularly in maintainability. IT experts also agreed on aspects of efficiency, reliability, and functionality, though their ratings ranged from agree to strongly agree. The assessments showed that end-users strongly agreed that the system met its goals, while IT experts generally agreed on its effectiveness, with some reservations. The findings suggest that the system was effective in improving canteen processes.



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ACKNOWLEDGEMENT

The researchers humbly give all glory and praise to the Lord Jesus Christ, whose divine guidance, wisdom, and unwavering support have been the cornerstone of this research journey.

The researchers wish to extend their sincerest gratitude to their research adviser, **Prof. John Patrick M. Ogalesco**, for his support, invaluable advice, and commitment. His encouragement and guidance from the inception of this study to its conclusion were vital to its success.

The researchers would like to express their appreciation to their research instructor, **Dr. Luvim M. Eusebio**, for her tireless motivation and reassurance. Her openness to addressing questions and challenges provided the researchers with the confidence to overcome obstacles throughout this endeavor.

The researchers are deeply thankful to their panel members, **Prof. Arcelito Quiatchon**, **Prof. Marvin H. Bicua**, and **Mr. Reymond Navasero**, for their critical insights and constructive recommendations. Their contributions played a significant role in refining and elevating the quality of this research.

The researchers express their deepest appreciation to their families for their unwavering love, encouragement, and support. Their emotional and financial assistance, along with their faith in the researchers' abilities, served as a constant source of strength and inspiration.



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DEDICATION

This research is a testament to the perseverance, dedication, and hard work of the researchers. We humbly and gratefully dedicate this work to all the individuals who have inspired and supported us throughout this academic journey.

To our **Lord Jesus Christ**, we give thanks for His grace, wisdom, and divine guidance, which illuminated our path and strengthened our knowledge and understanding in this endeavor.

To our beloved families—the **Delgado Family, Domoos Family, and Regio Family**—your unwavering love, encouragement, sacrifices, and financial support have been the cornerstone of our success. This research would not have been possible without your steadfast belief in our capabilities. We deeply appreciate and sincerely acknowledge your invaluable support.

To the **professors, staff, and fellow students** at the College of Computing Studies of Pamantasan ng Cabuyao, we extend our heartfelt gratitude for your generous assistance, unwavering support, and the knowledge you shared with us. Your contributions were instrumental in helping us successfully complete this research.

With deepest appreciation,
The Researchers

M.G.R.D

E.F.D

A.Y.R.R



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CHAPTER 1

THE PROBLEM AND IT'S BACKGROUND

This chapter is set as the introductory part. It discusses in detail the causes and desired outcomes of the study. This section explains why this study has been carried out, who the beneficiaries will be, and what the corresponding benefits are. Likewise, this chapter presents and briefly discusses the solution to the problem. It consists of the introduction, objectives of the study, conceptual framework, scope and limitation, significance of the study, and definition of terms.

Introduction

Students highly value lunch breaks as they allow them to relax and unwind from their academic responsibilities. However, the experience can be ruined if students are forced to spend a significant portion of their lunch break standing in long queues [1]. When students are made to wait in long queues, their patience can quickly wear thin, and their behavior may deteriorate. It not only disrupts the peaceful atmosphere of the lunch break but also creates unnecessary stress and tension among students [1]. It is essential to minimize waiting times and streamline ordering and receiving meals by implementing efficient systems to ensure a positive lunchtime experience.

An online ordering system is a convenient platform that allows customers to browse, place, and track their orders online. This system also provides access to information about the status of an order and contact details for the store [2]. Additionally, an online ordering solution can be used for placing orders remotely and ordering food in person, making the ordering process more efficient [3]. By implementing online ordering software, we can establish a system to take orders and accept payments from both online and in-person customers.



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Saint Jerome Integrated School in Cabuyao, Laguna, established itself as an educational institution in 1997. Its humble beginnings featured a kindergarten course with just 32 students under the guidance of Mrs. Alicia O. Tolentino, the school's owner and an educator by profession. Over the years, the school expanded its offerings, introducing a preparatory program in 1998, an elementary department in 1999, and finally achieving government recognition for its secondary course in 2012. The addition of the Senior High School in 2016 marked a significant milestone, offering academic strands in STEM, ABM, and GAS.

In the traditional canteen ordering process at Saint Jerome Integrated School in Brgy. Mamatid, Cabuyao, students must queue up during lunchtime, select their desired food items from the canteen, and make physical payments at the counter. This manual approach often results in long waiting times, crowded lines, and potential errors in order processing. Additionally, handling cash transactions can pose security risks and challenges in maintaining accurate financial records. Despite its familiarity, the conventional method of canteen ordering may lead to inefficiencies, inconvenience for students, and administrative complexities for the school staff.

Based on the observations conducted, an issue identified in the canteen operations of Saint Jerome Integrated School is the formation of long queues during lunch breaks. The extended queues present a significant challenge as they hinder many customers from efficiently accessing and enjoying their meals within the constrained time frame allocated for lunch. The substantial delays caused by the prolonged lines lead to inconvenience for customers and impact their overall dining experience.

Based on the conditions identified, the researchers developed a web-based canteen ordering system to help the school have a seamless and efficient ordering experience so that customers have more time for their institutional activities.



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Objectives of the Study

The study aims to develop a web-based ordering system with a point of sale (POS) system for the Saint Jerome Integrated School canteen to help it operate seamlessly.

Specifically, the study aims to accomplish the following:

1. Determine the current practices and problems encountered by the business with regards to:
 - a. facilitating orders;
 - b. processing payments;
 - c. management of inventory;
 - d. generation of reports.
2. To develop a proposed system that would provide:
 - a. faster ordering transaction;
 - b. facilitate both physical and cashless payment;
 - c. efficient management of inventory;
 - d. quick generation of reports.
3. To determine the effectiveness of the system from end user in terms of:
 - a. functional suitability;
 - b. reliability;
 - c. efficiency; and
 - d. usability.
4. To determine the effectiveness of the system from web experts in terms of:



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- a. functional suitability;
- b. reliability;
- c. efficiency; and
- d. maintainability.

Significance of the Study

The study aims to develop a Canteen Ordering System in Saint Jerome Integrated School. This study is expected to be beneficial to the following:

Researchers. This study will help the researchers strengthen the web development skills needed in their future careers.

The Students. The system will help the students by providing them with a seamless and efficient ordering experience, and they will be able to place their orders effortlessly without any hassle. It will save them valuable time and allow them to focus on other essential activities.

The School Canteen. The system will help the canteen staff to simplify their task and operation. With the system's seamless integration and user-friendly interface, the canteen staff will experience a significant reduction in administrative burdens, allowing them to provide a smooth and enjoyable dining experience for students.

The School personnel. They encompass various roles and positions within the school, including security guards, teachers, cleaners, etc. They can also benefit from being part of the school.



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Future Researchers. This study will serve as a reference for future researchers. They can also use this study to widen and enlighten them for their research.

Scope and Limitation

The researchers will conduct the study at Brgy. Mamatid, Cabuyao City, Laguna, where the school is located. The researchers plan to construct and implement the survey in March 2024, with a completion date of January 2025.

The proposed system integrates an efficient food ordering interface for customers to browse options, add items to their cart, and place orders seamlessly, reducing the need for physical menus and improving order accuracy. It offers cashless payments through G-Cash for convenience and security while supporting traditional cash payments. Robust inventory monitoring tracks real-time stock levels, optimizing order processes and enhancing customer satisfaction. Reporting functionalities provide administrators with insights into financial performance, total revenue, and top-selling items, aiding in strategic decision-making. Data analysis generates recommendations to personalize customer interactions, recommend popular menu items, and streamline the overall user experience, ensuring a comprehensive and efficient food ordering and management system.

The food ordering system caters to three user types: Administrator, cashier, and customer. The administrator's interface offers features for managing inventory and generation of reports. Cashiers utilize the Onsite Ordering feature to monitor orders, oversee in-person payments, and update order statuses. The customer interface prioritizes a user-friendly experience, enabling customers to quickly add items to their cart, select quantities, and pay online using payment methods like G-Cash. Customers also have access to real-time order tracking for transparency and to stay informed throughout the ordering process.



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The proposed system can be used on all types of devices, but for POS purposes, it is preferable to use a desktop or a tablet, as these devices offer larger screens. Desktop and tablets provide a more intuitive interface for POS operations, allowing users to view detailed order information, navigate menus efficiently, and input data accurately. The larger screen size enables clear visibility of transaction details, making it convenient for cashiers. Overall, using desktops or tablets in POS environments enhances efficiency, reliability, and the system's user experience, improving service delivery and customer satisfaction.

One limitation of the proposed system is PayMongo's requirement for a business permit to enable G-Cash payments. As the canteen owner holds the permit, researchers will use test API keys to simulate payment gateway functionality until the client activates their account. It allows for the demonstration of payment processing without live transactions. Live API keys, once activated, will enable the system to process actual transactions through the G-Cash gateway, directing customers to the payment portal for secure financial transactions. Additionally, the system may provide partially accurate sales reports as it tracks sales of selected items like rice meals and snacks, omitting sales of inexpensive items such as candies.



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Definition of Terms

The following terms are defined operationally and conceptually to understand this research study better.

Integration is the process of connecting and combining different components to work together. Our system will integrate payment gateways to secure student payment options and ensure the payments are processed smoothly and efficiently.

Ordering refers to the system process by which students select and request an order.

PayMongo is a financial technology company that allows businesses of various sizes in the Philippines to accept all types of online payments from their customers, including credit cards, debit cards, and e-wallets, through a single online platform.

Seamless in Ordering System is designed to provide a user-friendly experience, allowing customers to browse menus easily, make selections, place orders, and complete payments without encountering difficulties or interruptions.

Web-based Ordering System is an HTML-based web app that accesses menus and places orders through an internet browser on a smartphone, tablet, or desktop.

G-Cash is the primary online payment gateway that users use.

Online payment is transferring money or financial transactions over the internet.

Cashless is a payment transaction that doesn't require physical cash.

Administrator manages and oversees the system's operation, organization, and performance.



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Point-of-sale (POS) is the specific point in a retail environment where a customer pays for goods or services. The Point of Sale can be a physical location, such as a cash register, checkout counter in a store, or a virtual platform for online transactions.

Application Programming Interface (API) allows different software systems to interact and share data and functionality in a standardized way.

Unified Modeling Language (UML) UML is a standardized visual language used to describe, specify, design, and document the artifacts of a software system.

Relational Database Management System (RDBMS) is a database management system that stores data in a structured format using tables with rows and columns. It enables users to create, update, and manage data relationships based on defined schemas. RDBMS systems use Structured Query Language (SQL) to interact with the database, allowing users to perform various operations such as data retrieval, modification, and deletion in a relational database environment.

Test API Key is a unique access key or token a service or platform provides for testing purposes. This key allows developers to interact with APIs in a test environment without processing transactions. Test API keys are typically used during the development and integration phase to simulate API interactions and functionalities without affecting live data or making actual changes to the system.

Live API Key is a specific access key or token used to authenticate and authorize access to an API in a live or production environment. This key grants permissions to interact with the API and perform actual transactions, data exchanges, or operations within the operational system. LIVE API keys enable secure and authorized communication between applications and external services in a live production environment.



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Payment Gateway is a technology service that facilitates online transactions by securely connecting merchants, customers, and financial institutions to authorize and process payment transactions. Payment gateways provide a secure pathway for transferring sensitive payment information between the merchant's website or application and the payment processor to ensure safe and reliable payment processing. Payment gateways support various payment methods to enable online purchases and transactions, including credit/debit cards, bank transfers, and digital wallets.



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CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter presents the reviews of related literature and studies from both local and foreign studies after the thorough, in-depth research done by the researchers. The studies included in this chapter helped familiarize the reader with relevant and similar information to the present study. It discussed several aspects that are essential to the development of the study.

Conceptual Literature

Lunch breaks are a crucial component of the schedule for institutions. They allow a student to rest, eat, and use the facilities. It is the time for students to have a brain break from learning. Lunch lets students have a break from school. It's even their time to catch up on school work, and who doesn't like to eat after your brain has worked out for numerous classes [7]? Also, lunch break is a chance to refuel and refocus for the second half of the day of classes with renewed energy [8]. Taking breaks can help reduce stress and anxiety, improve focus, boost energy and creativity, and enhance academic performance.

According to Sparks and Prothero [9], students need more time to eat lunch. In Lowell Elementary School in Albuquerque on Aug. 22, 2023, 60 percent of educators said their students need at least 30 minutes to eat; more than a third said they needed 41-60 minutes to eat, and more than a quarter said their students required as much time. [10] Many schools only have a 25-to 30-minute lunch break; according to a survey by the School Nutrition Association, students also must use that time to use the restroom, walk to the cafeteria, and stand in line, which can leave precious little time for students to sit and eat their meals. Sparks and Prothero [11] stated that it is common for students to wait in a long lunch line. Since everyone is trying to eat lunch, students will inevitably put their friends ahead of them, making the line even longer. But once they get their lunch, they only have 10 minutes to eat. There is



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a need for more extended lunch periods to ensure students have sufficient time to eat their meals.

An online food ordering system is a web-based ordering system where customers using a mobile app can use the online user interface to order online. Online ordering systems are gaining popularity to improve customer service, increase sales, and support business growth [12]. With online ordering systems, restaurants may allow customers to place online orders via a website or app and have their meals delivered to any location. By 2026, the market volume will reach \$4.6 billion [13]. By 2030, the online ordering system businesses will reach \$365 billion globally [14]. These statistics glimpse the future where online food ordering systems will become fundamental to our dining experiences.

There are a few advantages to using online ordering. Using online ordering makes the ordering process more manageable. Business owners can create a website or app to simplify ordering and streamline business operations. When customers place an order online, they take their time to browse the menu and get familiar with add-on deals and offers that your business must offer. It can lead to an exponential increase in the total sale value per order [15]. An online ordering system gives you complete control over customer support, which is essential to building loyal customers [16]. Online ordering system processes are aligned, so everything can be managed easily without wasting valuable time. An online ordering system allows the business to integrate with existing technology, such as point-of-sale, payments, meal plan programs, etc. It's essential that integrations automate and streamline operations to reduce errors and costs [17]. Online ordering allows customers to order anytime, anywhere, using mobiles, tablets, or other handheld devices. The customer does not need to reach out and make a call while disturbing their privacy or disrupting a meeting for a lunch order. With a mobile app, the customer can quietly place an order without the hassle of talking over the phone.



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Research Literature

One of the primary reasons for shifting to cashless payment is the COVID-19 pandemic. Due to this pandemic, some fear using cash, so they quickly adopt cashless payment [18]. In this evolving digital era, cashless payments have become integral to daily life [19]. Cashless payments are a type of transaction that's completed without the exchange of physical cash. It includes payment methods like credit and debit cards, mobile payments, digital wallets, bank transfers, Buy Now, Pay Later (BNPL), and cryptocurrency [20].

Credit and debit cards are among the world's most frequently used cashless payment methods [21]. Mobile payments use smartphones to complete transactions via secure digital wallets or a payment app. Online banking platforms can transfer money online between bank accounts, pay bills, and various financial transactions [22]. Buy Now, Pay Later (BNPL) allows one to purchase items on credit and pay installments over [21]. Cryptocurrencies are currencies like Bitcoin, Ethereum, and others that allow for peer-to-peer transactions without a centralized authority [22].

Cashless payments enhance rather than replace physical cash. The adoption of internet and mobile banking is impacted differently by each cashless payment technology due to variations in its functionality and usage [23]. In 2021, 60% of Filipinos carry less cash in their wallet, while 84% go cashless [24]. In 2022, 82% of Filipinos attempted to go cashless [25]. By 2030, it is believed that the Philippines will be a cashless society [26]. Other Southeast Asian countries have embraced cashless payments faster than the Philippines, but the Philippines is leading in mobile wallet platforms [25].

One notable system related to the proposed system is Flexischools, an online ordering system for canteens. Flexischools excels in streamlining the ordering and paying for meals, offering convenience to students and school staff [35]. However, despite its strengths, Flexischools lacks a point of sales (POS) feature, which limits its functionality in scenarios where in-person transactions are necessary, such as in school canteens during peak hours. One of the users



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still favors cash payments as it is a valuable teaching tool. Kids can come down with their money and buy an ice pop and a cookie, and the excellent canteen staff help the child add up, count their money, and work out the change [36]. In contrast, the proposed system addresses this limitation by integrating a comprehensive POS feature for seamless in-person transactions. This addition not only enhances the flexibility and usability of our system but also ensures that both online and offline transactions are efficiently managed.



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Conceptual Paradigm

A conceptual paradigm represents a system of concepts that assist people in comprehending, replicating, or knowing more about the topic that the model depicts. The Input-Process-Output (IPO) Model was chosen as the study's conceptual framework. The IPO model is a performance and processing system study that implies raw materials (input) turned into outcomes by internal system processes (output).

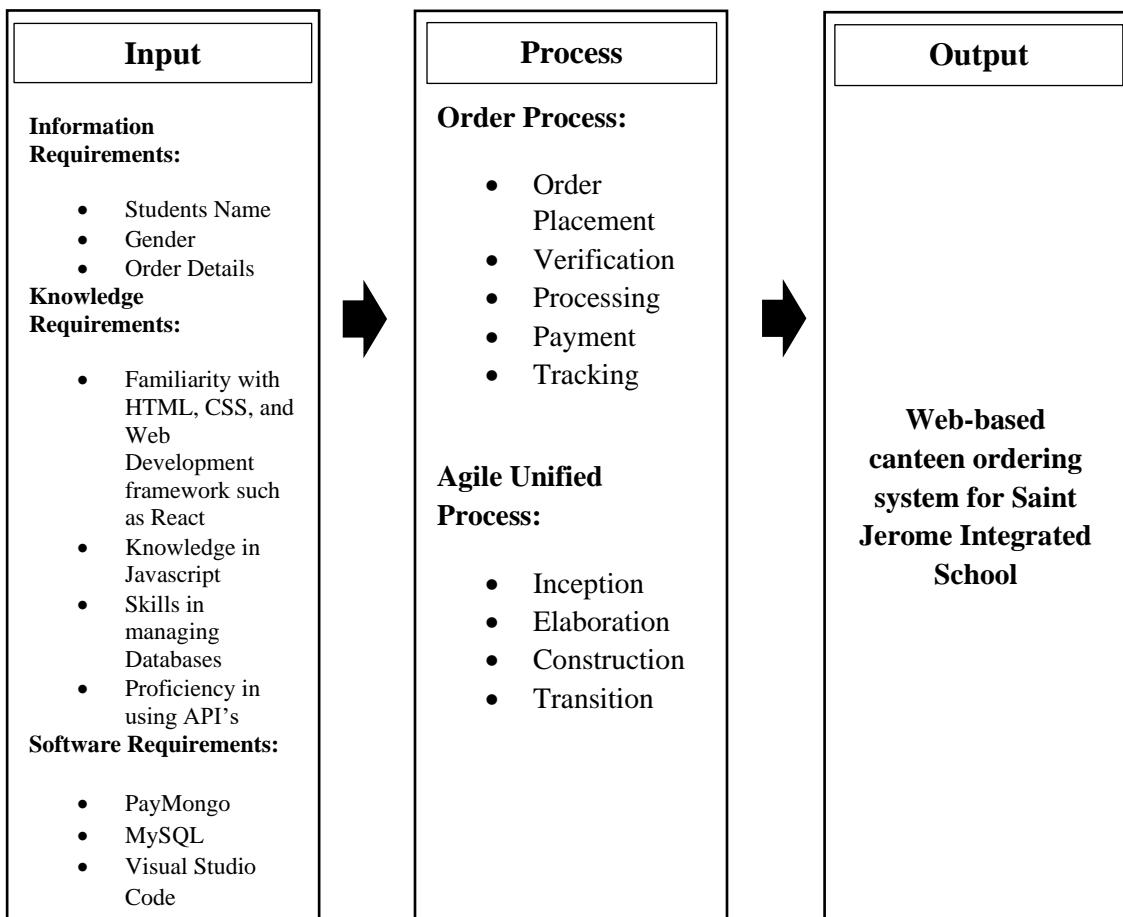


Figure 1. The Conceptual Paradigm of the Study



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Developing a web-based canteen ordering system for Saint Jerome Integrated School requires specific information, knowledge, and software requirements. The system must capture the student's name, gender, and order details. The researchers would be familiar with HTML, CSS, and web development frameworks like React. Knowledge of JavaScript, managing databases (specifically MySQL), and using APIs are also necessary to implement the system successfully. The system will integrate with PayMongo, a payment processing platform to facilitate secure online payments, providing customers with various payment options for a convenient checkout process. It is a PCI (Payment Card Industry) Service Provider Level 1 compliant payment provider that has undergone rigorous auditing by an independent PCI-certified auditor, adhering to the highest standards in the payments industry. The company complies with the PCI-DSS (Payment Card Industry Data Security Standard), a technical and operational framework established by the PCI Security Standards Council to safeguard card information transmitted during payment transactions. Additionally, PayMongo implements HSTS (HTTP Strict Transport Security), a web security protocol that mandates secure HTTPS connections, ensuring data encryption and shielding users from potential threats like man-in-the-middle attacks.

The school canteen will integrate G-Cash using PayMongo as a payment method to offer a convenient and contactless payment option for students and staff.

Security Measures

- All transactions through G-Cash using PayMongo will be encrypted to ensure personal and financial information security.
- Users must authenticate their transactions using a secure PIN or biometric authentication.



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Payment Process

- Users can select G-Cash as the payment method on the canteen ordering system during checkout.
- Collecting G-Cash payments on a website begins with creating a resource to generate a checkout URL, where the customer must authorize a specific amount. The authorization process must be completed by creating a Payment resource to receive the approved amount.
- A Source resource is utilized to generate a G-Cash checkout URL, enabling the authorization of a designated amount to be debited from the customer's G-Cash account and transferred to the PayMongo account. Upon authorization completion, the integration employs the chargeable source to initiate a payment request and facilitate the receipt of the payment.
- Upon selection, users will be redirected to the G-Cash dashboard via the PayMongo payment gateway to complete the transaction securely.
- G-Cash automatically settles all successful G-Cash transactions to the merchant's nominated account. An SMS or text confirmation is sent to the merchant after a successful transaction.

Compliance and Regulations

This policy framework establishes guidelines for the secure and efficient implementation of G-Cash using PayMongo as a payment method in the school canteen ordering system. It prioritizes security, user experience, and compliance with regulations to enhance the overall payment process for students and staff.



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The order process of the school canteen system follows a series of stages to ensure smooth and efficient operations. The process includes order placement, verification, processing, payment and tracking. The agile approach is one of the most widely used software development techniques. It defines the software development process in a way that allows a project to be managed by breaking it down into stages: Inception, Elaboration, Construction, and Transition. The order process of the school canteen system follows a series of stages to ensure smooth and efficient operations. It explains how to construct business application software in a straightforward and easy-to-understand manner.

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In the context of integrating online payment solutions within point-of-sale (POS) systems for canteen ordering, research security exists in exploring the impact of emerging payment technologies, such as e-wallets like Gcash. Limited research has focused on evaluating the usability, acceptance, and security implications of incorporating these innovative payment methods into a canteen POS environment. Further investigation is needed to understand how adopting e-wallets can enhance the user experience, increase transaction speed, and address concerns related to data privacy and fraud prevention in canteen ordering systems. By bridging this research gap, valuable insights can be gained to develop robust and user-friendly payment solutions that meet customers' evolving needs and expectations in the canteen ordering context.



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To solve this gap, the researchers will implement a web-based canteen ordering system designed explicitly for Saint Jerome Integrated School.

Synthesis

According to the findings, the rise of online ordering systems transforms the dining experience, offering convenience and support for business growth. These systems streamline the ordering process, allow for browsing of menus, and enable complete control over customer support. Integration with existing technology further enhances efficiency, while the accessibility of ordering via mobile devices ensures convenience for customers. Integrating with cashless payment methods will streamline the ordering process and shorten the queues.

Recognizing the importance of adequate lunch breaks for students is essential for their well-being and academic performance. Educational institutions should provide sufficient time for students to rest, eat, and recharge during the school day. The ordering system helps students get their food quickly and saves time. Integrating cashless payments will be more efficient since most students now pay cashless. These benefits not only the students but also the canteen operators. Moreover, ordering systems represent a modern solution that enhances satisfaction, streamlines operations, and promotes a safer and more efficient dining environment.

While online ordering systems with POS integration offer clear advantages, a gap exists in research on how integrating emerging payment methods like e-wallets impacts canteen operations. Specifically, there needs to be more understanding of how e-wallets affect usability, user acceptance, and security within this context.



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CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses the research methodology and procedures adopted for collecting data. It starts with describing the research design, followed by the research method. It ends with an outline of the statistical techniques used to address issues of validity and reliability of the instruments used to collect the data.

Research Design

The study is a descriptive type of research. Descriptive research is a methodological approach that aims to describe the features of an event or subject being studied [27]. It can answer what, where, when, and how questions. Descriptive research is suitable for studies that determine characteristics, frequencies, trends, and categories [28]. The benefits of descriptive research include its capacity to offer a thorough summary, support the formulation of hypotheses, and function as an initial stage in the research process [27]. The researchers chose this particular sort of study because they would be able to characterize the current situation concerning the business process and issues that the client's business is facing through descriptive research. It is crucial to determine the functional specifications for the proposed software.

The study will employ qualitative and quantitative approaches or mixed methods. A qualitative approach in research means gathering and examining non-numerical data (text, audio, or video) to comprehend ideas, viewpoints, or experiences. It can be applied to provide new research ideas or obtain an in-depth understanding of a problem. Qualitative research tends to be adaptable and concentrates on maintaining deep meaning when analyzing information [29].



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While quantitative procedure for gathering and evaluating numerical data to characterize, forecast, or regulate relevant variables. It helps predict and verify the causal relationships between factors and generalize findings to larger populations. Quantitative research aims to test a theory or hypothesis and, depending on the findings, either accept or reject it [30]. The researchers will employ interview techniques to comprehend the client's concerns and the business process. The researchers will also use survey questionnaires to assess how well the suggested software performs across various criteria.

Respondents of the Study

The study's respondents are grouped into end users and web development experts. The end users are the students and customers. At the same time, the experts are graduates of IT-related or computer studies programs with at least 2 years of experience in web development. There will be one hundred (100) end users and five (5) web experts. The end users will evaluate the proposed software regarding functional suitability, reliability, efficiency, and usability. In contrast, the web experts will assess the proposed software regarding functional suitability, reliability, efficiency, and maintainability.

Category	No. of Respondents
End User	100
Web Expert	5
Total	105

Table 1. Respondents of the Study



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Data Gathering and Procedures

The researchers will employ various data-gathering tools during the study. The researchers will use interviews to gather information about the client's business operations, and the discussion will help the researchers understand the problems and provide solutions to the study. The researchers will use a survey questionnaire to gather data from the end user. The survey questionnaires would evaluate the research and provide answers, which would help researchers to interpret the study. After the development, the researchers will employ survey questionnaires to assess the proposed software.

After conducting the survey, the responses of the end users and experts will be interpreted using statistical tools. Since the responses are categorical (i.e., Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree), the data gathered from the survey will be treated as ordinal data. The median will be used to compute the average of responses. The median is more appropriate since the data are ordinal. Another statistical tool that will be used is the percentage. The percentage will be used to present the distribution of the responses.

System Development

The project timeline spans 30 weeks, starting with the planning phase in the 1st to 3rd week, followed by interviews from the 3rd to the 6th week. Research activities are scheduled from the 4th to the 11th week, leading to the design phase from the 2nd to the 13th week. Development work is planned from the 2nd to the 27th week, with testing set for the 23rd to 28th week. Surveys will be carried out from the 26th to the 29th week, and the results and discussion phase is scheduled for the 27th to the 30th week. This structured timeline ensures a systematic progression through the project phases, allowing sufficient time for planning, research, development, testing, and analysis within the specified timeframes.



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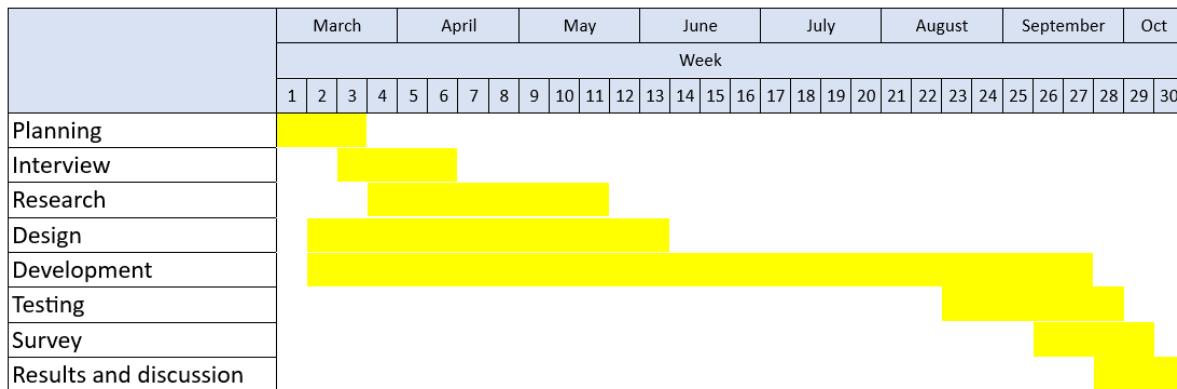


Figure 2. Timeline of Activities

The researchers will use the Agile Unified Process (AUP) as the software development methodology. Agile UP is an approach for developing software that blends the Rational Unified Process (RUP) and agile software development concepts and methods [31]. The Agile Unified Process (AUP) contains 4 phases: inception, elaboration, construction, and transition.

In the inception phase of the capstone study, the researchers will outline the fundamental aspects of the project to provide a clear understanding of its scope and objectives. The study's primary goal is to design and develop a web-based canteen ordering system for St Jerome Integrated School of Cabuyao that enhances the efficiency and convenience of the food ordering process for students and staff. During this phase, the researchers will conduct initial research to identify the needs and challenges faced by the client in the current canteen ordering system. The researchers will collaborate with students and canteen staff to gather requirements and preferences for the new system. The researchers shall gain valuable insights into the functionalities and features essential for improving the ordering experience by engaging in discussions and conducting surveys.



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During the elaboration phase, the researchers will focus on designing and analyzing the web-based canteen ordering system for Saint Jerome Integrated School of Cabuyao. During the inception phase, a thorough requirements process will be carried out, including choosing programming languages and stacks for use, like MySQL, Express.Js, React.Js, and Node.Js, also known as the MERN Stack. In addition, the system's user interface will be created along with the UML diagrams to provide a thorough blueprint for the system's advancement. The researchers will create various diagrams to plan the functionality of the software. Use Case diagrams and activity diagrams. Risk analysis will be carried out to determine the limitations of the proposed system, taking into account elements like the unavailability of payment gateways and the accessibility of the internet, etc.

The use case diagram acts as a blueprint for comprehending a system's functional requirements from the viewpoint of its users, facilitating stakeholder communication, and directing the development process. It shows how users can interact with the system by giving them a high-level overview of its capabilities [32]. The activity diagram is a flowchart that shows how actions or processes go through a system in visual form. It's a resource for simulating a system's behavior after a sequence of operations [33].

The researchers will employ a use case diagram to provide a visual representation of the system's functionality from the perspective of its users. This diagram will outline various interactions between actors (users) and the system, illustrating how different use cases or scenarios are executed and how users interact with the system to achieve specific goals or tasks. Using the use case diagram, the researchers aim to enhance the understanding of user requirements and system behavior, facilitating effective communication and design decisions throughout the development process. The researchers will employ an activity diagram to provide a detailed and step-by-step illustration of the workflow within the system. This diagram will visualize the sequence of activities, actions, and decisions in a particular process or use case. This visual representation will help analyze and optimize the system's processes, identify bottlenecks, and improve efficiency and clarity in system



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operation.

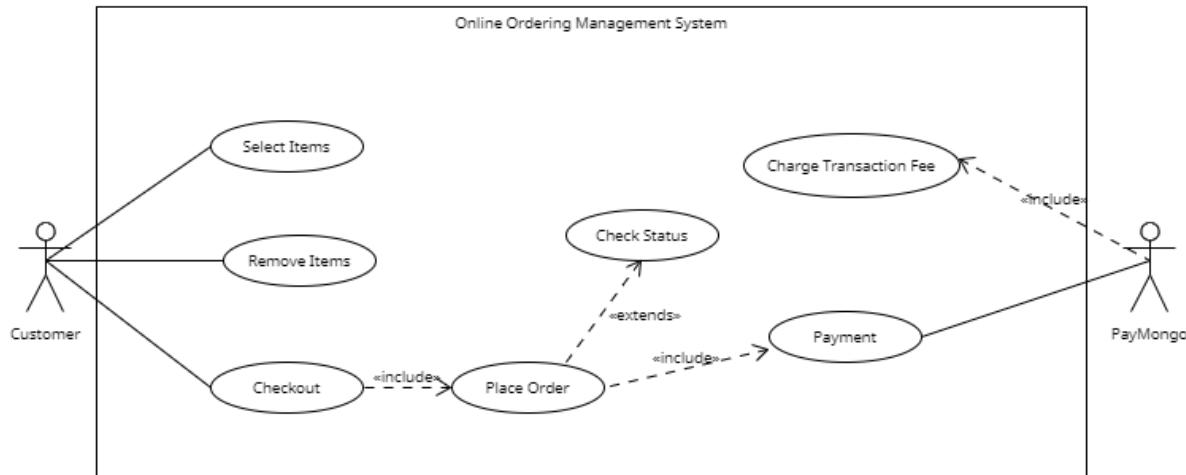


Figure 3. Use Case Diagram for Online Ordering

Figure 3 displays the use case diagram for the Online Ordering subsystem. The customer has the authority to select and remove items. Once the customer has checked out and placed an order, the customer proceeds to pay online and can check their order status. The Paymongo will receive and handle the online payment but will charge a transaction fee.



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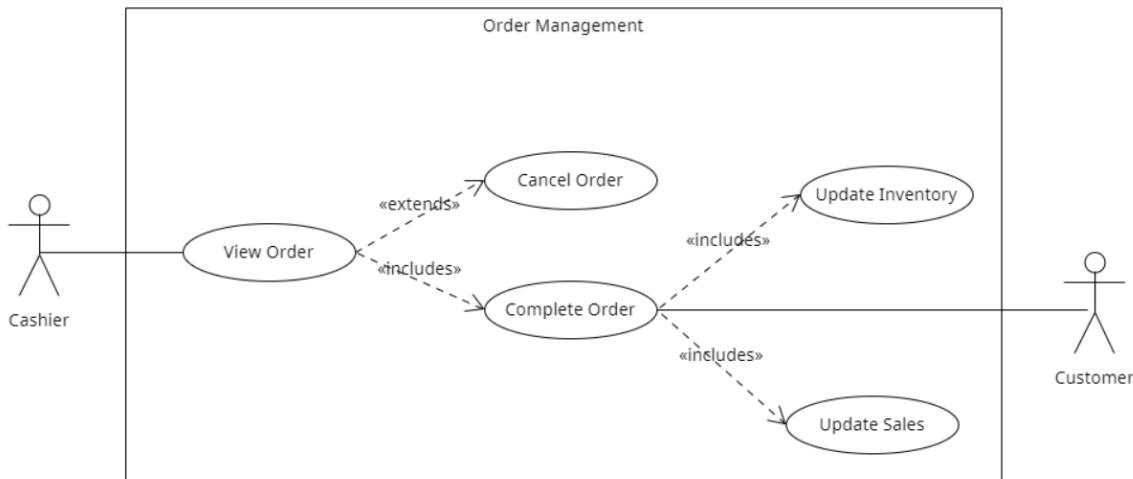


Figure 4. Use Case Diagram for Order Management

Figure 4 displays the use case diagram illustrating the interactions between a cashier and a customer with the Order Management System. The cashier can view orders, complete orders, and cancel orders. Completing an order includes updating the inventory and sales records. The customer can also view orders.



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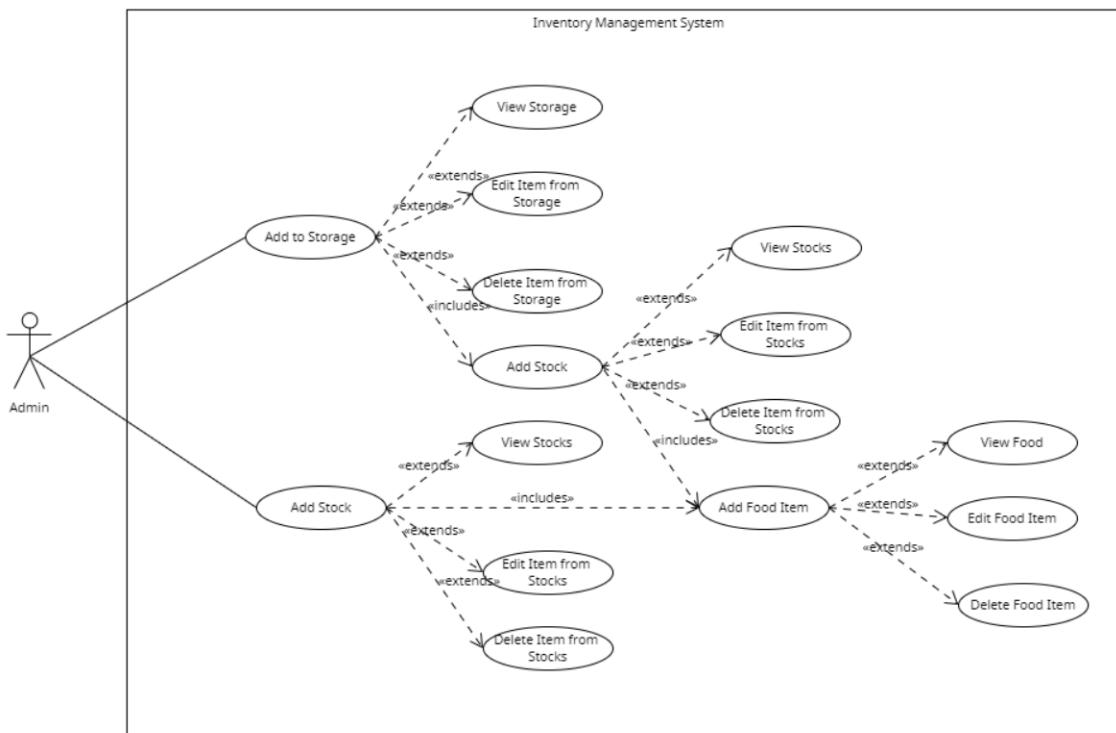


Figure 5. Use Case Diagram for Inventory Management

Figure 5 illustrates the interactions between an admin and the Inventory Management System. The admin can view the current storage capacity and utilization. They can add new items to storage, modify existing item information, or remove items from storage. The admin can view the stock levels of different items. They can add more stock to existing items, modify item details, or remove items from the stock list. The admin can view information about food



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items, add new items, modify existing information, or remove food items from the system.

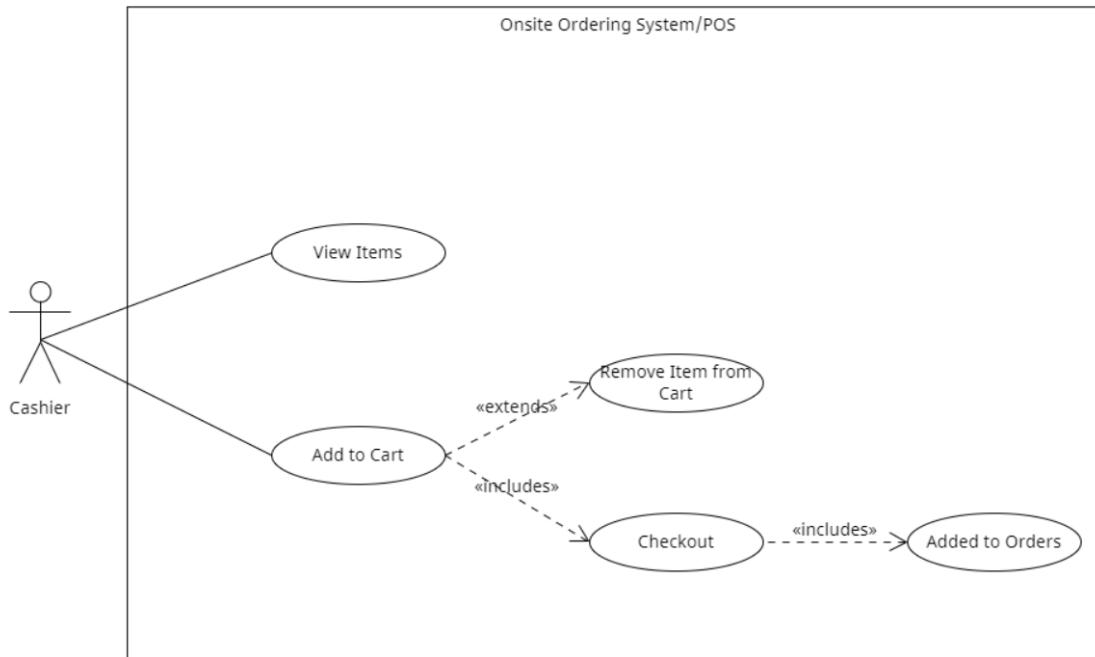


Figure 6. Use Case Diagram for Onsite Ordering/POS

Figure 6 shows the interactions between a cashier and the Onsite Ordering System/POS. The cashier can view items, add them to the cart, remove items from the cart, and proceed to checkout. After checkout, the order is added to the system's order list.



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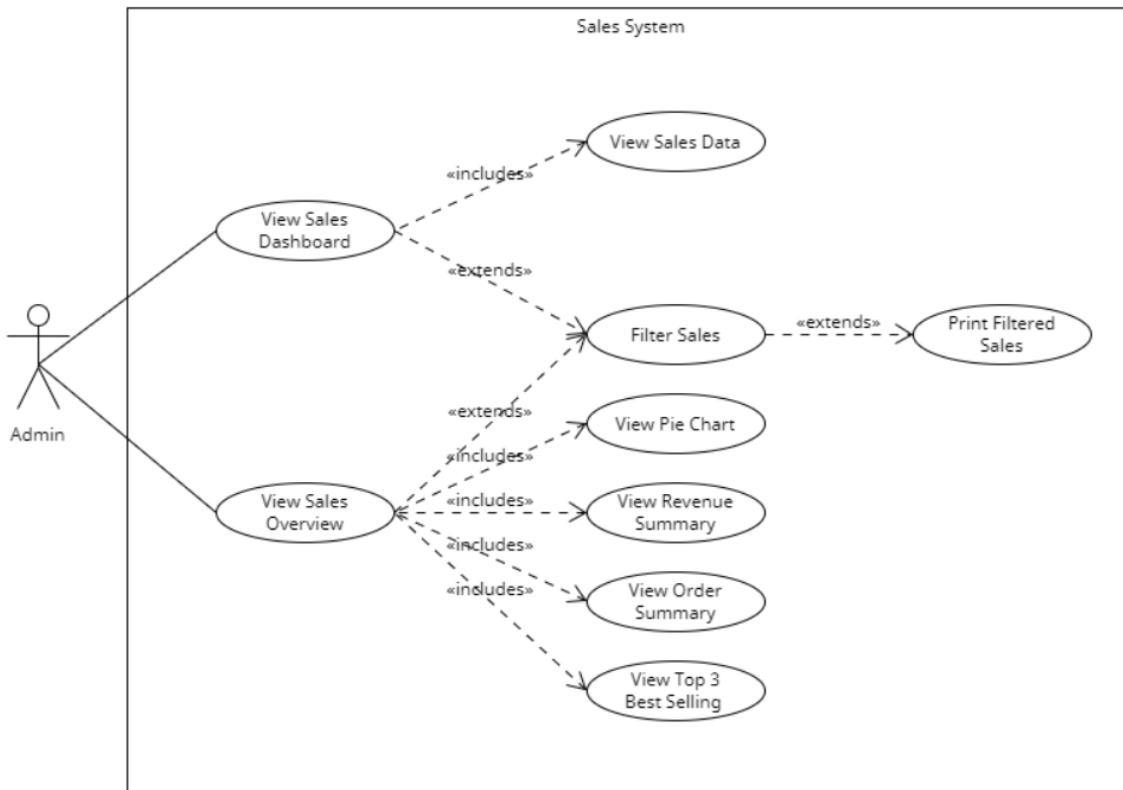


Figure 7. Use Case Diagram for Sales/Generation of Reports

Figure 7 illustrates the interactions between an admin and the Sales System. The admin can view sales data in various formats, including a dashboard, pie chart, revenue summary, order summary, and top-selling products. The admin can also filter sales data and print filtered reports.



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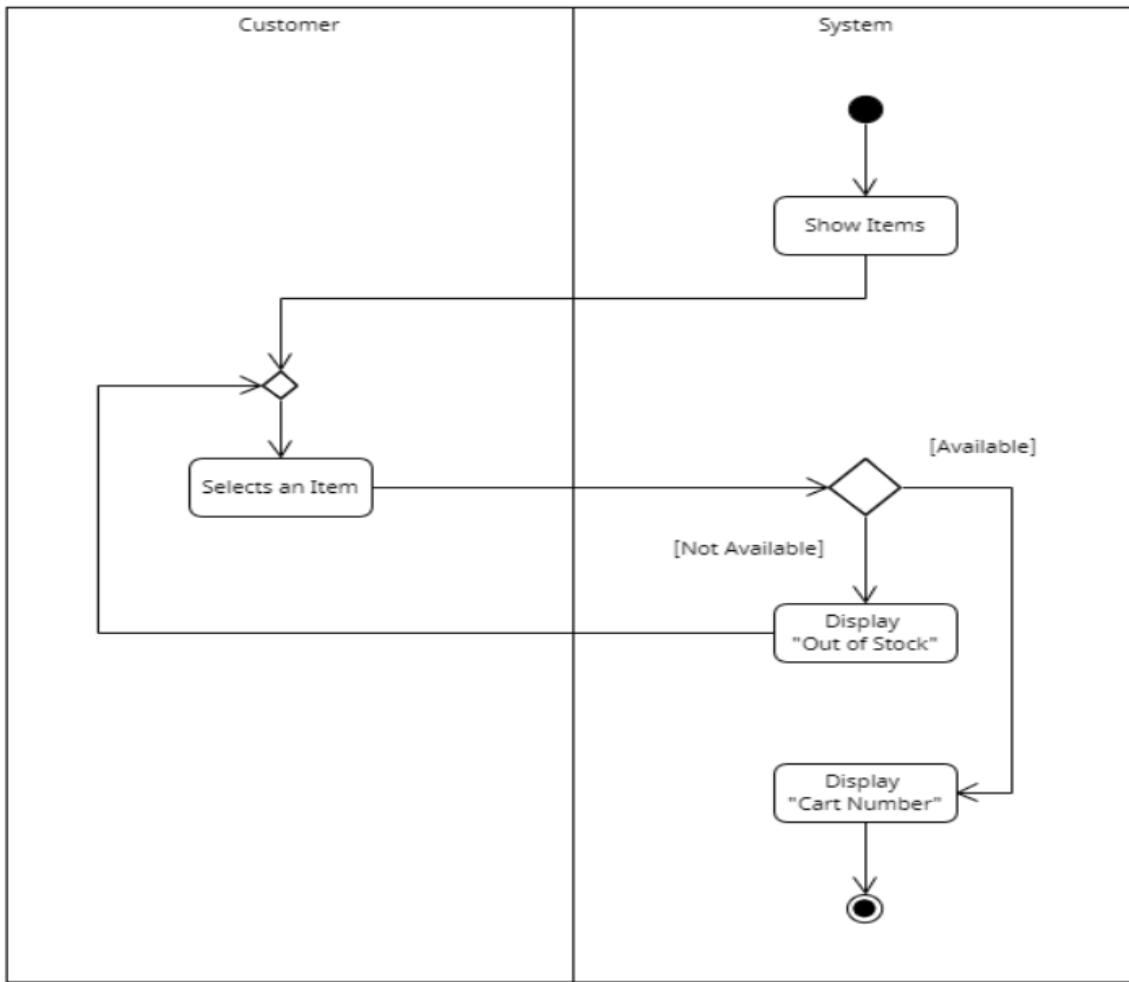


Figure 8. Activity Diagram for Select Item

Figure 8 shows the activity of adding order to the cart. The system will display items, and the customers can select an item. There is a condition that if the items are unavailable, the system will display "Out of Stock." If the item is available, the system will display the cart number of the item.



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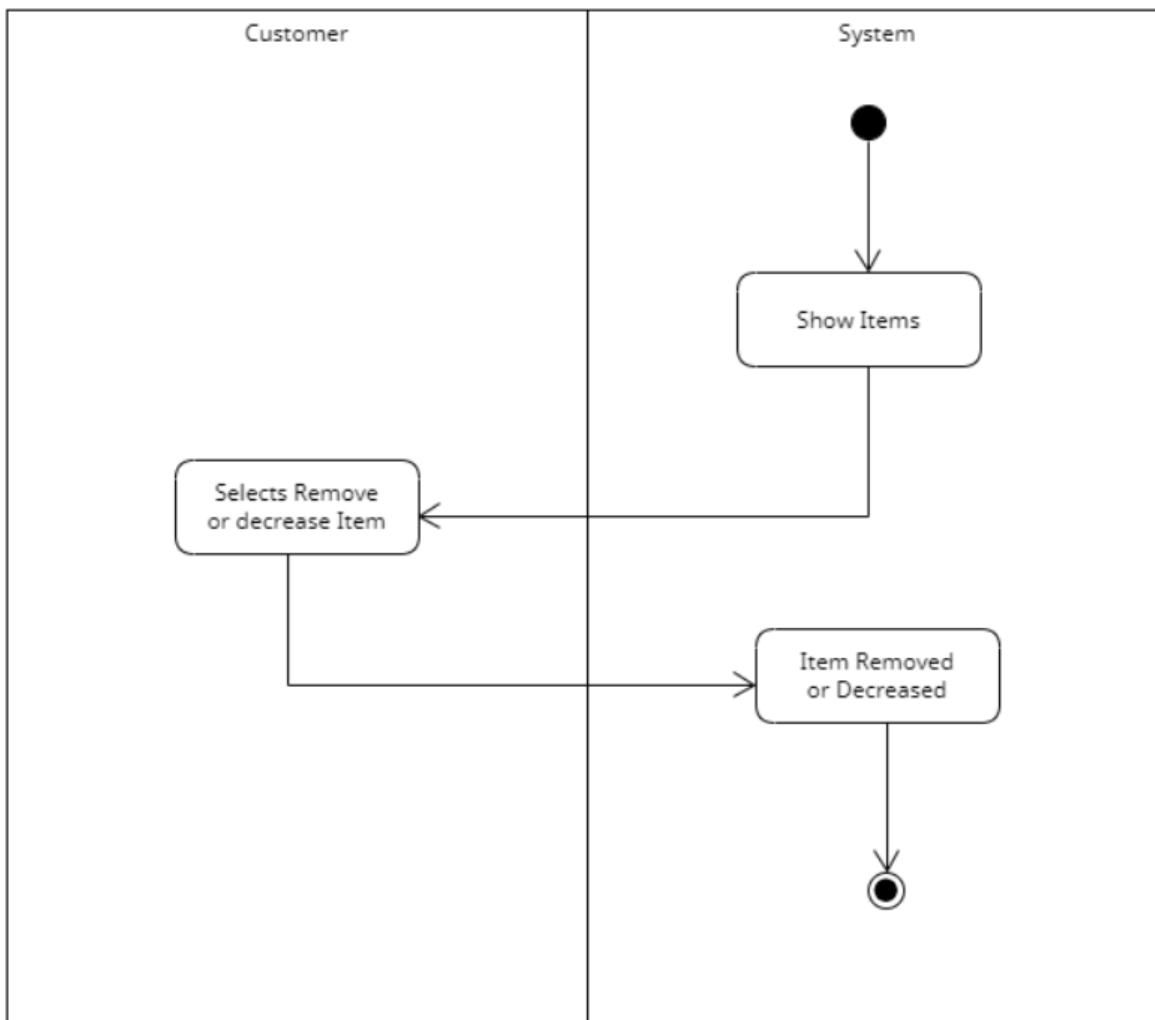


Figure 9. Activity Diagram for Removing Item

Figure 9 shows the activity of removing orders. When the customer clicks an order and chooses to remove it, the system will delete the customer's order.



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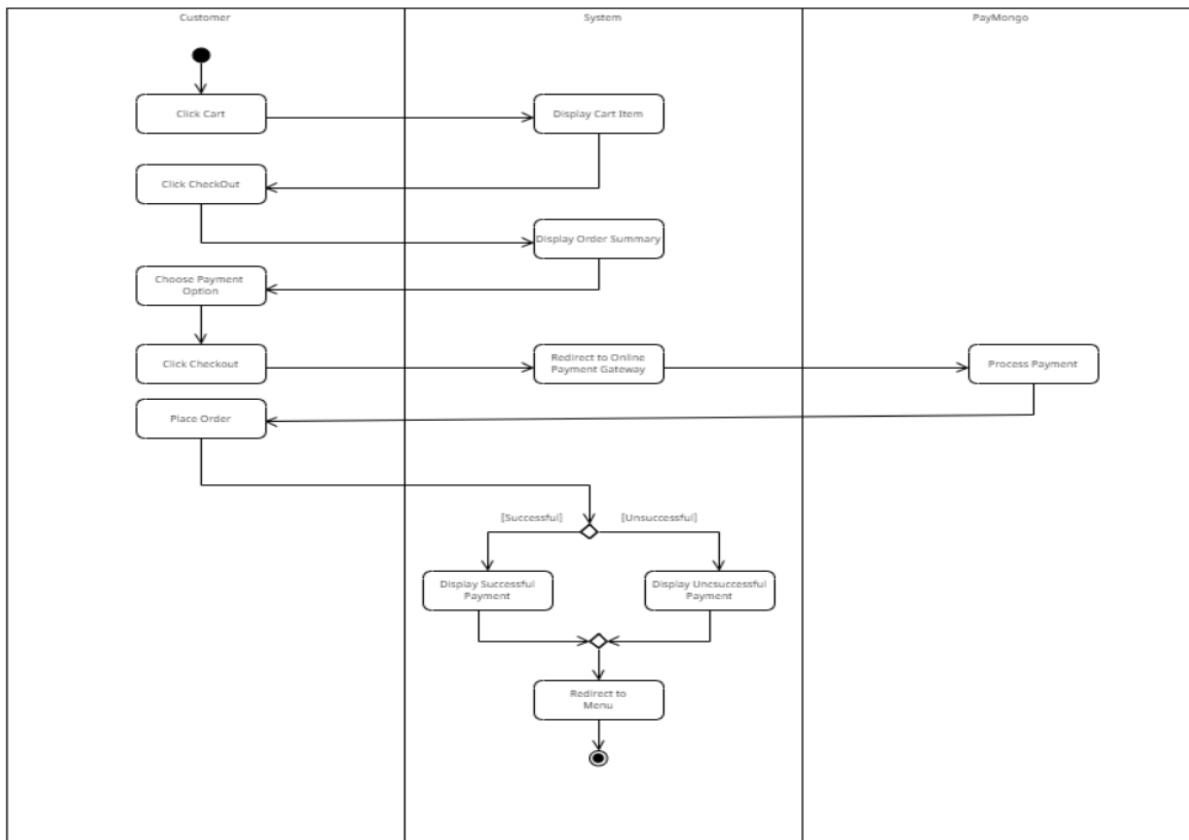


Figure 10. Activity Diagram for Place Order

Figure 10 shows the activity of place order. The system displays the online payment procedures when the customer checks an order. If successful, the system will display the successful payment. If it fails, the system will display an unsuccessful payment and return it to Menu.



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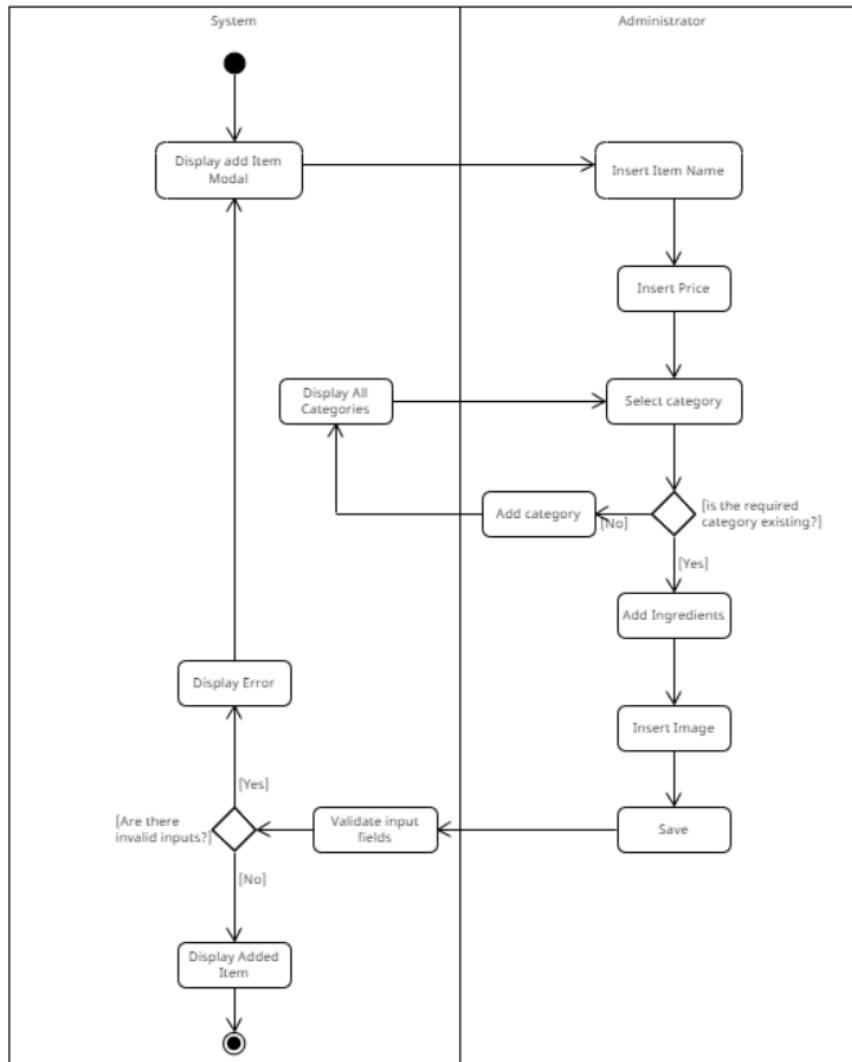


Figure 11. Activity Diagram for Adding Item

Figure 11 shows the activity of adding items to the system. The administrator must fill out the information on the items. When clicking add an item, there's a validation for every input field; the system will display an error message. If the fields are all valid, the system will save the item and successfully add the item.

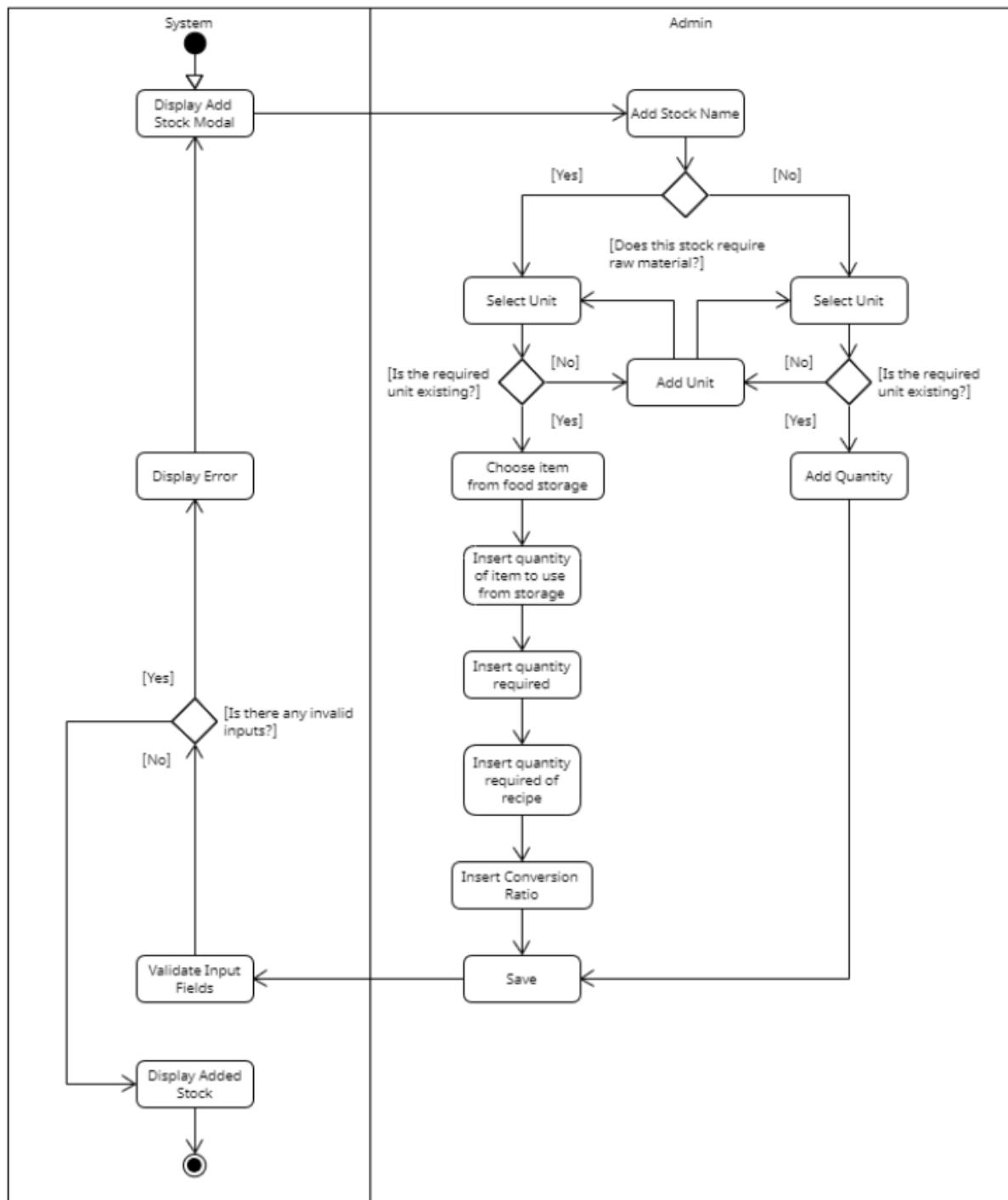


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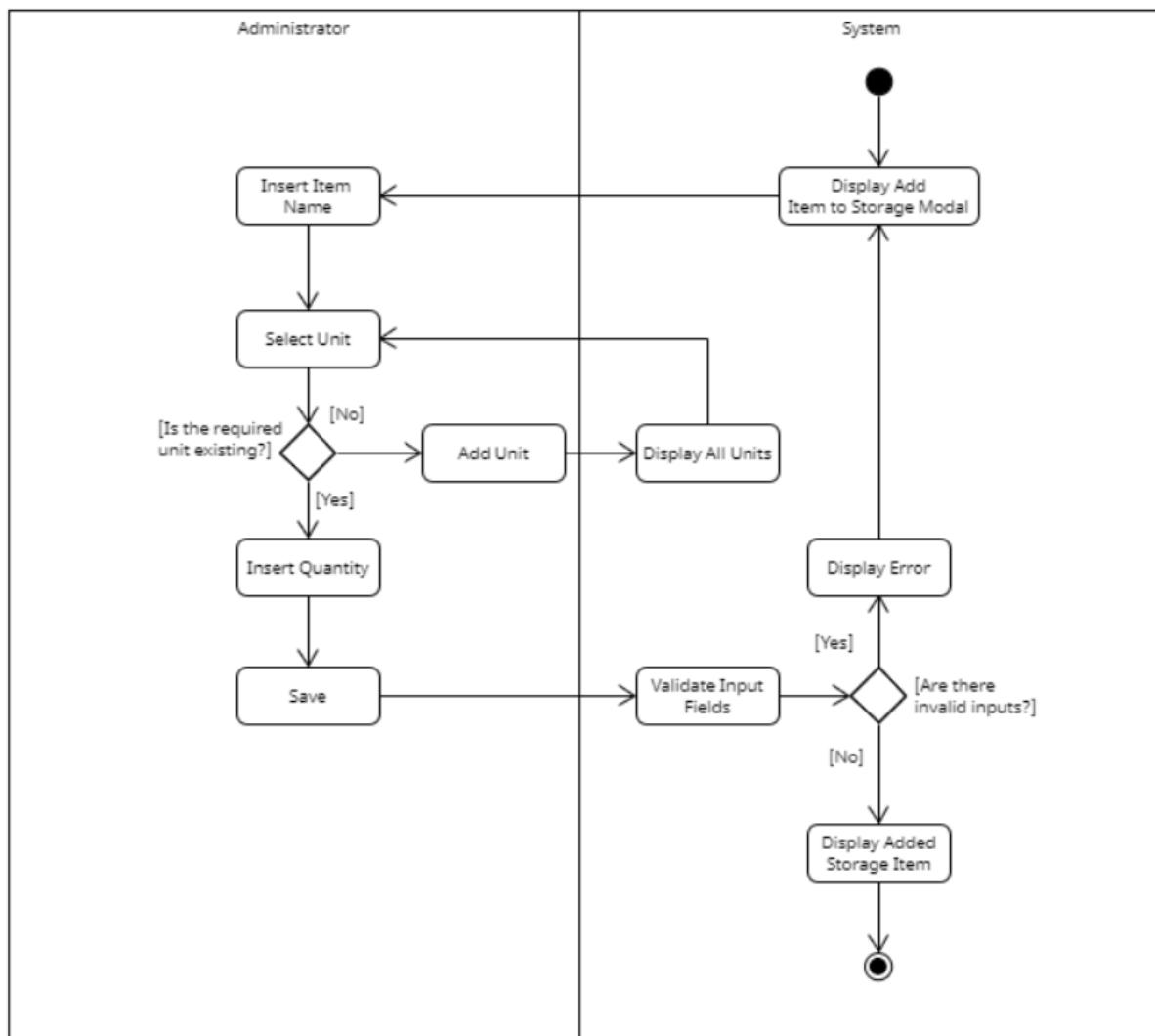
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Figure 12. Activity Diagram for Adding Stocks

Figure 12 shows the activity of adding stocks to the system. The administrator must fill out the necessary fields. There are two types of stocks: one that requires raw material and one that does not. Upon selecting "Does this stock require raw material," the fields in the modal will show additional fields. For the stocks that do not need raw materials, the admin only needs to select a unit and input the quantity. After saving, the system will check if all the input fields have valid values and display an error if the fields do not meet the requirements.





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Figure 13. Activity Diagram for Adding Items in Storage

Figure 13 shows the activity of adding items in storage. The administrator must fill out the required fields. If the Unit needed does not exist, the admin can add one. When clicking save, there's a validation for every input field. If the fields are all valid, the system will save the item and successfully add the item to storage.

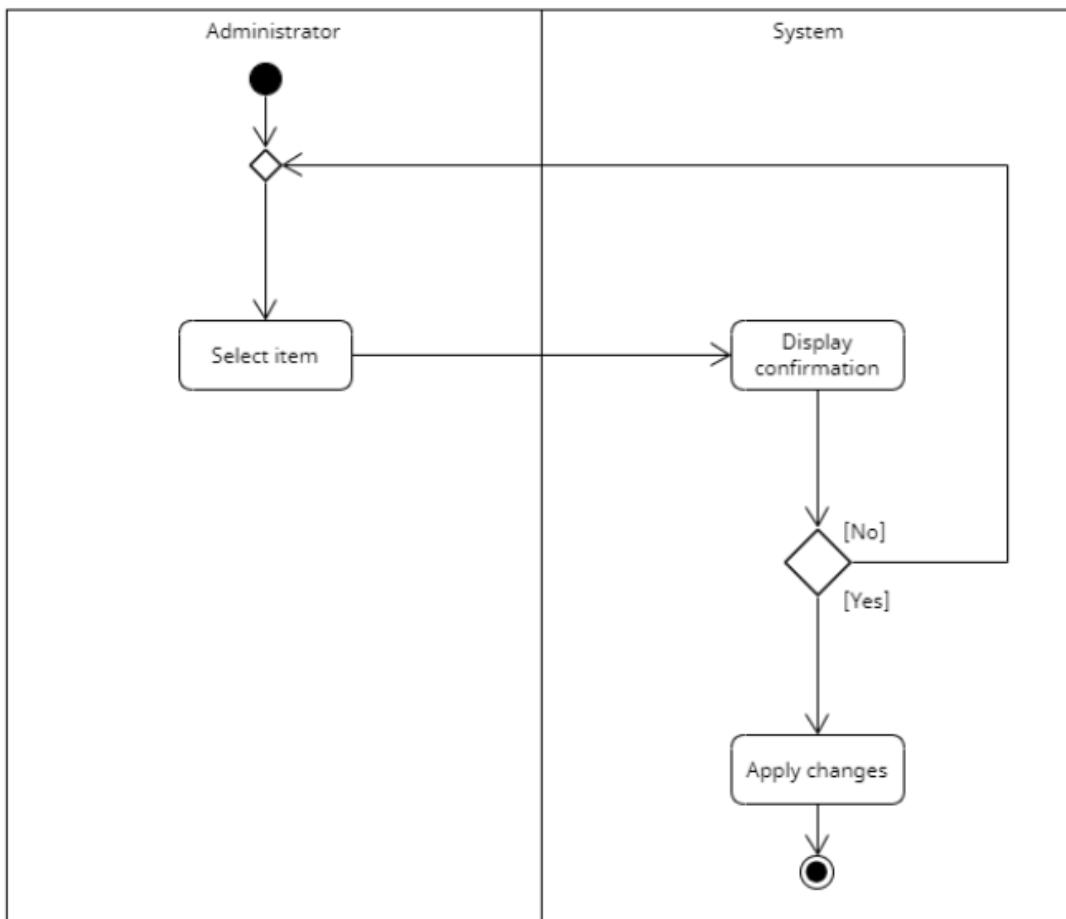


Figure 14. Activity Diagram for Deleting Item

Figure 14 shows the activity of deleting items in the system. The administrator will choose an item to remove and display a confirmation; if yes, the item will be removed. If not, the system will return to items.



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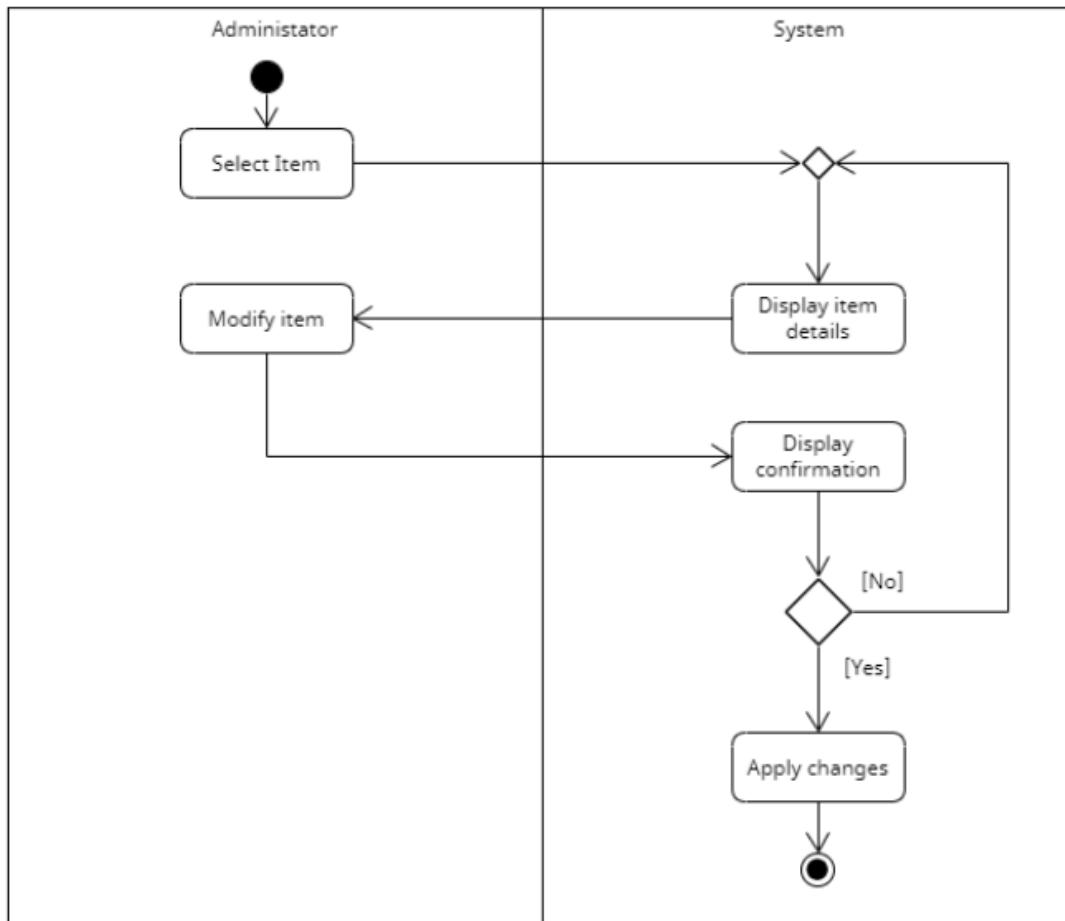


Figure 15. Activity Diagram for Modifying Item

Figure 15 shows the activity of modifying items in the system. The administrator will select an item to modify. The system will show a confirmation; if yes, the system will apply the modified changes. If not, the system will return to the item details.



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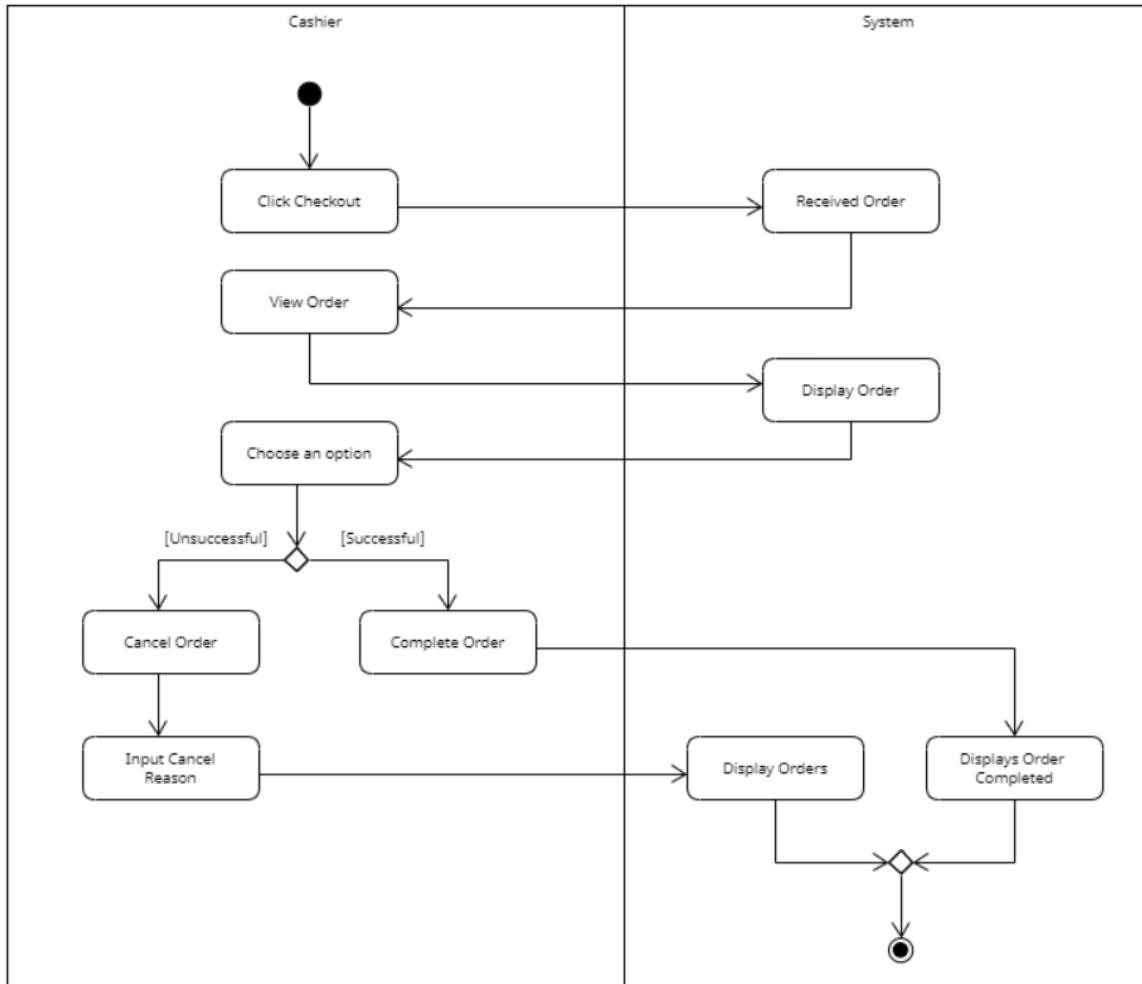


Figure 16. Activity Diagram for Payment Onsite

Figure 16 shows the activity of physical payment. The system will display the order summary when the cashier receives an order. After confirming the order, the system will display the completed order and proceed with the payment. If the order is canceled, the cashier must input the reason; then the system will redirect to orders.



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During the construction phase of the capstone study on the web-based canteen ordering system for Saint Jerome Integrated School of Cabuyao, the researchers will move from the system's planning and design to its actual development and implementation. The project plan will be carried out during this phase, emphasizing coding, testing, and integrating the parts required to make the proposed system function.

Implementing the system features following the specifications established in the elaboration phase will be one of the main tasks carried out during the construction phase. The researchers will use the MERN stack, among other technologies, to work together to write code, build functions, follow the diagrams, and design the user interface of the canteen ordering system by complying with the provided diagrams.

As the researchers enter the transition phase of the capstone study on the web-based canteen ordering system for Saint Jerome Integrated School of Cabuyao, the focus will shift towards preparing the system for comprehensive testing. This phase will mark the final stages of the project lifecycle, where the researchers aim to finalize the development, address any remaining issues, and prepare for the system's release to the end users of the proposed system.

During the transition phase, one of the key activities will be user acceptance testing, where end users and web experts will be involved to validate the system's functionality, usability, and performance. Feedback obtained from user and web expert testing will be used to identify and address any remaining issues, bugs, or usability concerns to ensure that the system meets the expectations and requirements.



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Ethical Considerations

During the data-gathering process related to the business process and problems encountered by the client, strict confidentiality measures will be implemented to protect sensitive business information and our client's privacy. All data related to business processes and client issues will be treated with the utmost confidentiality. To further safeguard confidentiality, both the researchers and the authorized client representative will sign a non-disclosure agreement emphasizing the commitment to data protection and privacy.

The research study will adhere to stringent data privacy guidelines in alignment with the Data Privacy Act of 2012 principles. During the software evaluation phase, no sensitive personal data will be gathered from the respondents. Participants will only be requested to provide feedback and assess the proposed system based on predefined criteria. This approach ensures that all data collection and evaluation processes are conducted with the highest standards of confidentiality and respect for individual privacy rights.

Statistical Treatment of Data

The researchers will employ a purposive sampling method to determine the number of respondents. Purposive sampling is a non-probability strategy where the researcher selects a sample (individuals, cases, or events) based on their judgment that it would fit the study's objectives [34]. By using purposive sampling, the researchers determined that one hundred (100) end users and five (5) web experts were the respondents who would evaluate the proposed software. The end users will assess the proposed software's functional suitability, reliability, efficiency, and usability. In contrast, the web experts will determine the proposed software regarding functional suitability, reliability, efficiency, and maintainability. The researchers believe the chosen respondents possess the characteristics necessary to evaluate the proposed software.



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Evaluation	Equivalent
Strongly Agree	5
Agree	4
Undecided	3
Disagree	2
Strongly Disagree	1

Table 2. Likert Scale

After conducting the survey, the responses of the end users and experts will be interpreted using statistical tools. Since the responses are categorical (i.e., Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree), the data gathered from the survey will be treated as ordinal data. The median will be used to compute the average of responses. The median is more appropriate since the data are ordinal.

Median for Ungrouped Data:

$$\text{If } n \text{ is odd: } \text{Median} = x \left(\frac{n+1}{2} \right)$$

$$\text{If } n \text{ is even: } \text{Median} = \frac{x \left(\frac{n}{2} \right) + x \left(\frac{n}{2} + 1 \right)}{2}$$

Where:

n: This represents the total number of observations or data points



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X: This symbol is used to denote the ordered values in the dataset after sorting.

Another statistical tool that will be used is the percentage. The percentage will be used to present the distribution of the responses.

$$\text{Percentage} = \left(\frac{\text{Number of responses in Category}}{\text{Total Number of Responses}} \right) 100\%$$

The distribution of each criterion's questions will be ascertained by tabulating the end users' and web experts' responses. The median will be used to evaluate the data and calculate the response average. The distribution's frequency will be ascertained using the percentage.



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CHAPTER IV

RESULTS AND DISCUSSION

This chapter will thoroughly discuss the problems encountered by the research locale, which will be solved by the features of the proposed system and assessed by the users and experts to determine its quality. This chapter will also tackle the assessment of the users and experts and present the results.

Problems encountered in Saint Jerome Integrated School Canteen

Saint Jerome Integrated School operates a traditional canteen system where students queue to select, order, and pay for their meals. This process involves direct interaction with the cashier, who manages various tasks such as order taking and payment processing. Each area (facilitating orders, processing payments, managing inventory, and generating reports) presents challenges that impact the efficiency of canteen operations. The reliance on manual methods introduces potential delays, risks of error, and inefficiencies, making it difficult for the canteen staff to meet peak-time demands during lunch breaks. This conventional approach affects the dining experience, often resulting in long queues and operational strain for the staff.

The first objective determines the current practices and problems encountered by the business, particularly in facilitating orders. Orders at the Saint Jerome Canteen are facilitated through a face-to-face process where students verbally communicate their selections to the cashier, who prepares the items. The cashier takes orders and ensures students receive the correct items. However, this manual ordering method often results in miscommunication, delays, and errors, particularly during peak hours. The physical queuing process contributes



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to extended waiting times, making it challenging for students to complete their lunch within the allotted time.

The next objective determines the current practices and problems encountered by the business, specifically in processing payments. Payments at the canteen are primarily handled at a designated counter where students pay for their selected items. Cash is the primary payment method, managed directly by the cashier, who handles order and payment processing. Unfortunately, the absence of alternative payment options can lead to prolonged transactions, especially when change is required, further slowing down the line. Handling cash also increases the risk of security issues, complicates cash management, and can result in discrepancies in financial records.

The next objective determines the business's current practices and problems, specifically inventory management. Inventory management is done manually, where the administrator tracks stock levels and reorders supplies as needed by writing in a notebook. This process is typically overseen by the administrator responsible for counting items and ensuring sufficient stock. However, manual tracking is time-intensive and may lead to issues like stockouts or overstocking. Lack of automation hinders the ability to manage inventory effectively, especially during busy periods, impacting the availability of popular items and increasing operational inefficiencies.

The last objective for the current practices and problems encountered by the business is the generation of reports. The Saint Jerome Canteen generates various reports for daily sales and inventory tracking, which help the administrator monitor canteen performance and profitability. These reports are currently produced manually by writing in a notebook, which is time-consuming and prone to human error. Due to this, the report generation process can need more accuracy and consistency, making it difficult to maintain up-to-date records and assess real-time performance.



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Features of the System

The Web-based Ordering System with Point of Sale (POS) is the proposed system for the Saint Jerome Integrated School canteen in Mamatid, Cabuyao. The system aims to streamline food ordering, improve efficiency, and enhance user experience. This system allows customers to conveniently browse the menu, select items, and place orders, reducing reliance on physical menus and improving order accuracy. Since the system uses internet services as its platform, technologies intended for web development were used to develop the system. The development of the proposed system is based on the powerful combination of MySQL, Express.js, React.js, and Node.js, also known as MERN Stack.

The system has three leading user roles: Administrator, Cashier, and Customer. Administrators have access to inventory management and the generation of reports to make informed decisions and monitor financial performance. Cashiers can use the Onsite Ordering feature or POS to handle in-person transactions, manage orders, and update statuses. Customers can access the seamless, user-friendly interface to order, track, and pay for their items with the option for real-time order tracking and flexible payment methods. This system provides a comprehensive solution for efficient and effective canteen management.

Facilitating orders in school canteens is crucial for streamlining operations, reducing wait times, and enhancing the overall customer experience. The figures shown below are the features of the system that provide faster ordering transactions:



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The screenshot shows a web-based online ordering system. At the top, there is a pink header bar with the text "Welcome Back, Gab Delgado" and icons for home, search, cart, profile, and logout. Below the header is a green navigation bar with the text "COLLEGE OF COMPUTING STUDIES". The main content area is titled "MENU" in pink. It displays four meal items in a grid:

Image	Name	Price	Available Meals
	Tosilog	₱149.00	Available Meals: 176 6 purchased yesterday
	Longsilog	₱149.00	Available Meals: 180 1 purchased yesterday
	Beefsilog	₱159.00	Available Meals: 161 3 purchased yesterday

Below the grid, there are three smaller images of meals and a partial view of a burger.

Figure 17. Menu in Online Ordering for Customer

Figure 17 illustrates the online menu for customers. Where customers can browse, add to cart, and order. The menu displays recommended items with the highest order rates. The admin can add and modify the menu items.



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Welcome Back, Gab Delgado

Tosilog ₱149.00 Available Meals: 176 6 purchased yesterday

Longsilog ₱149.00 Available Meals: 180 1 purchased yesterday

Beefsilog ₱159.00 Available Meals: 161 3 purchased yesterday

Porksilog ₱159.00 Available Meals: 148 No purchase yesterday

Added to Cart Just now X
Tosilog added successfully!

Welcome Back, Gab Delgado

Cart Items

Name	Quantity	Price	Actions
Tosilog	- 1 +	₱149.00	Delete

Checkout

Tosilog ₱149.00 Available Meals: 176 6 purchased yesterday

Longsilog ₱149.00 Available Meals: 180 1 purchased yesterday

Beefsilog ₱159.00 Available Meals: 161 3 purchased yesterday

Porksilog ₱159.00 Available Meals: 148 No purchase yesterday

Figure 18. Adding to Cart in Customers UI

Figure 18 illustrates the customer adding to the cart. It allows customers to select items they wish to purchase and temporarily store them in a virtual cart. This cart is a holding area



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where customers can review their chosen items, modify quantities, and proceed to checkout when ready to finalize the purchase.

Checkout

#	Item Name	Quantity	Price	Total
1	Tosilog	1	₱149.00	₱149.00

Total: ₱149.00

Payment Option: [Select Payment Method ▾](#)

[Cancel](#) [Checkout](#)

Figure 19. Checkout page of Customer

Figure 19 illustrates checkout for online ordering. Customers review their order details, including items, quantities, and prices. They then select their preferred payment method from available options. After inputting the necessary payment information, they click the "Checkout" button to initiate the payment process.



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A screenshot of a software interface titled "Orders". It displays a grid of six order cards, each with an order number and a small circular icon. The order numbers are 30, 31, 36, 37, 38, and 48. The icons are small and partially obscured. At the top left, there is a welcome message "Welcome, Cashier!" with a user icon. At the top right, there are links for "POS", "Orders", and a search bar.

A screenshot of the same software interface, but with a modal window open over the main orders list. The modal is titled "Order #: 48" and shows details for a customer named "gabby29". The order item is "Tosilog" with a quantity of 1 and an amount of ₱149.00. The total amount is also ₱149.00. There are two buttons at the bottom of the modal: "Cancel Order" and "Complete Order". The background shows the same list of orders as the first screenshot, with order numbers 30, 31, 36, 37, 38, and 48 visible.

Figure 20 Orders of Customer in Cashiers UI

Figure 20 illustrates cashiers with an overview of all active orders. An order will be added and displayed if the customer checks out an order online or onsite. Each order has its unique number and current status, indicated by an icon. Cashiers can monitor order progress, prioritize tasks, and communicate with customers about updates. They can access detailed information such as customer details and itemized purchases by clicking on an order number.



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The screenshot shows a mobile application interface for a food delivery service. At the top, there is a notification box with the text "Order Complete" and "Just now" followed by a close button. Below this, a message says "Checkout completed!". The main screen displays a "My Orders" section with a table showing one completed order:

Order #	Name	Quantity	Price	Status	Cancellation Reason	Actions
48	Tosilog	1	₱149.00	completed	N/A	

Below the table, there is a "Close" button. The background of the app shows various food items like rice, eggs, and vegetables. At the bottom left, there is a "Recommended" section.

Figure 21. Transaction of orders in Customers UI

Figure 21 illustrates a comprehensive overview of a customer's transaction history. Each order is listed with details such as order number, item name, quantity, price, status, and cancellation reason. Customers can quickly review their past purchases, track order status, and take actions like reviewing details. It offers transparency by enabling customers to track issues and resolve problems efficiently.



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The screenshot shows the Point of Sale (POS) interface for the University of Cabuyao. At the top, there is a pink header bar with the text "Welcome, Cashier!" and navigation links for "POS", "Orders", and "Show All". Below the header is the "Order Summary" section, which displays a table with columns for Name, Quantity, Remove, and Price. A message indicates "No items in POS". To the right is the "MENU" section, which lists eight meal items with their names, prices, and availability counts. Each item has a small image, a price, a quantity input field with a plus sign, and a note about available meals and purchases from the previous day.

Name	Quantity	Remove	Price
No items in POS			

MENU			
Tosilog ₱149.00 Available Meals: 175 6 purchased yesterday	Longsilog ₱149.00 Available Meals: 180 1 purchased yesterday	Beefsilog ₱159.00 Available Meals: 161 3 purchased yesterday	Porksilog ₱159.00 Available Meals: 148
Chicksiloa	Hotsiloa	Hamsilo	Chicken Buraer

Figure 22. POS in Cashiers UI

Figure 22 illustrates the Point of Sale, the digital interface where cashiers interact with the store's inventory. It is used by the cashier when customers order onsite. It displays the order summary and menu with available stocks, allowing cashiers to input items, adjust quantities, and remove items. The system calculates the total price, processes payments, and generates receipts. Cash is the only payment option for onsite ordering or using the POS.

In today's business environment, effective inventory management is no longer just a good practice; it's a necessity. Administrators have access to inventory management. By optimizing inventory levels, businesses can reduce costs, improve customer satisfaction, and boost overall profitability. The figures shown below are the features of the system that provide efficient management of inventory:



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A screenshot of a website interface titled "Inventory". The top navigation bar includes links for "Food", "Stocks", and "Storage", with "Storage" being the active tab. Below the navigation is a table with the following data:

Name	Quantity	Unit	Date Added	Actions
Hotdog Raw	190	Pack	2024-11-11T01:00:00.000Z	
Rice Raw	148	Sack	2024-11-11T01:30:00.000Z	
Tocino Raw	30	Pack	2024-11-11T02:00:00.000Z	
Bun Raw	90	Pack	2024-11-11T00:30:00.000Z	
Chicken Raw	145	Whole	2024-11-11T01:30:00.000Z	
Pork Raw	45	Whole	2024-11-11T02:00:00.000Z	
Beef Raw	295	Whole	2024-11-11T02:30:00.000Z	

[Add to Storage](#)

Figure 23. Displaying Storage Items on the Website

The Storage Table, shown in the figure above, is essential to the website's inventory system. It displays key details about the raw materials, such as the name, quantity, unit of measurement, the date each item was added, and available actions. The Name column helps users quickly identify each material, while the Quantity column shows how much each is in stock. The Unit column indicates the Unit of measurement, like kilograms or liters. The Date Added column tells when each material was entered into the system, which helps track inventory. Lastly, the Actions column allows users to edit or delete items as needed. This table helps keep track of raw materials and ensures users can easily manage their inventory.



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A screenshot of a website interface for managing inventory. At the top, there's a pink header bar with a user icon and the text "Welcome Admin!". Below it is a navigation bar with tabs: "Inventory", "Food", "Stocks" (which is underlined, indicating it's the active tab), and "Storage". The main content area is a table titled "Stocks" with the following data:

Name	Quantity	Unit	Actions
Hotdog	198	Piece	
Rice	349	Cup	
Tocino	392	Piece	
Bun	53	Piece	
Chicken	58	Cut	
Pork	71	Piece	
Beef	73	Cut	
Egg	270	Pieces	

At the bottom of the table is a black button labeled "Add Stock".

Figure 24. Table Displaying Stocks on the Website

The Stocks Table, shown in the figure above, helps keep track of the items in the inventory. It shows the name of each stock item, so users know what it is; the Quantity, which tells how many items are available; and the Unit, which shows the type of measurement, like pieces or kilograms. This table is essential for managing stock and ensuring the right amount of items is always available.



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The screenshot shows a web-based inventory management system. At the top, there's a pink header bar with a user welcome message "Welcome Admin!" and navigation links for "Inventory", "Sales", and "Dashboard". Below the header is a table titled "Food" under the "Inventory" tab. The table has columns for "Item Name", "Stock Details", "Price", and "Action". It lists four items: Porksilog, Chicksilog, Tosilog, and Tapsilog, each with its respective ingredients, price (e.g., ₱ 129.00), and edit/delete icons. A "Add Product" button is located at the bottom of the table.

Item Name	Stock Details	Price	Action
Porksilog	Egg (1 Piece), Pork (1 Piece), Rice (1 Cup)	₱ 129.00	
Chicksilog	Chicken (1 Cut), Egg (1 Piece), Rice (1 Cup)	₱ 109.00	
Tosilog	Egg (1 Piece), Rice (1 Cup), Tocino (1 Piece)	₱ 99.00	
Tapsilog	Beef (1 Cut), Egg (1 Piece), Rice (1 Cup)	₱ 139.00	

Figure 25. Table Displaying Items on the Website

The Items Table, shown in the figure above, displays essential details about the items in the system. It includes the Item Name, which identifies the item; Stock Details, which shows the ingredients used in the item that comes from the stock; the price, which indicates how much the item costs; and the Action section, where users can perform actions, such as editing or deleting the item. This table helps track the item details and the ingredients required to make those items, ensuring smooth inventory management.



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The screenshot shows a web-based inventory management system for the University of Cabuyao. At the top, there is a header with the university's logo and name, followed by a navigation bar with links for Inventory, Sales, and Accounts. The main area is titled 'Inventory' and has tabs for Food, Stocks, and Storage, with Storage being the active tab. Below this is a table showing current inventory items like Hotdog Raw, Rice Raw, etc., with columns for Name, Quantity, and Unit. Overlaid on this is a modal window titled 'Add New Item in Storage'. This modal contains fields for Item Name, Quantity, and Unit, along with a 'Save Ingredient' button. To the right of the modal is a list of items added to storage, showing Date Added and Actions (edit and delete). At the bottom of the modal is an 'Add to Storage' button.

Name	Quantity	Unit
Hotdog Raw	189	Whole
Rice Raw	148	
Tocino Raw	30	
Bun Raw	90	
Chicken Raw	145	
Pork Raw	45	

Date Added	Actions
4-11-11T01:00:00.000Z	/ X
4-11-11T01:30:00.000Z	/ X
4-11-11T02:00:00.000Z	/ X
4-11-11T00:30:00.000Z	/ X
4-11-11T01:30:00.000Z	/ X
2024-11-11T02:00:00.000Z	/ X

Figure 26. Add New Item to Storage Modal

Figure 26 shows the modal interface for adding new items to the storage. The "Add To Storage" modal allows users to input essential details when adding items to the storage in the system. In this modal, users can enter the Item Name, which identifies the item; the quantity, which specifies how much of the item is available; and the Unit, which indicates the measurement unit for the item (e.g., cuts, pieces, etc.). This modal ensures that items are correctly added to the inventory with all necessary details for future use in recipes or other processes.



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A screenshot of a web-based inventory management system. At the top, there's a header with the university's logo and name, followed by a navigation bar with links for Inventory, Sales, and Accounts. The main area has tabs for Food, Stocks (which is selected), and Storage. On the left, a list of items like Holdog, Rice, Tocino, Bun, Chicken, Pork, Egg, and Dates is shown with their respective quantities (e.g., 269, 402). In the center, a modal window titled "Add New Stock" is open. It contains fields for "Stock Name" (with a placeholder "Enter Stock Name"), a checkbox for "Does this stock require raw materials?", a "Quantity" input field (with a placeholder "Enter Quantity"), and a "Unit" dropdown menu with "Select Unit" as the option. A "Save Stock" button is at the bottom right of the modal. To the right of the modal, there's a table with columns for "Unit" and "Actions", listing categories like Piece, Cup, and Cut, each with edit and delete icons.

Figure 27. Add New Stock Modal

The "Add New Stock Modal" adds a new stock item to the system. Users can input basic information such as the Stock Name, Quantity, and Unit (e.g., kg, liters) in this modal. Also, a checkbox labeled "Does this stock require raw materials?" If this checkbox is not selected, the modal only requires the user to fill out the stock name, quantity, and Unit of measurement. It allows for a quick and straightforward entry of stock items that do not require raw materials.



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The screenshot shows a web-based inventory management system for the University of Cabuyao. On the left, there's a sidebar with a logo and the text "Welcome Admin!". Below it are tabs for "Inventory", "Food", "Stocks" (which is selected), and "Storage". A list of stock items is displayed under the "Stocks" tab, including Hotdog, Rice, Tocino, Bun, Chicken, Pork, Egg, and others. The main area features a modal window titled "Add New Stock". Inside the modal, there's a field for "Stock Name" with a placeholder "Enter Stock Name". A checked checkbox labeled "Does this stock require raw materials?" is present. Below it is a "Unit" dropdown with "Select Unit" as the placeholder. There's also a section for "Choose item from food storage" with a "Tap to select" button. Fields for "Quantity of Item to Use from Storage" and "Enter quantity to use" are shown. Another section for "Quantity Required for Recipe" and "Conversion Ratio" is also present. At the bottom right of the modal is a pink "Save Stock" button. To the right of the modal, a table lists various stock items with their units and actions (Edit and Delete icons). The table includes rows for Piece, Cup, Piece, Piece, Cut, Piece, Piece, and Piece.

Figure 28. Add New Stock Modal (with Raw Materials)

Figure 28 illustrates that if the "Does this stock require raw materials?" checkbox is selected, additional fields appear in the modal for specifying the raw materials needed for the stock. These extra fields include options for choosing the Raw Material, entering the Quantity of Raw Material to Use, the Quantity Required, and the Conversion Ratio. It ensures that stock items that depend on raw materials are correctly recorded and linked to the materials needed for production or use.

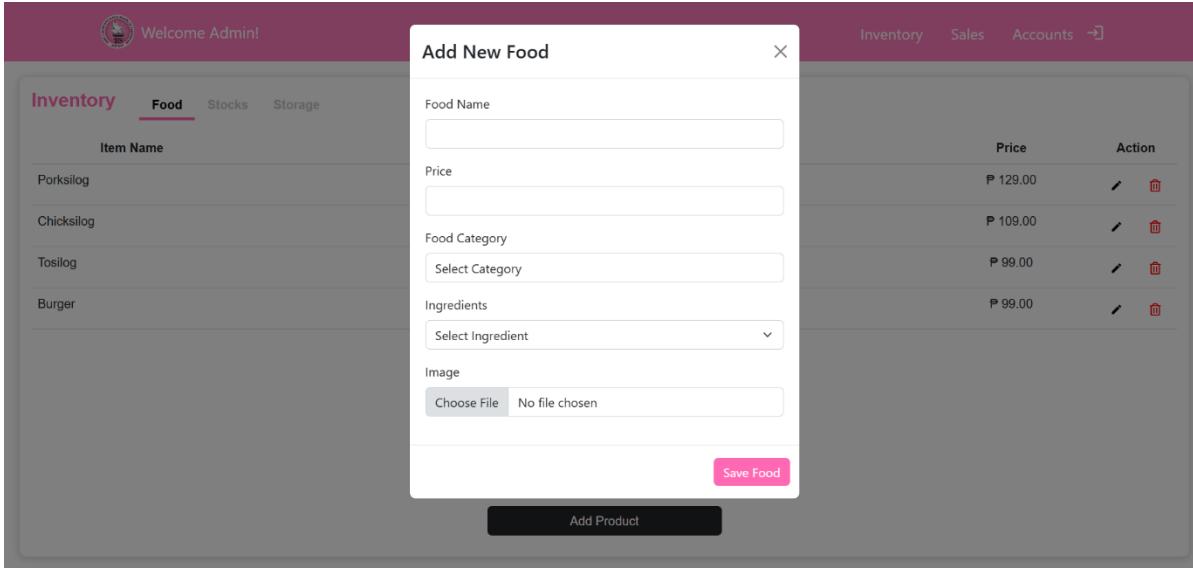


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The screenshot shows a modal window titled "Add New Food" overlaid on a dashboard. The dashboard has tabs for "Inventory", "Food" (which is selected), "Stocks", and "Storage". On the left, there's a list of food items: Porksilog, Chicksilog, Tosilog, and Burger. The main area contains fields for "Food Name", "Price", "Food Category" (with a dropdown menu showing "Select Category"), "Ingredients" (with a dropdown menu showing "Select Ingredient"), and "Image" (with a "Choose File" button and a placeholder "No file chosen"). At the bottom right of the modal is a pink "Save Food" button. Below the modal is a black "Add Product" button.

Figure 29. Add New Food Item Modal

The "Add New Food Item Modal" allows users to add a new food item to the system. In this modal, users can enter essential details about the food item. First, the Food Name field is used to specify the dish's name. The Price field allows users to enter the cost of the food item. Next, the Food Category field allows the user to select a category for the dish, such as "Student Meals," "Silog Meals," or "Drinks." The user can also add a category if the category needed does not exist. For the Ingredients section, users can select the required ingredients from a list of available ingredients, ensuring each item has the correct components. Lastly, users can upload an image of the food item by choosing a file in the Image section. It helps visually represent the food item in the system. The modal provides all necessary information before adding the item to the menu.



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A screenshot of a web-based inventory management system. At the top, there's a header with the university's logo and name, followed by a navigation bar with links for Inventory, Sales, and Accounts. The main area shows an "Inventory" table with columns for Name and Quantity. A modal window titled "Edit Item from Storage" is open over the table. Inside the modal, there are fields for Name (Hotdog Raw), Quantity (189), and Unit (Select Unit). Below these fields are "Close" and "Save Changes" buttons. To the right of the modal, a list of storage entries is displayed with columns for Date Added and Actions. Each entry shows a date like "4-11-11T01:00:00.000Z" and two small icons for edit and delete. At the bottom of the modal, there's a "Add to Storage" button.

Figure 30. Edit Item from Storage Modal

The "Edit Item from Storage Modal" allows users to update the details of an existing raw material in the system. In this modal, users can edit the names of items, such as "Hotdog Raw," to reflect any changes. The Quantity field allows users to update the amount of the available material, in this case, 80. The Unit field lets users modify the measurement unit for the items, such as kilograms, liters, or any other relevant unit of measurement. This modal ensures that the item's information is kept up-to-date and accurately reflects its current state in the inventory.



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A screenshot of a web-based inventory management application. At the top, there's a purple header bar with the university's logo and name, followed by a green navigation bar with tabs for 'Inventory', 'Food', 'Stocks' (which is currently selected), and 'Storage'. Below the navigation is a main content area. On the left, a table lists various food items with their current stock levels: Hotdog (72), Rice (269), Tocino (402), Bun (402), Chicken (402), Pork (402), Egg (402), and Dahon (402). In the center, a modal window titled 'Edit Stock' is open, showing fields for 'Stock Name' (set to 'Hotdog'), 'Quantity of Raw Material to Use' (empty), 'Conversion Ratio' (set to '20'), and 'Unit' (set to 'Select Unit'). At the bottom of the modal are two buttons: 'Close' and 'Save Changes'. To the right of the modal, there's a table with columns for 'Unit' and 'Actions', listing various measurement units like 'Piece', 'Cup', 'Cut', etc., each with a edit icon.

Figure 31. Edit Stock Modal

The "Edit Stock Modal" allows users to modify details for an existing stock. In this modal, users can change the Stock Name, such as "Cooked Patty," and update the quantity of raw material required for that stock. The Quantity field reflects how much of the stock is available, and the Unit field, such as "Pieces," specifies the measurement unit used. Significantly, the Conversion Ratio field cannot be altered, as changing this value could lead to inaccuracies in stock management and the relationship between raw materials and finished products. This modal ensures that the stock information is maintained accurately and prevents unintentional errors in the inventory system.

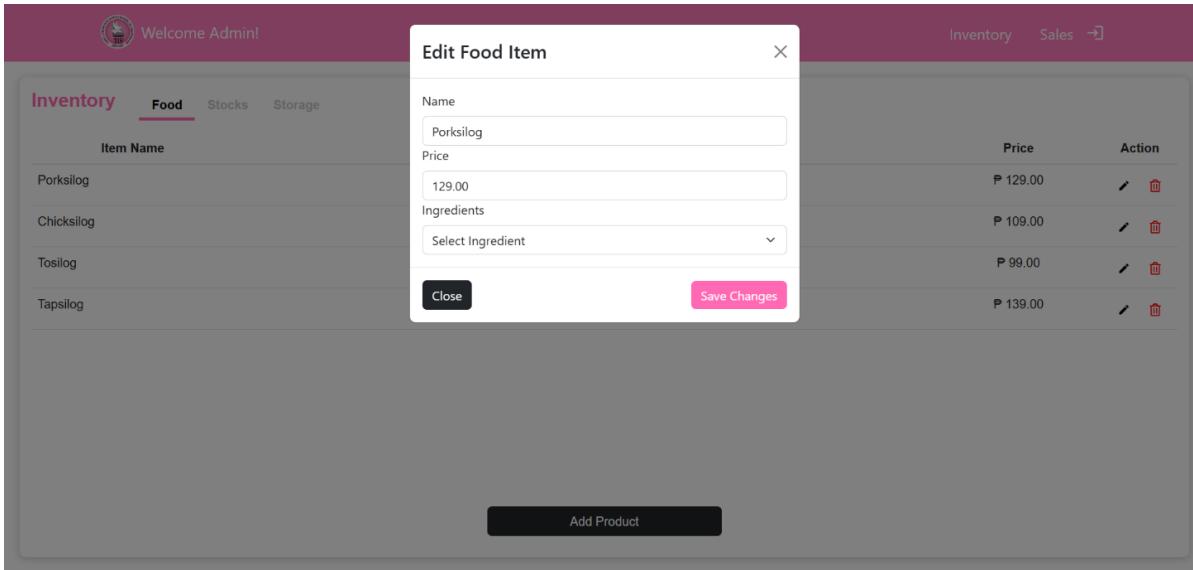


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The screenshot shows a modal window titled "Edit Food Item" over a background dashboard. The dashboard has tabs for "Inventory", "Food" (which is selected), "Stocks", and "Storage". On the left, there's a list of food items: Porksilog, Chicksilog, Tosilog, and Tapsilog. The main area shows a table of food items with columns for Name, Price, and Action. The "Food" tab is active, showing the following data:

Name	Price	Action
Porksilog	₱ 129.00	
Chicksilog	₱ 109.00	
Tosilog	₱ 99.00	
Tapsilog	₱ 139.00	

The modal itself has fields for "Name" (Porksilog), "Price" (129.00), and "Ingredients" (a dropdown menu labeled "Select Ingredient"). It includes "Close" and "Save Changes" buttons.

Figure 32. Edit Food Item Modal

The "Edit Food Item Modal" enables users to modify the details of an existing food item in the system. In this modal, users can change the Food Name, such as "Hotsilog," and adjust the price, for example, "50.00". The ingredients section allows users to update the list of ingredients required for the food item. This section will enable users to add, remove, or change the ingredients necessary to prepare the dish. The modal provides a dynamic interface that helps ensure that food item details, including ingredients and price, are accurate and up to date for the inventory system.



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A screenshot of a software application titled "Welcome Admin!". The interface has a dark theme with a purple header bar containing "Inventory", "Sales", and a user icon. Below the header is a navigation bar with tabs: "Inventory" (highlighted in pink), "Food", "Stocks" (selected), and "Storage". A table lists various food items with their names, quantities, units, and actions. Overlaid on the interface is a modal dialog box with a white background and a purple border. The dialog title is "Cannot Remove Item" and its message is "Stock cannot be remove because related items have pending orders." It contains a "Close" button. The main table below the dialog shows the following data:

Name	Unit	Actions
Holdog	Piece	
Rice	Cup	
Tocino	Piece	
Bun	Piece	
Chicken	Cut	
Pork	Piece	
Beef	Cut	
Egg	Pieces	

Add Stock

Figure 33. Delete Items from Storage/Stock/Food Items

The "Delete Items from Storage/Stock/Food Items" is designed to help users remove items from storage, stocks, or food items from the system. However, the deletion process is restricted if the items from storage, stock, or food items are referenced in active orders. For example, if items from storage are part of a pending order, they cannot be deleted, as doing so would affect the integrity of those orders. This safeguard ensures that no essential resources are deleted while still used for active orders. Similarly, this deletion rule applies to stocks and food items, meaning they cannot be removed if linked to ongoing transactions. It prevents disruptions in the system and ensures that all data remains consistent and accurate.



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Having easy payments seeks to streamline and simplify financial transactions. It encompasses various technologies and services designed to make payments more efficient, secure, and convenient. The figures shown below are the features of the system that provides both physical and cashless payment:

Checkout

#	Item Name	Quantity	Price	Total
1	Fried Chicken with Rice	1	₱50.00	₱50.00

Total: ₱50.00

Payment Option: G-Cash ▾

Cancel Checkout

Figure 34. G-Cash as Payment option for Customer Online

Figure 34 illustrates the customer's option for online payments. It highlights the integration of G-Cash as a primary payment option via PayMongo. G-Cash's widespread adoption in the Philippines, combined with its convenience, security, and accessibility, makes



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it a popular choice for online transactions, especially for those without traditional bank accounts.

A screenshot of a web page titled "GCash Test Payment Page". At the top left is the PayMongo logo. Below the title, it says "This is a test payment of ₱ 50.00." There are three buttons: "Authorize Test Payment" (green), "Fail Test Payment" (light gray), and "Expire Test Payment" (light gray). In the center is a large pink circle containing a white checkmark. Below the circle, the text "Payment Successful!" is displayed in a large, bold font. Underneath that, a smaller message reads "Thank you for your payment. Your transaction was successful." At the bottom is a dark button with the text "Place Order" in white.

Figure 35. Payments Process and Payments Successful in Customer UI

Figure 35 illustrates the payment process using the G-Cash test payment page by PayMongo, which is mainly used for development and testing purposes. The three button options are provided: "Authorize Test Payment" for successful authorization, "Fail Test



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Payment" to simulate a failed attempt, and "Expire Test Payment" to mimic an expired transaction. This testing environment allows us to verify the correct integration of the G-Cash API, ensuring seamless payment processing and addressing potential issues before launching the live payment system. The "Place Order" button provides a direct next step for the customer, allowing them to proceed with their next purchase.

The canteen management accesses accurate and real-time sales, inventory, and transaction history data. This feature enhances decision-making by providing actionable insights, improving operational transparency, and allowing for efficient monitoring and evaluation of canteen performance. The figures shown below are the features of the system that provide quick generation of reports:

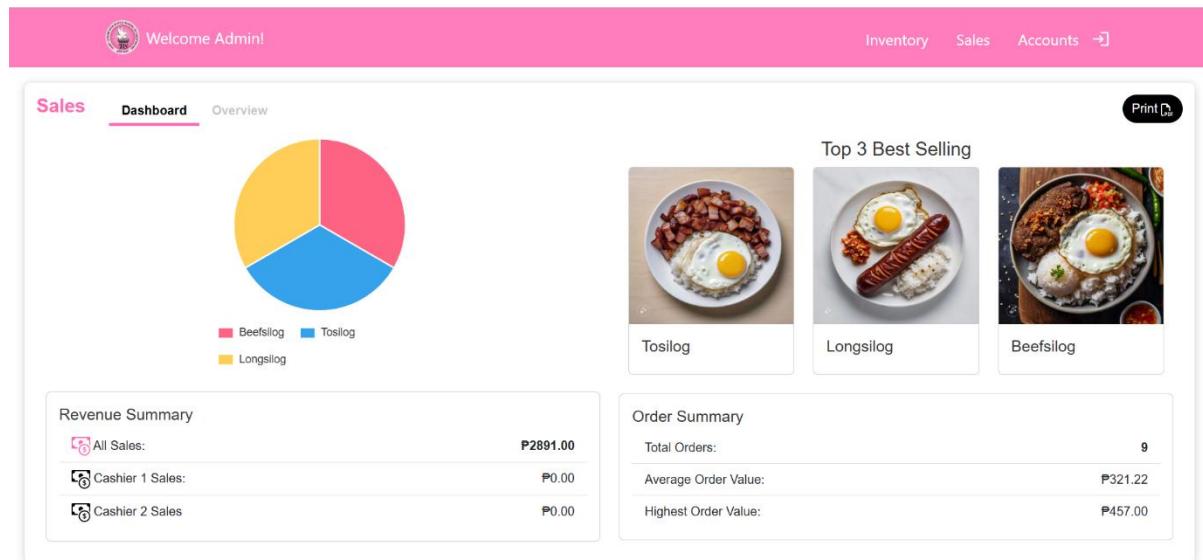


Figure 36. Sales Dashboard

The "Sales Dashboard" provides a comprehensive view of the sales performance. It includes a breakdown of the total sales and sales data by channels such as Cashier 1 and Cashier 2. The Order Summary section shows essential metrics like the total number of orders, the average order value, and the highest order value. These statistics offer valuable insights into



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the overall sales activity and trends. In addition, a pie chart is included to visually represent the sales distribution, helping users quickly identify the proportion of sales for each item. This visual tool aids in analyzing sales data and supports decision-making.

The screenshot shows a web-based application interface for managing sales data. At the top, there is a pink header bar with a welcome message "Welcome Admin!" and navigation links for "Inventory", "Sales", and "Accounts". Below the header is a toolbar with buttons for "Print PDF" and date/time filters. The main content area is titled "Sales Overview" and displays a table of sales transactions. The table has columns for Sale ID, Order Number, Cashier, Customer, Status, Total Amount, Sale Date, Item Name, and Quantity. The data in the table is as follows:

Sale ID	Order Number	Cashier	Customer	Status	Total Amount	Sale Date	Item Name	Quantity
28	39	Cashier 1	Gab Delgado	online	₱ 159.00	12/12/2024	Beefsilog	1
26	44	Cashier 1	Gab Delgado	online	₱ 298.00	12/12/2024	Tosilog	1
27	44	Cashier 1	Gab Delgado	online	₱ 298.00	12/12/2024	Longsilog	1
23	47	Cashier 1	Gab Delgado	online	₱ 457.00	12/12/2024	Tosilog	1
24	47	Cashier 1	Gab Delgado	online	₱ 457.00	12/12/2024	Longsilog	1
25	47	Cashier 1	Gab Delgado	online	₱ 457.00	12/12/2024	Beefsilog	1
29	48	Cashier 1	Gab Delgado	online	₱ 149.00	12/12/2024	Tosilog	1

Figure 37. Sales Overview

The "Sales Overview" provides a comprehensive view of the system's sales data. It includes a filter section where users can select different sales categories, such as Cashier 1, Cashier 2, and Online Sales, to view the specific performance of each channel. Users can also filter the sales by date, choosing from options like today, this week, or this month to analyze sales over different periods. Additionally, there is a feature to generate a PDF report of the selected sales data. It allows users to download and store the sales summary for further review or record-keeping, making it easy to track and generate reports on the performance of different sales channels over time.



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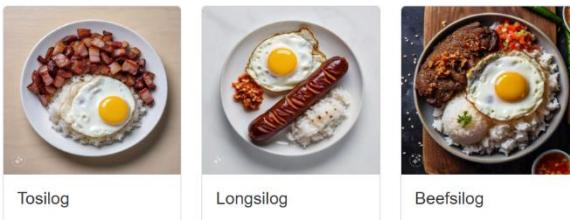
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Print

Top 3 Best Selling



Order Summary

Total Orders:	31
Average Order Value:	₱450.23
Highest Order Value:	₱5841.00

Saint Jerome Integrated School of Cabuyao
0021 Mamatid Rd, Cabuyao, 4025 Laguna
Phone: (049) 531 3190

Sales Report								
Sale ID	Order #	Cashier	Customer	Status	Total Amount	Sale Date	Item Name	Qty
1	23	Cashier 1	Gabrielle	online	P 298.00	12/9/2024	Tosilog	1
2	23	Cashier 1	Gabrielle	online	P 298.00	12/9/2024	Longsilog	1
6	24	Cashier 1	Gab Delgado	online	P 318.00	12/9/2024	Beefsilog	1
7	24	Cashier 1	Gab Delgado	online	P 318.00	12/9/2024	Portsilog	1
3	25	Cashier 1	-	walk-in	P 298.00	12/9/2024	Tosilog	1
4	25	Cashier 1	-	walk-in	P 298.00	12/9/2024	Longsilog	1
5	26	Cashier 1	-	walk-in	P 159.00	12/9/2024	Beefsilog	1
8	27	Cashier 2	-	walk-in	P 457.00	12/9/2024	Tosilog	1
9	27	Cashier 2	-	walk-in	P 457.00	12/9/2024	Longsilog	1
10	27	Cashier 2	-	walk-in	P 457.00	12/9/2024	Beefsilog	1
11	28	Cashier 2	-	walk-in	P 149.00	12/9/2024	Tosilog	1
12	29	Cashier 2	-	walk-in	P 149.00	12/9/2024	Longsilog	1
15	32	Cashier 1	Gab Delgado	online	P 149.00	12/11/2024	Longsilog	1
14	33	Cashier 1	Gab Delgado	online	P 149.00	12/11/2024	Tosilog	1
13	34	Cashier 1	Gab Delgado	online	P 318.00	12/11/2024	Beefsilog	2
16	35	Cashier 1	-	walk-in	P 298.00	12/11/2024	Tosilog	2
28	39	Cashier 1	Gab Delgado	online	P 159.00	12/12/2024	Beefsilog	1
20	40	Cashier 2	Gab Delgado	online	P 5841.00	12/11/2024	Sprite	99
19	41	Cashier 2	Gab Delgado	online	P 49.00	12/11/2024	Water	1
18	42	Cashier 2	Gab Delgado	online	P 159.00	12/11/2024	Beefsilog	1

Sale ID	Order #	Cashier	Customer	Status	Total Amount	Sale Date	Item Name	Qty
17	43	Cashier 2	-	walk-in	P 149.00	12/11/2024	Tosilog	1
26	44	Cashier 1	Gab Delgado	online	P 298.00	12/12/2024	Tosilog	1
27	44	Cashier 1	Gab Delgado	online	P 298.00	12/12/2024	Longsilog	1
21	45	Cashier 1	Gab Delgado	online	P 149.00	12/11/2024	Tosilog	1
22	46	Cashier 1	Gab Delgado	online	P 149.00	12/12/2024	Tosilog	1
23	47	Cashier 1	Gab Delgado	online	P 457.00	12/12/2024	Tosilog	1
24	47	Cashier 1	Gab Delgado	online	P 457.00	12/12/2024	Longsilog	1
25	47	Cashier 1	Gab Delgado	online	P 457.00	12/12/2024	Beefsilog	1
29	48	Cashier 1	Gab Delgado	online	P 149.00	12/12/2024	Tosilog	1
30	49	Cashier 1	Gab Delgado	online	P 308.00	12/12/2024	Longsilog	1
31	49	Cashier 1	Gab Delgado	online	P 308.00	12/12/2024	Beefsilog	1

Top Selling Items

Item Name	Quantity Sold
Sprite	99
Tosilog	13
Beefsilog	9

Total Sales Earned: P 13957.00

Figure 38. Sales Report and Top Selling Items

The "Sales Report" displays a detailed breakdown of each sale, including key data such as Sale ID, Order Number, Username (the user who made the order), Total Amount, Sale Date, Item Name, and Quantity of items sold. This comprehensive report helps users track individual sales transactions, providing transparency and insight into sales activity over a specific period.



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Each row in the report represents a single item sold as part of an order, making it easy to analyze sales performance by item and user. For example, if an item like "Hotsilog" or "Fried Chicken" is sold multiple times in different orders, the report highlights those transactions with relevant quantities and sale amounts. This detailed data aids in understanding purchasing patterns, evaluating performance, and identifying trends. The "Top Selling Items" section highlights the most popular items sold. This section summarizes the highest-performing products based on the total quantity sold, helping managers or owners focus on the best-selling items. This feature helps identify customer preferences and optimize inventory and marketing strategies. When exported to PDF, this Sales Report allows users to generate a printable summary of all sales data, which can be used for further analysis or record-keeping purposes.

Assessment of the End User

The end users evaluated the functions and the performance of the proposed system. The evaluation aims to check if the system is under **ISO 25010: 2011 or the System and Software Quality Requirements and Evaluation (SQUARE)**, the official standard practice for producing software-related products. The considered end-users of the system are the Administrator, Cashier, and Customer.

The criteria that the end users used in assessing the system are **functional suitability** which checks that the system is performing its core functions, **reliability** which checks if the system performs specified functions under specified conditions for a specified period, **efficiency** which checks if the system has a consistent performance when used under specified conditions, and lastly, **usability** which assesses the user-friendliness of the system when interacted by the end-users.



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Functional Suitability	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	71	25	3	1	0	100%	5.0
Q2	45	52	2	1	0	100%	4.0
Q3	71	26	2	1	0	100%	5.0
Q4	62	30	6	2	0	100%	5.0
Q5	48	44	8	0	0	100%	4.0

Table 3. Median for the assessment of the End Users under the Functional Suitability criterion

Where:

Q1 - The system can handle orders in over-the-counter and online ordering

Q2 - The system accurately records all transactions without minimal errors

Q3 - The system provides a clear breakdown of customers order (items, quantity, price) before their payment

Q4 - The system can complete the customers transactions using both cashless and physical payment options

Q5 - The system generates accurate reports in a timely manner



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Table 3 represents the median for assessing end users under functional suitability. In Q1, most respondents agreed that the system successfully handles over-the-counter and online orders. It indicates that the system is well-suited to manage diverse ordering methods that enhance customer convenience. In Q2, the system effectively records transactions with minimal errors. This transaction accuracy maintains user trust and ensures smooth operations. Q3 agreed that the system provides a clear order breakdown before payment. Customers must confirm their order details, helping to avoid errors and enhance user satisfaction. In Q4, the majority supported the system's ability to handle cashless and physical payment methods, but the responses were more varied. In Q5, responses indicate that the system generates reports accurately and on time. The system demonstrates strong functional suitability, with most users indicating high satisfaction regarding order handling, transaction accuracy, order transparency, and report generation.

Reliability	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	51	41	7	1	0	100%	5.0
Q2	56	40	3	1	0	100%	5.0
Q3	54	37	8	1	1	100%	5.0
Q4	34	56	4	3	3	100%	4.0
Q5	57	40	1	2	0	100%	5.0

Table 4. Median for the assessment of the End Users under the Reliability criterion



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Where:

Q1 - The system can handle multiple users placing orders without performance issues

Q2 - The system functions properly when accessing the POS and inventory features simultaneously

Q3 – The customer can depend on the system to be accessible on different devices (e.g., mobile, desktop) without issues

Q4 – The customer experiences minimal interruptions when using the system for ordering or payment

Q5 - The system consistently provides accurate order information without inconsistencies

Table 4 represents the median for the assessment of end users under the reliability criterion. The system demonstrated strong reliability, particularly in handling multiple users (Q1), supporting simultaneous access to POS and Inventory features (Q2), and providing accurate order information (Q5). Most users reported positive experiences with stable performance and minimal issues (Q4), and the system is accessible to different devices (Q3).



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Efficiency	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	58	38	3	1	0	100%	5.0
Q2	52	45	3	0	0	100%	5.0
Q3	67	29	4	0	0	100%	5.0
Q4	63	30	5	1	1	100%	5.0
Q5	63	31	5	1	0	100%	5.0

Table 5. Median for the assessment of the End Users under the Efficiency criterion

Where:

Q1 - The system processes orders quickly without delays

Q2 - The system responds quickly when customer navigate between different sections or pages (e.g., menu, order summary)

Q3 – The system sends order confirmation immediately after the customer completes their transaction

Q4 – The system allows customer to retrieve their previous orders or transaction history, providing a convenient way to track their past purchases and transactions



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Q5 - The system updates the order summary or total price immediately when customer makes changes to their order

Table 5 represents the median for the assessment of end users under the efficiency criterion. The system generally performs well in terms of speed and responsiveness, particularly in the order processing (Q1), order confirmation (Q3), and updating the order summary (Q5). These aspects are crucial to creating an efficient user experience and are recognized positively by most respondents. In Q2, most respondents agreed that navigation is quick. While some respondents disagreed, indicating potential issues or areas such as making the feature more prominent or accessible (Q4).

Usability	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	65	34	0	1	0	100%	5.0
Q2	67	31	1	1	0	100%	5.0
Q3	65	28	5	1	1	100%	5.0
Q4	55	41	3	0	1	100%	4.0
Q5	55	41	3	0	1	100%	4.0

Table 6. Median for the assessment of the End Users under the Usability criterion

Where:

Q1 - The system is easy to learn, even for users with minimal technical skills



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Q2 - The system provides clear instructions and labels for all its features

Q3 – The system is responsive and adapts well to different devices (e.g., smartphones, tablet)

Q4 - The system's error messages are clear and help the customer resolve the issues quickly

Q5 - The system helps customer understand how to use new or unfamiliar features without requiring additional help

Table 6 represents the median for assessing end users under the usability criterion. The system is perceived as highly user-friendly, with most respondents agreeing that it is easy to learn even for those with minimal technical skills (Q1) and that it provides clear instructions and labels for its features (Q2). Most users feel the system adapts well to different devices (Q3). The system's error messages are mostly clear and help resolve issues quickly (Q4). It is also effective in helping users understand new or unfamiliar features without additional assistance (Q5). Some users experienced problems with the system's responsiveness on specific devices, indicating a need for further optimization. Overall, the system performs well in terms of usability. These areas of improvement could further elevate its user-friendliness and accessibility.



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Assessment of the IT Experts

Qualified IT experts also evaluated the proposed system's functions and performance. The evaluation aims to measure if the system aligns with **ISO 25010: 2011 or the System and Software Quality Requirements and Evaluation (SQUARE)**, the official standard for creating or innovating system or software-related outputs. The experts' opinions are also assessed since they are more knowledgeable in the field. Experts can give suggestions or recommendations that can be improved in the system.

The criteria that the IT experts used in assessing the system are **functional suitability**, which checks if the system is performing its core functions, **reliability**, which checks if the system performs specified functions under specified conditions for a specified period, **efficiency**, which checks if the system has a consistent performance when used under specified conditions, and **maintainability** which checks if the system can be adjusted, corrected, or adapted to different changes in requirements and environment.

Functional Suitability	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	2	2	1	0	0	100%	4.0
Q2	1	3	1	0	0	100%	4.0
Q3	3	2	0	0	0	100%	5.0
Q4	2	3	0	0	0	100%	4.0
Q5	1	3	1	0	0	100%	4.0



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Table 7. Median for the assessment of the IT Experts under the Functional Suitability criterion

Where:

- Q1** - The system can handle orders in over-the-counter and online ordering
- Q2** - The system accurately records all transactions without minimal errors
- Q3** - The system provides a clear breakdown of customers order (items, quantity, price) before their payment
- Q4** - The system can complete the customers transactions using both cashless and physical payment options
- Q5** - The system generates accurate reports in a timely manner

Table 7 represents the median for the assessment of IT experts under the functional suitability criterion. In Q1, most experts agreed that the system effectively manages over-the-counter and online orders. The responses to the system accurately record transactions without minimal errors were predominantly (Q2). The system's ability to display a clear breakdown of order details (items, quantity, and price) before payment was met with the highest number of "Strongly Agree" responses (Q3). The functionality to complete transactions suggests the system's support for flexible payment methods is well-received by the experts (Q4). Experts agree on the system's capability to generate accurate and timely reports, which indicates a generally favorable but mixed view on report accuracy and timeliness (Q5). The Functional Suitability criterion received positive evaluation, with most



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experts agreeing that the system effectively supports efficient ordering, transaction management, and reporting in a school canteen setting.

Reliability	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	1	2	2	0	0	100%	4.0
Q2	1	1	3	0	0	100%	3.0
Q3	2	1	2	0	0	100%	4.0
Q4	1	1	3	0	0	100%	3.0
Q5	2	2	1	0	0	100%	4.0

Table 8. Median for the assessment of the IT Experts under the Reliability criterion

Where:

Q1 - The system can handle multiple users placing orders without performance issues

Q2 - The system functions properly when accessing the POS and inventory features simultaneously

Q3 – The customer can depend on the system to be accessible on different devices (e.g., mobile, desktop) without issues



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Q4 – The customer experiences minimal interruptions when using the system for ordering or payment

Q5 - The system consistently provides accurate order information without inconsistencies

Table 8 represents the median for the assessment of IT experts under the reliability criterion. The system's ability to handle multiple users received primarily "Agree" and "Neutral" ratings, showing confidence in its scalability and performance (Q1). The median score for the system's performance when accessing the POS and inventory features was 3, suggesting some room for improvement in managing simultaneous features or clarifying functionality expectations (Q2). The system's accessibility across different devices received a median score of 4, which implies that the experts generally feel optimistic about its cross-platform compatibility (Q3). The system's ability to minimize interruptions during usage scored a median of 3, reflecting some variability in expert opinions, indicating potential areas for improvement to ensure seamless user experiences without disruptions (Q4). The accuracy and consistency of order information received a median of 4, suggesting that the system is perceived as reliable in providing accurate data (Q5). Overall, the system was rated highly for reliability, with each question achieving a 100% positive rating across "Strongly Agree," "Agree," and "Undecided" responses. Median scores of 3 and 4 across different aspects show that the system is mainly dependable in certain areas, particularly simultaneous feature access and minimal interruptions.



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Efficiency	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	2	2	0	1	0	100%	4.0
Q2	1	3	1	0	0	100%	4.0
Q3	2	1	2	0	0	100%	4.0
Q4	2	3	0	0	0	100%	4.0
Q5	1	3	1	0	0	100%	4.0

Table 9. Median for the assessment of the IT Experts under the Efficiency criterion

Where:

Q1 - The system processes orders quickly without delays

Q2 - The system responds quickly when customer navigate between different sections or pages (e.g., menu, order summary)

Q3 – The system sends order confirmation immediately after the customer completes their transaction

Q4 – The system allows customer to retrieve their previous orders or transaction history, providing a convenient way to track their past purchases and transactions



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Q5 - The system updates the order summary or total price immediately when customer makes changes to their order

Table 9 represents the median for the assessment of IT experts under the efficiency criterion. IT experts agree that the system efficiently processes orders without delays (Q1), affirmed that navigating different sections is smooth and responsive (Q2), confirmation of orders is an essential feature for customer satisfaction (Q3), system's ability to track and retrieve past transactions was practical (Q4). Updating order summaries and prices in real-time when changes occur further enhances operational efficiency (Q5). This feedback reflects high efficiency in the system's operations, with each criterion meeting the expert expectations. The high ratings affirm that the system is efficient and responsive, making it well-suited for canteen operation.

Maintainability	SA (5)	A (4)	U (3)	DA (2)	SD (1)	TOTAL PERCENTAGE	MEDIAN
Q1	2	2	1	0	0	100%	4.0
Q2	1	2	2	0	0	100%	4.0
Q3	1	3	1	0	0	100%	4.0
Q4	1	2	2	0	0	100%	4.0
Q5	0	2	3	0	0	100%	3.0



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Table 10. Median for the assessment of the IT Experts under the Maintainability criterion

Where:

Q1 - The system's functions are easy to understand and learn without requiring extensive guidance.

Q2 - The system's user interface and functionality are easy to adapt to new requirements or changes

Q3 – The system's code is written with clear standards and conventions that aid maintainability

Q4 – System updates and patches are easy to implement without disruption.

Q5 - The system provides a logical and intuitive structure that simplifies the testing process when updates are made.

Table 10 represents the median for the assessment of IT experts under the maintainability criterion. The IT experts agreed that the system's functions are generally understandable and accessible, allowing users to learn effectively without extensive guidance (Q1); the system's interface and functionality can be adapted to new requirements with relative ease, reflecting flexibility in design (Q2), the code's adherence to clear standards promoting long-term maintainability (Q3), can handle updates and patches smoothly (Q4), and the structure supports the testing process. There may be room for improvement in simplifying testing for updates (Q5). It suggests the system is well-constructed for maintainability, high adaptability, and ease of learning. Enhancing the testing structure could further strengthen the system's maintainability.



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CHAPTER V

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

This chapter provides a concise summary of the findings, the conclusions drawn from the results, and recommendations of the capstone project titled "Enhancing the Efficiency of School Canteen Operations: Implementing An Advanced Ordering Solution."

Summary of Findings

The study's main objective is to develop an online ordering system for the canteen of Saint Jerome Integrated School in Mamatid, Cabuyao. This system aims to improve the canteen's daily operations by making the ordering process faster, more efficient, and more user-friendly.

The researchers identified the current business practices of the school canteen. Currently, the ordering process at the school requires students to queue up during lunchtime to select and pay for their food, resulting in long waiting times and crowded lines. This manual process is time-consuming, leading to delayed service and potentially affecting the students' dining experience. Handling cash transactions poses security risks and challenges in keeping accurate financial records. Administrators manually manage the inventory and sales, leading to errors and inefficiencies.

The system produces faster ordering transactions than the traditional ordering method at the canteen. It reduces wait times and ensures meals are ready for pickup, eliminating the need to visit the canteen to check menus. While customers focus on their tasks, canteen staff prepare the orders, providing updates when they are ready for pickup.



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The system includes efficient inventory management and real-time tracking of ingredients and food availability. Each customer order automatically updates the inventory, giving administrators accurate stock levels. This real-time data enables proactive restocking, reduces food waste by ordering only necessary quantities, optimizes storage, and ensures popular items remain available.

Easy Payment features process with multiple methods, including cash and cashless options like G-Cash. Students can have preloaded accounts funded by parents, allowing cash-free payments that enhance convenience and security. It reduces physical cash handling, speeds up transactions, and lowers security risks. Each payment is recorded in real time, streamlining end-of-day cash reconciliation.

Lastly, the system automatically generates reports, providing daily sales, inventory levels, order history, and popular menu items. Instead of manual data compilation, administrators can access comprehensive, customizable reports with just a few clicks. It reduces time and effort spent on documentation, enabling management to make informed decisions based on accurate, up-to-date data.

The results from the assessments of the end users reflected that the end users strongly agreed that the system had met its requirements in terms of functional suitability, reliability, efficiency, and usability. The median gained from the assessments of the end user ranged from Agree to Strongly Agree.

Regarding the IT experts' assessments, the study's results reflected that the IT experts agreed that the system met its requirements regarding the maintainability criterion. The IT experts also agreed with some of the questions regarding the efficiency, reliability, and functional suitability criteria. Based on the results, the median gained from the assessments of the IT experts ranged from Undecided to Agree.



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Conclusion

After developing and testing the system titled "Enhancing The Efficiency Of School Canteen Operations: Implementing An Advanced Ordering Solution" for Saint Jerome Integrated School canteen, the researchers concluded that the system could help the canteen improve its business processes.

The current school canteen ordering process requires students to wait in long lines during lunchtime to select and pay for food, leading to delays and a crowded environment that affects their dining experience. Cash transactions create security risks and make it challenging to maintain accurate financial records. The manual inventory and payment management increases the likelihood of errors and inefficiencies for the cashier and administrator.

The proposed system has accommodated the needs of the target users, particularly in online ordering, online payment, efficiently managing inventory, and generating reports more efficiently than the current practices of the school canteen.

The system met the requirements based on the assessments of the end users, which meant that the system was compelling enough to improve the canteen processes, as the results reflected that the majority of the end users Strongly Agree and Agreed with the functional suitability, reliability, efficiency, and the usability criteria.

Lastly, the IT experts accepted the system, particularly in the functional suitability, reliability, efficiency, and maintainability criteria, as most of the responses fall under the Agree category.



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Recommendations

Based on the mentioned findings and conclusions, the researchers strongly recommend the following:

1. **Integration of Additional Cashless Payment Options:** the researchers recommend that future researchers integrate additional cashless payment options like PayMaya or other e-wallets to provide greater customer flexibility.
2. **Implementation of Cash Payment Option for Online Ordering:** the researchers recommend that future researchers implement a cash payment option for online orders, as this can be a convenient payment method for customers who may not have access to online funds.
3. **Enhancement of System Security:** The researchers also recommend that future researchers prioritize enhancing system security through implementing multi-factor authentication and other relevant security measures.



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References

- [1] S. Freeman, "How to Reduce Canteen Chaos in Schools," *IRIS*, Nov. 03, 2022. <https://www.iris.co.uk/blog/education/how-to-reduce-canteen-chaos-in-schools/>. [Accessed 8 April 2024].
- [2] <https://restorapos.com/blog>, "What Is Online Ordering System? 10 Features Of Online Ordering System," *restorapos.com*. <https://restorapos.com/blog/what-is-online-ordering-system> [Accessed 8 April 2024]
- [3] "7 advantages of using an online ordering system," www.pomelopay.com, Sep. 04, 2020. <https://www.pomelopay.com/blog/advantages-online-ordering-system> [Accessed 8 April 2024]
- [4] www.sti.edu, "STI Campuses | STI College," [www.sti.edu](http://www.sti.edu/campuses.asp). <https://www.sti.edu/campuses.asp> [Accessed 9 April 2024]
- [5] "STI West Negros University," *Wikipedia*, Mar. 22, 2024. https://en.wikipedia.org/wiki/STI_West_Negros_University#:~:text=STI%20West%20Negros%20University%20has [Accessed 9 April 2024]
- [6] V. Lopez, "Restaurant Advice: Why Online Ordering is More Effective Than Call-In Ordering," *Mad Mobile*, Jan. 29, 2021. <https://madmobile.com/blog/restaurant-online-orderingversus-call-in/> [Accessed 24 April 2024]
- [7] A. M. Narciso, "Why school lunch should be longer," *The Bruin Post*, Sep. 27, 2022. <https://thebruinpost.org/3069/opinion/why-school-lunch-should-be-longer/>
- [8] "The Importance of Taking a Lunch Break and How to Spend It Effectively," Blue Summit Supplies. November 30, 2022. <https://www.bluesummitsupplies.com/blogs/career-and-culture/the-importance-of-taking-a-lunch-break-and-how-to-spend-it-effectively>
- [9] S. D. Sparks and A. Prothero, "Teachers Say Students Don't Have Enough Time to Eat Lunch. Here's How to Change That," *Education Week*, Sep. 20, 2023. Available:



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86

<https://www.edweek.org/leadership/teachers-say-students-dont-have-enough-time-to-eat-lunch-heres-how-to-change-that/2023/09>

- [10] A. Prothero, "Are Lunch Periods Too Short? Some States Want to Give Kids More Time to Eat," Education Week, Apr. 25, 2023. Available: <https://www.edweek.org/leadership/are-lunch-periods-too-short-some-states-want-to-give-kids-more-time-to-eat/2023/04>
- [11] "Lunch and Recess Time Crunch: How Does This Impact Your Students?," Independent School Management | Advancing School Leadership—Enriching The Student Experience. April 1, 2022. <https://isminc.com/advisory/publications/the-source/lunch-and-recess-time-crunch-how-does-impact-your-students>
- [12] N. Haque, "8 Reasons why implementing an online food ordering system can help your Restaurant grow," Cholo Eat - Online Ordering Website, Apps & Epos, Apr. 25, 2020. <https://www.chlooeat.co.uk/8-reasons-why-implementing-an-online-food-ordering-system-can-help-your-restaurant-grow/>
- [13] "Benefits of Implementing an Online Food Ordering System," [www.thefoodygram.com](https://www.thefoodygram.com/blogs/news/top-3-benefits-of-implementing-an-online-food-ordering-system-in-your-restaurant), Mar. 20, 2024. <https://www.thefoodygram.com/blogs/news/top-3-benefits-of-implementing-an-online-food-ordering-system-in-your-restaurant>
- [14] "Why is online food ordering system important for restaurants?" January 4, 2023. <https://www.fullestop.com/blog/importance-online-food-ordering-system-restaurants>
- [15] B. Batra, "RestoLabs," Restolabs.com, 2023. <https://www.restolabs.com/blog/advantages-food-ordering-system-restaurants>
- [16] A. Amalraj, "What is the purpose of an online ordering system," dinamic.io. November 1, 2021. <https://dinamic.io/restaurant-software/blogs/what-is-the-purpose-of-an-online-ordering-system/>



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(PAMANTASAN NG CABUYAO)

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87

- [17] tacitcorp, “Everything You Need To Know About Online Ordering Systems,” Digital ordering done right, Aug. 04, 2022. <https://tacitcorporation.com/guide-to-online-ordering-system-2/>
- [18] R. P. Kotkowski and M. Polasik, “COVID-19 pandemic increases the divide between cash and cashless payment users in Europe,” Economics Letters, p. 110139, Nov. 2021, doi: <https://doi.org/10.1016/j.econlet.2021.110139>.
- [19] “Cashless Payment: The Definition, Examples, and The Benefits,” Aspireapp.com, Mar. 07, 2024. <https://aspireapp.com/id/blog/what-is-cashless-payment-method> (accessed Apr. 19, 2024).
- [20] A. Damen, “Cashless Payments: Pros, Cons, How to Accept Them, & 8 Types,” MONEI, Feb. 01, 2023. <https://monei.com/blog/cashless-payments/>
- [21] A. Storm, “The Future of Cashless Payments [+ How to Get Ready With Affordable Tools],” blog.hubspot.com. https://blog.hubspot.com/sales/future-of-cashless-payments?fbclid=IwZXh0bgNhZW0CMTAAAR0dV9Vf5cTjKPJEh0_rQhuYUpQ-bhAgPaJaGZTcke5XOnX0X29pzdeq0c_aem_AfOhwbkDpb65GOteKOO_QKJkxSroc48YpZDZVGcKws4J24gMHmcANS_Ava1wEYxrLCVkBKfYWR9YMh6ahkFaCMM6 (accessed Apr. 23, 2024).
- [22] “A guide to cashless payments | ROLLER,” www.roller.software, Nov. 10, 2023. <https://www.roller.software/blog/guide-to-cashless-payments> (accessed Apr. 23, 2024).
- [23] H.-B. Ong and L.-L. Chong, “The effect of cashless payments on the internet and mobile banking,” Journal of Financial Services Marketing, vol. 28, no. 1, Mar. 2022, doi: <https://doi.org/10.1057/s41264-022-00145-0>.
- [24] “Filipinos’ Cashless Payments Increasing—Visa Study,” SEADS, Aug. 22, 2022. <https://seads.adb.org/solutions/filipinos-cashless-payments-increasing-visa-study>



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(PAMANTASAN NG CABUYAO)

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88

- [25] K. Crismundo, "Study shows Filipinos' cashless payments increasing," <https://www.pna.gov.ph/>, Jun. 01, 2023. <https://www.pna.gov.ph/articles/1202675> (accessed Apr. 23, 2024).
- [26] T. C. News GMA Integrated, "Cash payments in decline as more Pinoys go cashless — study," GMA News Online, Feb. 29, 2024. <https://www.gmanetwork.com/news/money/economy/899042/cash-payments-in-decline-as-more-pinoys-go-cashless-study/story/>
- [27] S. Singh, "What is Descriptive Research? Definition, Methods, Types and Examples | Researcher.Life," Researcher.Life, Nov. 24, 2023. <https://researcher.life/blog/article/what-is-descriptive-research-definition-methods-types-and-examples/>
- [28] S. McCombes, "Descriptive research design | definition, methods and examples," Scribbr, 2023. <https://www.scribbr.com/methodology/descriptive-research/>
- [29] P. Bhandari, "What Is Qualitative research? Methods & Examples," Scribbr, 2020. <https://www.scribbr.com/methodology/qualitative-research/>
- [30] D. Sreekumar, "What is Quantitative Research? Definition, Methods, Types, and Examples | Researcher.Life," Researcher.life, 2023. <https://researcher.life/blog/article/what-is-quantitative-research-types-and-examples/>
- [31] "Agile Unified Process (AUP)," Cost Efficient IT. <https://www.agilelonestar.com/knowledge-base/agile-unified-process>
- [32] GeeksforGeeks, "Use Case Diagram," GeeksforGeeks, Nov. 24, 2023. <https://www.geeksforgeeks.org/use-case-diagram/>
- [33] J. Ang, "How to Create an Activity Diagram [+Examples]," Venngage, Apr. 28, 2022. <https://venngage.com/blog/activity-diagram/>



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89

- [34] R. Bisht, "What is Purposive Sampling? Methods, Techniques, and Examples | Researcher.Life," Researcher.Life, Jan. 30, 2024. <https://researcher.life/blog/article/what-is-purposive-sampling-methods-techniques-and-examples/>
- [35] "Top five benefits of moving your school canteen online," Flexischools Website. <https://flexischools.com.au/blog/top-five-benefits-of-moving-your-school-canteen-online> (accessed Jun. 05, 2024).
- [36] "Does anyone have advice on using online canteen order systems?," fundraisingdirectory.com.au. https://fundraisingdirectory.com.au/article/advice-online-canteen-orders?fbclid=IwZXh0bgNhZW0CMTAAAR3gIEVoabobXOzDuKC_p-zwLIUhDFcu_NPBICEcNgWouVIWIhUn7Ybglgg_aem_AUYUyBNzXHNjPaL2HfeV0LeFjCSnIzThqs04eLhUOa0LW6oCIm-Sg__r17BFjQHD-uDymIQuHyrdvFp5VmRNCRh (accessed Jun. 05, 2024).



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Appendix A: Letter for Data Gathering



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PNC: AA-LE- 362.70
October 07, 2024

Head of Canteen Operation of Saint Jerome,

We are three students from the University of Cabuyao (UC) enrolled in the Bachelor of Science in Information Technology. Our capstone project, titled "Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution," aims to develop a web-based ordering system with a point of sale (POS) system for St. Jerome Integrated School canteen aiming to enhance operational efficiency seamlessly.

The goal of our project is to analyze and improve the operational efficiency of school canteen. By streamlining the ordering process, the system will reduce wait times and minimize errors in manual order-taking leading to faster and more accurate transactions. Customers will have the option to place their orders either in person at the canteen or online through the web-based platform. The system will support both traditional cash payments and cashless payment methods, allowing for a more flexible and modern approach to handling transactions which will benefit both students and staff.

In line with our data gathering procedure to develop the said system, we are humbly requesting your time for an interview to gather relevant data, specifically focusing on:

1. The current processes of the canteen's inventory management system.
2. The challenges encountered in maintaining stock levels and tracking supplies.
3. The ordering and restocking procedures followed by the canteen.
4. Any other relevant operational details that could contribute to the improvement of efficiency in canteen operations.

We would greatly appreciate an opportunity to schedule a short interview with you at your earliest convenience.

The respondents are assured that the sensitive data entrusted shall be used with due diligence for the sole purpose of the research study. As such, by participating in this data gathering, you acknowledge and agree that the information may be used and disclosed by the Pamantasan ng Cabuyao (University of Cabuyao) in accordance with any legal and regulatory standards and in compliance with the University Data Privacy Manual and Data Privacy Act of 2012.

Your courtesy and cooperation with this request will be greatly appreciated. Rest assured that the data we gather will be kept completely confidential and used solely for academic purposes.

Best Regards,

MARIA GABRIELLE R. DELGADO
Researcher

EMANUEL F. DOMOOS
Researcher

AIRA YVETTE R. REGIO
Researcher



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University of Cabuyao
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College of Computing Studies
Kahibatan Matalin Homes, Brgy. Bantay-bantay, City of Cabuyao, Laguna, Philippines 4025



Noted by:

PROF. JOHN PATRICK M. OGAESCO
Research Adviser, College of Computing Studies

DR. LUVIM M. EUSEBIO
Research Professor, College of Computing Studies

DR. GIMAB. MONTECILLO
Dean, College of Computing Studies

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Appendix B: Letter for Validators



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(Pamantasan Ng Cabuyao)
College of Computing Studies
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC:AA-LE-769.74
October 30, 2024

PROF. FE HABLANIDA
College of Computing Studies, Research Validator

Dear Prof. Fe Hablanida:

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 – Capstone 2, are conducting a study titled "Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution". We are writing to formally request your esteemed assistance in validating the research instrument-questionnaires—we have developed for our project.

Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools. The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively assessing the proposed system. Your feedback will help us identify any necessary revisions before we proceed with their use in our research.

The significance of obtaining feedback from experienced individuals like yourself cannot be overstated. Your assessment will play a crucial role in helping us refine our questionnaires to ensure they accurately capture the data needed for our study. This process is essential for enhancing the reliability and validity of our research findings.

Enclosed with this letter, you will find a copy of the research instrument, specifically the questionnaires. We kindly request you to review them and provide your feedback and comments. Your insights will be instrumental in guiding us toward the finalization of our research tools.

Please do not hesitate to reach out to us via email or the contact number provided below if you have any questions or require further information. Your expertise and guidance are highly valued, and we are profoundly grateful for your willingness to assist us in this endeavor.

Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

Sincerely yours, .


DELGADO, MARIA GABRIELLE R.
Researcher
delgadomariagabrielle48@gmail.com
09184261294


DOMOOS, EMANUEL F.
Researcher
domoosemanuel32@gmail.com
09354890261


REGIO, AIRA YVETTE R.
Researcher
regioairayvette19@gmail.com
09208295082



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University of Cabuyao
(Pamantasan Ng Cabuyao)
College of Computing Studies
Katapatan-Mutua Homes, Brgy. Santa-Baray, City of Cabuyao, Laguna, Philippines 4025



Noted by:

PROF. JOHN PATRICK M. OGALESKO
College of Computing Studies, Research Adviser

DR. LUVIM M. EUSEBIO
College of Computing Studies, Research Teacher

DR. GIMA B. MONTESILLO
College of Computing Studies, Dean

Approved by:

PROF. FE HABLANIDA
College of Computing Studies, Research Validator

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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC:AA-LE-769.75
October 30, 2024

PROF. MARVIN BICUA
College of Computing Studies, Research Validator

Dear Prof. Marvin Bicua

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 – Capstone 2, are conducting a study titled "Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution". We are writing to formally request your esteemed assistance in validating the research instrument-questionnaires—we have developed for our project.

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Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

Sincerely yours,


DELGADO, MARIA GABRIELLE R.
Researcher
delgadomariagabrielle48@gmail.com
09184261294


DOMOOS, EMANUEL F.
Researcher
domoosemanuel32@gmail.com
09354890261


REGIO, AIRA YVETTE R.
Researcher
regioairayvette19@gmail.com
09208295082

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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-Banay, City of Cabuyao, Laguna, Philippines 4025



Noted by:


PROF. JOHN PATRICK M. OGALES CO
College of Computing Studies, Research Adviser


DR. LUVIM M. EUSEBIO
College of Computing Studies, Research Teacher


DR. GIMA B. MONTECILLO
College of Computing Studies, Dean

Approved by:


PROF. MARVIN BICUA
College of Computing Studies, Research Validator

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PNC:AA-LE-769.76
October 30, 2024

MR. BREN CAIVAN L. SALAMAT
College of Computing Studies, Research Validator

Dear Mr. Salamat:

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 – Capstone 2, are conducting a study titled "Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution". We are writing to formally request your esteemed assistance in validating the research instrument-questionnaires—we have developed for our project.

Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools. The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively assessing the proposed system. Your feedback will help us identify any necessary revisions before we proceed with their use in our research.

The significance of obtaining feedback from experienced individuals like yourself cannot be overstated. Your assessment will play a crucial role in helping us refine our questionnaires to ensure they accurately capture the data needed for our study. This process is essential for enhancing the reliability and validity of our research findings.

Enclosed with this letter, you will find a copy of the research instrument, specifically the questionnaires. We kindly request you to review them and provide your feedback and comments. Your insights will be instrumental in guiding us toward the finalization of our research tools.

Please do not hesitate to reach out to us via email or the contact number provided below if you have any questions or require further information. Your expertise and guidance are highly valued, and we are profoundly grateful for your willingness to assist us in this endeavor.

Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

Sincerely yours,


DELGADO, MARIA GABRIELLE R.
Researcher
delgadomariaqabrielle48@gmail.com
09184261294


DOMOOS, EMANUEL F.
Researcher
domoosemanuel32@gmail.com
09354890261


REGIO, AIRA YVETTE R.
Researcher
regioairayvette19@gmail.com
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Noted by:

PROF. JOHN PATRICK M. OGAESCO
College of Computing Studies, Research Adviser

DR. LUVIM M. EUSEBIO
College of Computing Studies, Research Teacher

DR. GIMA B. MONTECILLO
College of Computing Studies, Dean

Approved by:

MR. BREN CAIVAN L. SALAMAT
College of Computing Studies, Research Validator

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Appendix C: Letter for Evaluators



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Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC:AA-LE-174.77
October 30, 2024

MR. ROMMUELLE JESTER L. MANONGSONG
Technical Support Specialist II

Dear Mr. Manongsong:

Dangal Greetings!

We, the fourth-year BSIT students currently enrolled in the course ITP112 - Capstone 2, and the researchers behind the study titled "**Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution**", are writing to formally request your esteemed assistance in evaluating our system that we have developed for our research project. Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools.

Recognizing the significance of feedback from experienced individuals who can assess the suitability of the questionnaires for evaluating the proposed system, we kindly request that you, as our respected IT Expert, serve as an evaluator for our system.

The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively evaluating the proposed system. Your assessment will play a crucial role in helping us ascertain whether any revisions or finalizations are required before we can proceed with their use in our research. Enclosed with this letter is a copy of the research instrument-questionnaires for your convenience. Your feedback and comments hold great importance to us.

As part of our evaluation process, we also kindly request a copy of your curriculum vitae (CV) as it serves as strong evidence that our research is being thoroughly evaluated by a qualified expert. Your curriculum vitae (CV) will further enhance the credibility and validity of our research.

We extend our heartfelt thanks for your time, consideration, and dedication to our research project. We eagerly anticipate receiving your evaluation, which will significantly contribute to the success of our research.

Sincerely yours,


DELGADO, MARIA GABRIELLE R.
Researcher


DOMOOS, EMANUEL F.
Researcher


REGIO, AIRA YVETTE R.
Researcher



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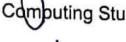
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College of Computing Studies



Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025

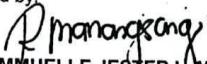
Noted by:


PROF. JOHN PATRICK M. OGALESKO
College of Computing Studies, Research Adviser


DR. LUVIM M. EUSEBIO
College of Computing Studies, Capstone 2 Instructor


DR. GIMA B. MONTECILLO
Dean, College of Computing Studies

Approved by:


MR. ROMMUELLE JESTER L. MANONGSONG
Technical Support Specialist II

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PNC:AA-LE-174.78
October 30, 2024

MR. ADRIAN NADS MARCELO
Backend Developer

Dear Mr. Marcelo:

Dangal Greetings!

We, the fourth-year BSIT students currently enrolled in the course ITP112 - Capstone 2, and the researchers behind the study titled "Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution", are writing to formally request your esteemed assistance in evaluating our system that we have developed for our research project. Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools.

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We extend our heartfelt thanks for your time, consideration, and dedication to our research project. We eagerly anticipate receiving your evaluation, which will significantly contribute to the success of our research.

Sincerely yours,

DELGADO, MARIA GABRIELLE R.
Researcher

DOMOOS, EMANUEL F.
Researcher

REGIO, AIRA YVETTE R.
Researcher



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Noted by:

A handwritten signature in black ink.

PROF. JOHN PATRICK M. OGAESCO
College of Computing Studies, Research Adviser

DR. LUVIM M. EUSEBIO
College of Computing Studies, Capstone 2 Instructor

DR. GIMA B. MONTECILLO
Dean, College of Computing Studies

Approved by:

A handwritten signature in black ink.

MR. ADRIAN NADS MARCELO
Backend Developer

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(Pamantasan Ng Cabuyao)
College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC-AA-LE-174.79
October 30, 2024

MR. MARK ANTHONY ESMERALDA
IT Professor, Adamson University

Dear Mr. Esmeralda:

Dangal Greetings!

We, the fourth-year BSIT students currently enrolled in the course ITP112 - Capstone 2, and the researchers behind the study titled "Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution", are writing to formally request your esteemed assistance in evaluating our system that we have developed for our research project. Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools.

Recognizing the significance of feedback from experienced individuals who can assess the suitability of the questionnaires for evaluating the proposed system, we kindly request that you, as our respected IT Expert, serve as an evaluator for our system.

The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively evaluating the proposed system. Your assessment will play a crucial role in helping us ascertain whether any revisions or finalizations are required before we can proceed with their use in our research. Enclosed with this letter is a copy of the research instrument-questionnaires for your convenience. Your feedback and comments hold great importance to us.

As part of our evaluation process, we also kindly request a copy of your curriculum vitae (CV) as it serves as strong evidence that our research is being thoroughly evaluated by a qualified expert. Your curriculum vitae (CV) will further enhance the credibility and validity of our research.

We extend our heartfelt thanks for your time, consideration, and dedication to our research project. We eagerly anticipate receiving your evaluation, which will significantly contribute to the success of our research.

Sincerely yours,

DELGADO, MARIA GABRIELLE R.
Researcher

DOMOOS, EMANUEL F.
Researcher

REGIO, ALBA YVETTE R.
Researcher

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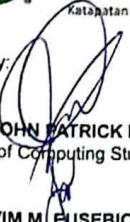
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College of Computing Studies



Noted by:


PROF. JOHN PATRICK M. OGALES CO
College of Computing Studies, Research Adviser


DR. LUVIM M. EUSEBIO
College of Computing Studies, Capstone 2 Instructor


DR. GIMA B. MONTECILLO
Dean, College of Computing Studies

Approved by:


MR. MARK ANTHONY ESMERALDA
IT Professor, Adamson University

efd/10302024

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Katapatan Mutual Homes, Brgy. Banay-Banay, City of Cabuyao, Laguna, Philippines 4025

PNC:AA-LE-174.80
October 30, 2024

MR. JHON JEFFERSON CASITAS
Senior Integration Consultant

Dear Mr. Casitas:

Dangal Greetings!

We, the fourth-year BSIT students currently enrolled in the course ITP112 - Capstone 2, and the researchers behind the study titled "**Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution**", are writing to formally request your esteemed assistance in evaluating our system that we have developed for our research project. Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools.

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As part of our evaluation process, we also kindly request a copy of your curriculum vitae (CV) as it serves as strong evidence that our research is being thoroughly evaluated by a qualified expert. Your curriculum vitae (CV) will further enhance the credibility and validity of our research.

We extend our heartfelt thanks for your time, consideration, and dedication to our research project. We eagerly anticipate receiving your evaluation, which will significantly contribute to the success of our research.

Sincerely yours,


DELGADO, MARIA GABRIELLE R.
Researcher


DOMOOS, EMANUEL F.
Researcher


REGIO, AIRA YVETTE R.
Researcher



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Noted by:

PROF. JOHN PATRICK M. OGAESCO
College of Computing Studies, Research Adviser

DR. LUVIM M. EUSEBIO
College of Computing Studies, Capstone 2 Instructor

DR. GIMA B. MONTECILLO
Dean, College of Computing Studies

Approved by:

MR. JHON JEFFERSON CASITAS
Senior Integration Consultant

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PNC:AA-LE-174.81
October 30, 2024

MR. RICHMOND MIGUEL MERCADO
Admin Officer/IT

Dear Mr. Mercado:

Dangal Greetings!

We, the fourth-year BSIT students currently enrolled in the course ITP112 - Capstone 2, and the researchers behind the study titled "Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution", are writing to formally request your esteemed assistance in evaluating our system that we have developed for our research project. Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools.

Recognizing the significance of feedback from experienced individuals who can assess the suitability of the questionnaires for evaluating the proposed system, we kindly request that you, as our respected IT Expert, serve as an evaluator for our research instruments.

The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively evaluating the proposed system. Your assessment will play a crucial role in helping us ascertain whether any revisions or finalizations are required before we can proceed with their use in our research. Enclosed with this letter is a copy of the research instrument-questionnaires for your convenience. Your feedback and comments hold great importance to us.

As part of our evaluation process, we also kindly request a copy of your curriculum vitae (CV) as it serves as strong evidence that our research is being thoroughly evaluated by a qualified expert. Your curriculum vitae (CV) will further enhance the credibility and validity of our research.

We extend our heartfelt thanks for your time, consideration, and dedication to our research project. We eagerly anticipate receiving your evaluation, which will significantly contribute to the success of our research.

Sincerely yours,


DELGADO, MARIA GABRIELLE R.
Researcher


DOMOOS, EMANUEL F.
Researcher


REGIO, AIRA YVETTE R.
Researcher

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College of Computing Studies
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Noted by:


PROF. JOHN PATRICK M. OGALESKO
College of Computing Studies, Research Adviser


DR. LUVIM M. EUSEBIO
College of Computing Studies, Capstone 2 Instructor


DR. GIMA B. MONTECILLO
Dean, College of Computing Studies

Approved by:


MR. RICHMOND MIGUEL MERCADO
Admin Officer/IT

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Appendix D: Validated Research Instrument

Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution

To ensure that the risk of data misuse is minimized, the data provided will only be used for the specified purposes and will not be shared with third parties without the individual's consent.

The primary objective of the study is to develop a web-based ordering system with a point of sale (POS) system for St. Jerome Integrated School canteen aiming to enhance operational efficiency seamlessly. The proposed system is intended to improve overall performance by enabling faster ordering transactions, supporting both physical and cashless payments, enhancing inventory management efficiency, and enabling quick report generation. The effectiveness of the system will be evaluated from the perspectives of end-users, focusing on functional suitability, reliability, efficiency, and usability, as well as from the viewpoints of web experts, assessing functional suitability, reliability, efficiency, and maintainability.

Name: _____

Age: _____

Year Level (If shs, state your strand): _____

Section: _____

System Effectiveness (End User Perspective)

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly Disagree

No.	Statements	5	4	3	2	1
Functional Suitability						
1	The system can handle different types of orders (over the counter, online ordering)					
2	The system accurately records all transactions without minimal errors					
3	The system provides a clear breakdown of my order (items, quantity, price) before payment					
4	The system allows me to complete my transactions using both cashless and physical payment options					
5	The system generates accurate reports in a timely manner					
Reliability						
6	The system can handle multiple users placing orders simultaneously without performance issues					
7	The system functions properly when accessing the POS and inventory features simultaneously					



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8	I can depend on the system to be accessible on different devices (e.g., mobile, desktop) without issues					
9	I experience minimal interruptions when using the system for ordering or payment					
10	The system consistently provides accurate order information without inconsistencies					
Efficiency						
11	The system processes orders quickly without noticeable delays					
12	The system responds quickly when I navigate between different sections or pages (e.g., menu, order summary)					
13	The system sends order confirmation immediately after I complete the transaction					
14	The system allows me to retrieve my previous orders or transaction history providing a convenient way to track my past purchases and transactions					
15	The system updates the order summary or total price immediately when I make changes to my order					
Usability						
16	The system is easy to learn, even for users with minimal technical skills					
17	The system provides clear instructions and labels for all its features					
18	The system is responsive and adapts well to different devices (e.g., smartphone, tablet)					
19	The system's error messages are clear and help me resolve issues quickly					
20	The system helps me understand how to use new or unfamiliar features without requiring additional help					



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Enhancing the Efficiency of School Canteen Operation: Implementing an Advanced Ordering Solution

To ensure that the risk of data misuse is minimized, the data provided will only be used for the specified purposes and will not be shared with third parties without the individual's consent.

The primary objective of the study is to develop a web-based ordering system with a point of sale (POS) system for St. Jerome Integrated School canteen aiming to enhance operational efficiency seamlessly. The proposed system is intended to improve overall performance by enabling faster ordering transactions, supporting both physical and cashless payments, enhancing inventory management efficiency, and enabling quick report generation. The effectiveness of the system will be evaluated from the perspectives of end-users, focusing on functional suitability, reliability, efficiency, and usability, as well as from the viewpoints of web experts, assessing functional suitability, reliability, efficiency, and maintainability.

Name: _____

Age: _____

Position of Work: _____

System Effectiveness (Web Expert Perspective)

- 5 Strongly agree
- 4 agree
- 3 neutral
- 2 disagree
- 1 Strongly disagree

No.	Statements	5	4	3	2	1
Functional Suitability						
1	The system can handle different types of orders (over the counter, online ordering)					
2	The system accurately records all transactions without errors					
3	The system provides a clear breakdown of my order (items, quantity, price) before payment					
4	The system allows me to complete my transactions using both cashless and physical payment options					
5	The system generates accurate reports in a timely manner					
Reliability						
6	The system rarely crashes or becomes unavailable during my use					
7	The system allows me to successfully complete an order even if there are minor technical issues					



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8	The system is available for use whenever needed during school operations					
9	The system consistently completes orders, even when faced with network instability or server downtime					
10	The system maintains data integrity under all circumstances					
Efficiency						
11	The system processes orders quickly without noticeable delays					
12	The system responds quickly when I navigate between different sections or pages (e.g., menu, order summary)					
13	The system sends order confirmation immediately after I complete the transaction					
14	The system allows me to retrieve my previous orders or transaction history					
15	The system updates the order summary or total price immediately when I make changes to my order					
Maintainability						
16	The system's functions are easy to understand and learn without requiring extensive guidance.					
17	The system's user interface and functionality are easy to adapt to new requirements or changes					
18	The system's code is written with clear standards and conventions that aid maintainability					
19	System updates and patches are compatible with existing functionalities and are easy to implement without disruption.					
20	The system provides a logical and intuitive structure that simplifies the testing process when updates are made.					

General Feedback

1. What improvements would you suggest for the proposed system? (Open-ended)
2. Any additional comments or feedback? (Open-ended)



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Appendix E: Informed Consent Form

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Planning, Research, and Extension Division
Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

INFORMED CONSENT FORM

Research Project Title	ENHANCING THE EFFICIENCY OF SCHOOL CANTEEN OPERATIONS: IMPLEMENTING AN ADVANCED ORDERING SOLUTION			
Proponents	Name	Email Address	Contact Number	Department
Research Lead	Domoos, Emanuel F.	domoosemanuel32@gmail.com	09354890261	CCS
Member/s	Delgado, Maria Gabrielle R.	delgadomariagabrielle48@gmail.com	09184261294	CCS
	Regio, Aira Yvette R.	regioairayvette19@gmail.com	09208295082	CCS
Thesis Adviser (for student research)	Ogalesco, John Patrick M.	jpmogalesco@pnc.edu.ph	09155875151	CCS

You are being invited to participate in a research study. Before you decide whether to participate, it is important that you understand why the research is being done and what your participation would involve. Please read the following information carefully and take time to ask any questions that you may have. You are free to choose whether or not to participate in this study. If you do not want to participate, you do not have to give a reason, and your decision will not affect any relationship you may have with the researchers or the institution.

Purpose of the Study	The primary objective of the study is to develop a web-based ordering system with a point of sale (POS) system for St. Jerome Integrated School canteen aiming to enhance operational efficiency seamlessly. The proposed system is intended to improve overall performance by enabling faster ordering transactions, supporting both physical and cashless payments, enhancing inventory management efficiency, and enabling quick report generation. The effectiveness of the system will be evaluated from the perspectives of end-users, focusing on functional suitability, reliability, efficiency, and usability, as well as from the viewpoints of web experts, assessing functional suitability, reliability, efficiency, and maintainability.
Risks, Benefits, or Discomforts of the Study	The following are the potential risks, benefits, or discomforts of participating in this study: Risks. There may be risks associated with participating in this study. We will take all necessary precautions to minimize these risks.

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	<p><input type="checkbox"/> Physical risks include physical discomfort, pain, injury, illness or disease brought about by the methods and procedures of the research. A physical risk may result from the involvement of physical stimuli such as noise, electric shock, heat, cold, electric magnetic or gravitational fields, etc. Engaging a subject in a social situation which could involve violence may also create a physical risk.</p> <p><input type="checkbox"/> Psychological risks include the production of negative affective states such as anxiety, depression, guilt, shock and loss of self-esteem and altered behavior. Sensory deprivation, sleep deprivation, use of hypnosis, deception or mental stresses are examples of psychological risks.</p> <p><input type="checkbox"/> Social/Economic risks include alterations in relationships with others that are to the disadvantage of the subject, including embarrassment, loss of respect of others, labeling a subject in a way that will have negative consequences, or in some way diminishing those opportunities and powers a person has by virtue of relationships with others. Economic risks include payment by subjects for procedures not otherwise required, loss of wages or other income and any other financial costs, such as damage to a subject's employability, as a consequence of participation in the research.</p> <p><input checked="" type="checkbox"/> Loss of confidentiality</p> <p><input type="checkbox"/> Legal risks exist when the research methods are such that the subject or others will be liable for a violation of the law, either by revealing that the subject or others have or will engage in conduct for which the subject or others may be criminally or civilly liable, or by requiring activities for which the subject or others may be criminally or civilly liable.</p> <p>Benefits. You may benefit from this research. However, we cannot guarantee that you will receive any benefits from participating in this study.</p> <p><input checked="" type="checkbox"/> Contribute to the advancement of scientific knowledge</p> <p><input type="checkbox"/> Develop participants' new skills or learn more about themselves.</p> <p><input type="checkbox"/> Receive access to resources, such as support groups or educational materials, that may be beneficial to their health or well-being.</p> <p><input type="checkbox"/> Receive access to interventions or treatments that could improve their health outcomes.</p> <p><input type="checkbox"/> Receive compensation.</p> <p>Discomforts There may be discomfort associated with participating in this study. We will take all necessary precautions to minimize these discomforts.</p> <p><input checked="" type="checkbox"/> Time Commitment: Participating in this study may require a significant amount of time and effort on your part, including attending appointments and completing questionnaires or other assessments.</p>
--	---

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Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

	<ul style="list-style-type: none"><input type="checkbox"/> Emotional Distress: Some participants may find that discussing sensitive topics or answering personal questions can cause emotional distress or discomfort.<input type="checkbox"/> Physical Discomfort: Depending on the nature of the study, there may be physical discomfort associated with participating, such as experiencing side effects from medication or undergoing a medical procedure.<input type="checkbox"/> Confidentiality Concerns: While we will take all reasonable steps to protect your confidentiality, there is always a risk that your information could be inadvertently disclosed.<input type="checkbox"/> Unforeseen Risks: Despite our efforts to minimize risks and discomforts, there may be unforeseen risks or discomforts associated with participating in this study that we cannot anticipate
Duration of Participation:	Your participation in this study will take approximately (1 year) to complete.
Confidentiality:	We will take all reasonable steps to ensure that your information is kept confidential. However, there are certain circumstances where we may be required to disclose your information, such as if we suspect that you or someone else may be at risk of harm. In addition, your de-identified data may be used in future research.
Voluntary Nature of Participation:	Participation in this study is entirely voluntary, and you have the right to withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled. If you choose to withdraw from the study, any data that you have provided up to that point will still be used in the study, unless you specifically request that it be deleted.
Contact Information:	If you have any questions or concerns about the study, you can contact the researchers at domosemanuel32@gmail.com or 09354890261. If you have any concerns about your rights as a participant, you can contact the Research Ethics Review Committee (RERC) at rdd@pnc.edu.ph
Consent:	By signing below, you indicate that you have read and understood the information provided above and that you voluntarily agree to participate in this study.

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Research and Development Department
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

Name of the Research-Participant	Signature	Date
Kianne Clare E. Betiran		November 8, 2024
My Jant A. Milana		November 8, 2024
Alexic Shanc Q. Amante		November 8, 2024
Princess		November 8, 2024
CHARIZ		NOVEMBER 8, 2024
Ravi Jacob A. Bristol		November 8, 2024
Hannah Mickaela M. Lavin		November 8, 2024
Mirey Miel Morales		November 8, 2024
Adrian Mi. Mungo		NOVEMBER 8, 2024
Rhahannah Alceyza Bawed		November 8, 2024
AKLISHA FRANCESKA TIMACULANGAN		November 8, 2024
Lorhanee Dipaid		November 8, 2024
Tanya Elaiza Leray		November 8, 2024
Yohanne Besona		November 8, 2024
Lance Marnard Serdan		November 8, 2024
Vikna Marie P. Quinto		November 8, 2024
Julius Bersamin		November 8, 2024
Leonard Nittys		November 8, 2024
David Jan Rizel Maghanay		November 8, 2024
Einus Enquerna		November 8, 2024

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Appendix F: User's Manual

Home Page

A screenshot of the University of Cabuyao Canteen website. The header features the university's logo and name. Below the header, a large pink banner with white text reads "We invite you to our Canteen". To the right of the text is a photograph of a meal consisting of rice, meat, sausages, and vegetables. At the bottom left of the banner is a dark button labeled "ORDER NOW". Above the banner, there are three white boxes numbered 1, 2, and 3, each with an arrow pointing to a specific element: Box 1 points to the "ORDER NOW" button, Box 2 points to the "Cashier Admin" button in the top right corner, and Box 3 points to the "About" and "Login" links in the top right corner.

1. Click the “Order Now” button to display the login form for online orders (customers only.).
2. Click the “Cashier” button to display the login form for walk-in orders (Cashier only).
3. Click the “Admin” button to display the login form for the Administrator (Admin only).



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Customer Login

The diagram shows a customer login interface. At the top is a pink header with a close button 'X' and the logo of Saint Jerome Integrated School of Cabuyao (SJISC). Below the header is a white form area with the title 'Customer Login'. The form contains two input fields: 'Enter username' with a person icon and 'Enter password' with a lock icon. There is also a visibility eye icon next to the password field. Step 1 points to the username and password fields. Step 2 points to the 'Login' button. Step 3 points to the 'Register' link below the login button.

Customer Login

1

Enter username

Enter password

2

3

Login

Don't have an account? [Register](#)

1. Enter username and password.
2. Click the "Login" button to submit and log in.
3. If no account exists, click the "**Register**" button to create a new account.



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Customer Registration

Register

1. Enter the required information in the respective fields
2. Click the "**Register**" button to submit your information and create your account.
3. Click the "**Cancel**" button to clear the form and return to the previous screen.



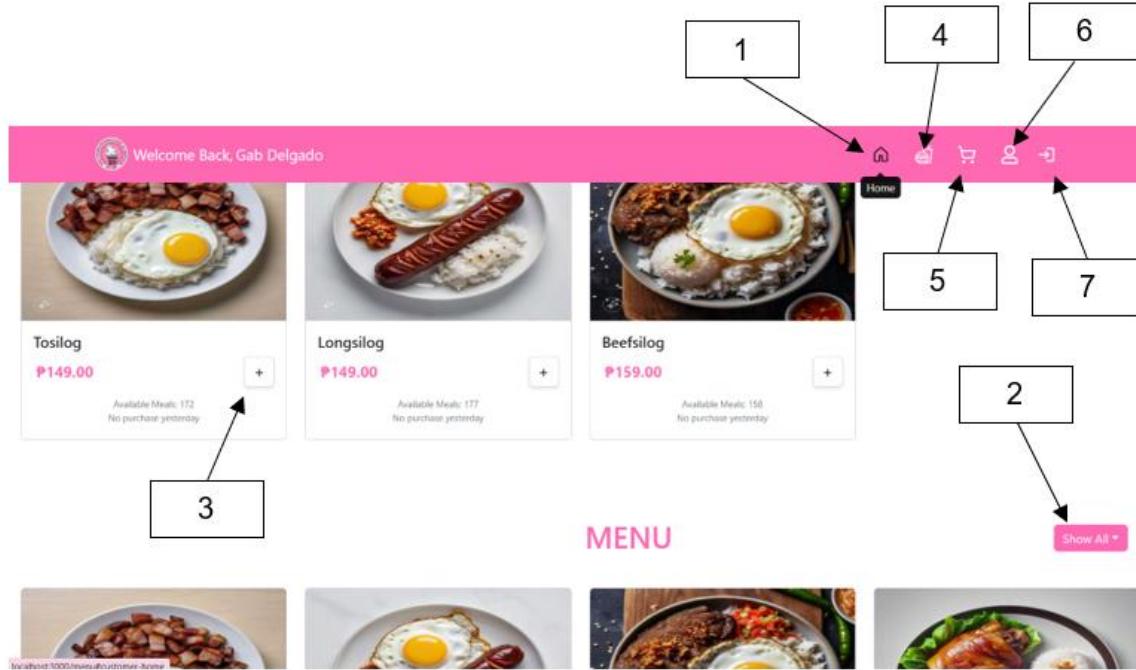
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Customer Menu



1. Click the “Home” button to access the “Menu” and view the “**Top 3 best-selling items**” or recommendations.
2. Click the dropdown button to filter the menu by categories.
3. Click the “+” button to add items to the cart.
4. Click the “**My Orders (Food Icon)**” button to manage and monitor Orders.
5. Click “**My Cart (Cart Icon)**” to view Cart Items.
6. Click “**Profile (Profile Icon)**” to View and Modify user’s details
7. Click “**Log Out (Arrow Right icon)**” to log out account.



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My Orders

The screenshot shows a mobile application interface for managing orders. At the top, there's a header bar with icons for search, cart, and profile. Below it, a large image of a dish (Tosilog) is displayed with the price ₱149.00. To the right of the image, a button with a plus sign is visible. Below the image, the text "Available Meats: 122" and "No purchase pending" is shown. The main area is titled "My Orders" and contains a table with the following data:

Order #	Name	Quantity	Price	Status	Cancellation Reason	Actions
53	Beefsilog	1	₱159.00	completed	N/A	
53	Longsilog	1	₱149.00	completed	N/A	
53	Tosilog	1	₱149.00	completed	N/A	
52	Cheese Burger	1	₱109.00	pending	N/A	
50	Beefsilog	1	₱159.00	completed	N/A	
50	Longsilog	1	₱149.00	completed	N/A	
50	Tosilog	1	₱149.00	completed	N/A	

A red box highlights the "Actions" column, and a callout box with the number "1" points to the first delete icon. At the bottom right of the table area, there's a "Close" button and a "Show All" button.

1. Click “Delete (Trash Icon)” button to delete the selected order.



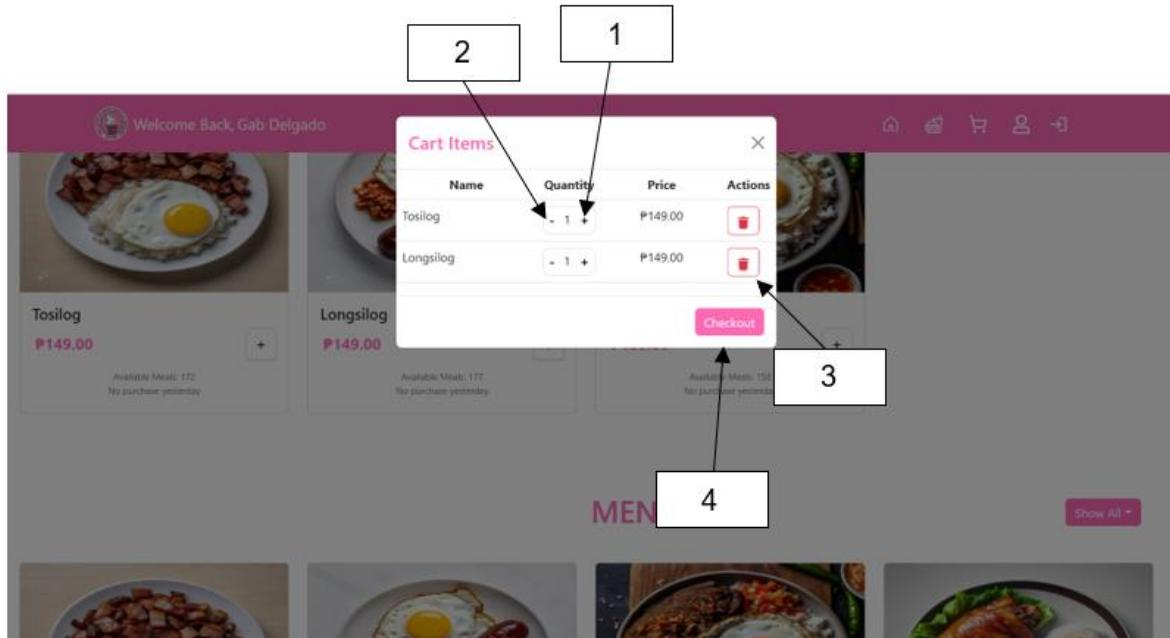
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Cart Items



1. Click the “+” button to Increase the quantity.
2. Click the “-“ button to decrease the quantity.
3. Click "Delete (Trash Icon)" button to remove an item from the cart.
4. Click the “Check Out” to process payment.



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Customer Payment

Checkout

#	Item Name	Quantity	Price	Total
1	Tosilog	1	₱149.00	₱149.00
2	Longsilog	1	₱149.00	₱149.00

1

Total: ₱298.00

Payment Option 3 Select Payment Method ▾

Cancel 2 Checkout

1. Click the “Select a payment option” dropdown button to choose between GCash or PayMaya.
2. Click "Checkout" to proceed with the order.
3. Click "Cancel" to cancel the order.



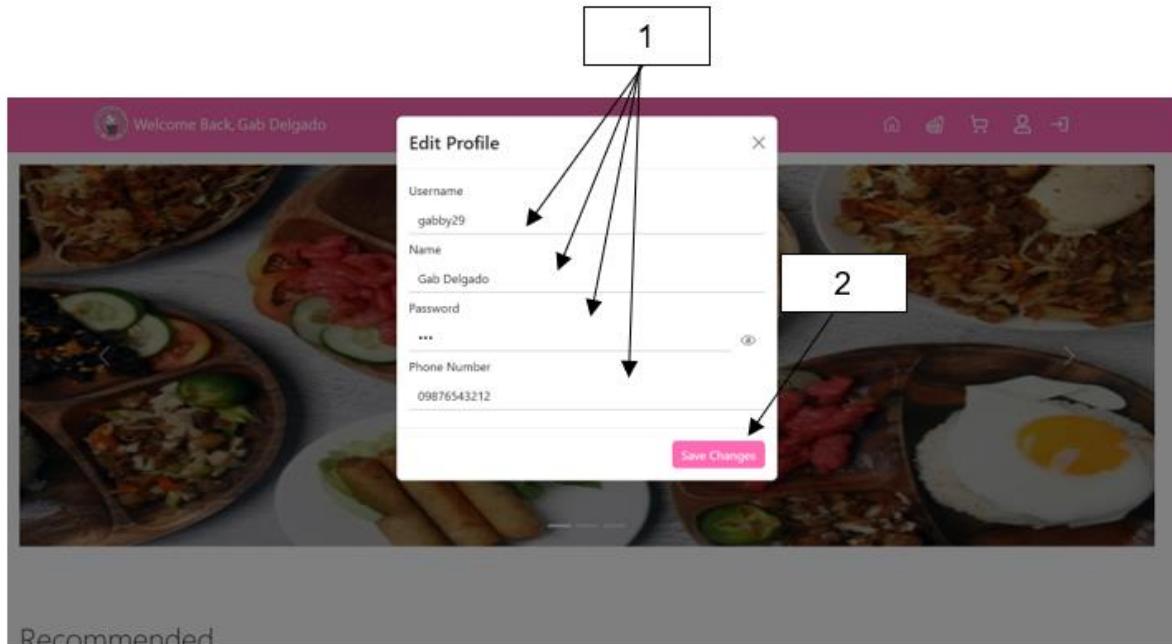
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Edit Profile



1. Modify the username, name, number, and password.
2. Click "**Save Changes**" to save after editing.



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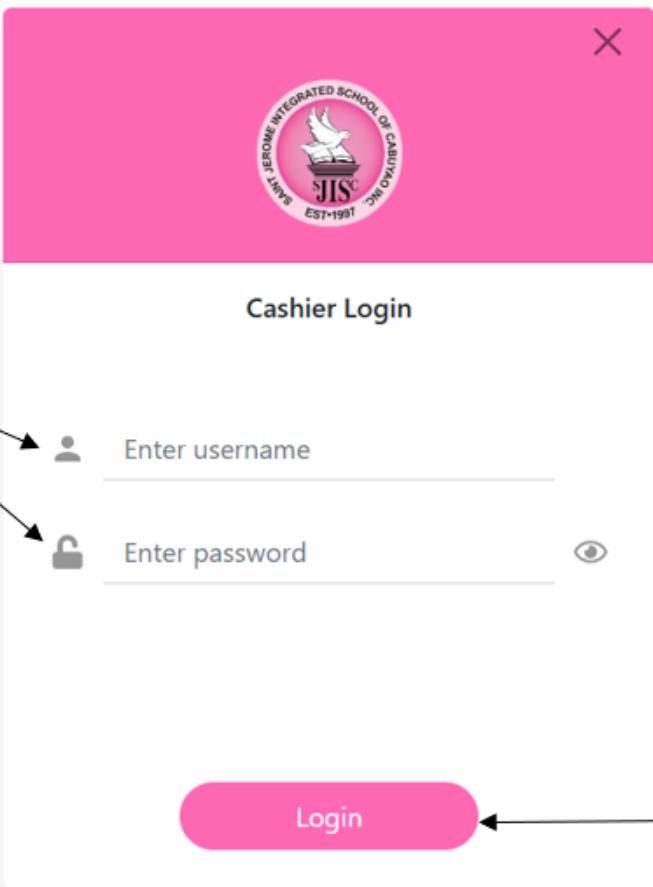
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POINT OF SALES

Cashier Login



The diagram shows a 'Cashier Login' interface. At the top is a pink header bar with a close button 'X' and the logo of St. Jerome Integrated School of Cabuyao, Inc. (SJIS) in the center. Below the header is a white login form with the title 'Cashier Login'. It contains two input fields: 'Enter username' with a person icon and 'Enter password' with a lock icon. To the right of the password field is an eye icon for password visibility. At the bottom is a pink 'Login' button. Two numbered callouts point to the form: '1' points to the 'Enter username' field, and '2' points to the 'Login' button.

1. Enter username and password.
2. Click the "Login" button to submit and log in.



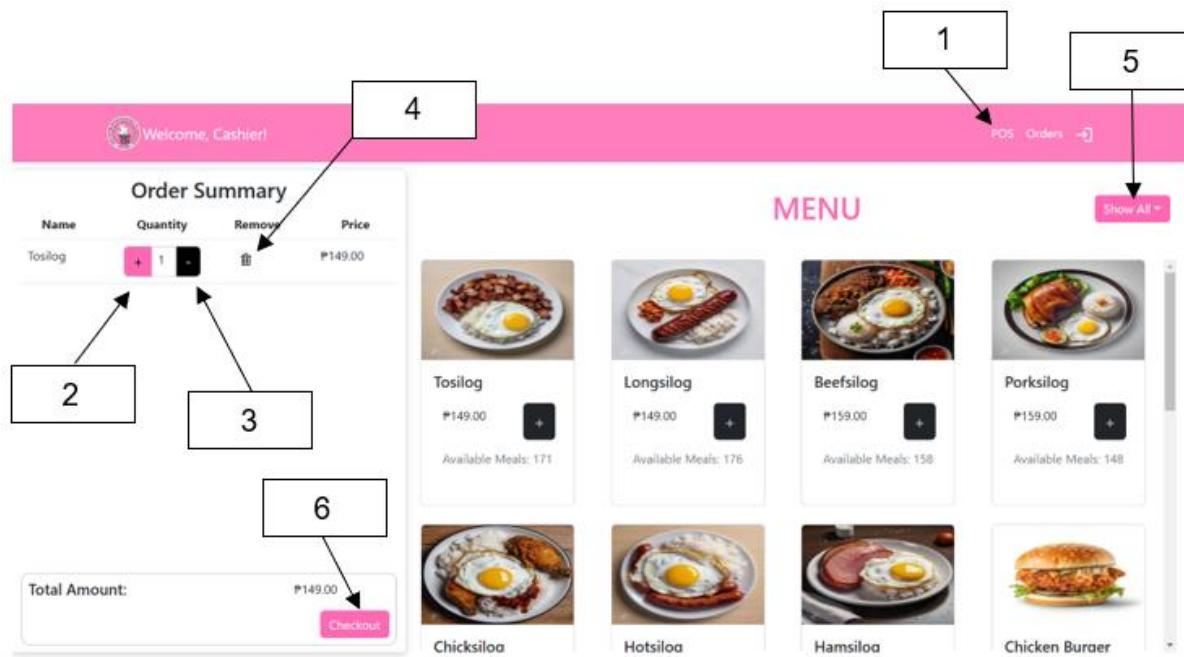
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Point of Sales



1. Click “**POS**” to manage walk-in orders.
2. Click “**+**” button to add and increase item quantity to the cart.
3. Click the “**-**” button to decrease item quantity to the cart.
4. Click “**Remove (Trash Icon)**” button to completely remove the item in the cart.
5. Click “**Show All**” Dropdown to filter Menu Items.
6. Click the “**Checkout**” button to proceed with the order.



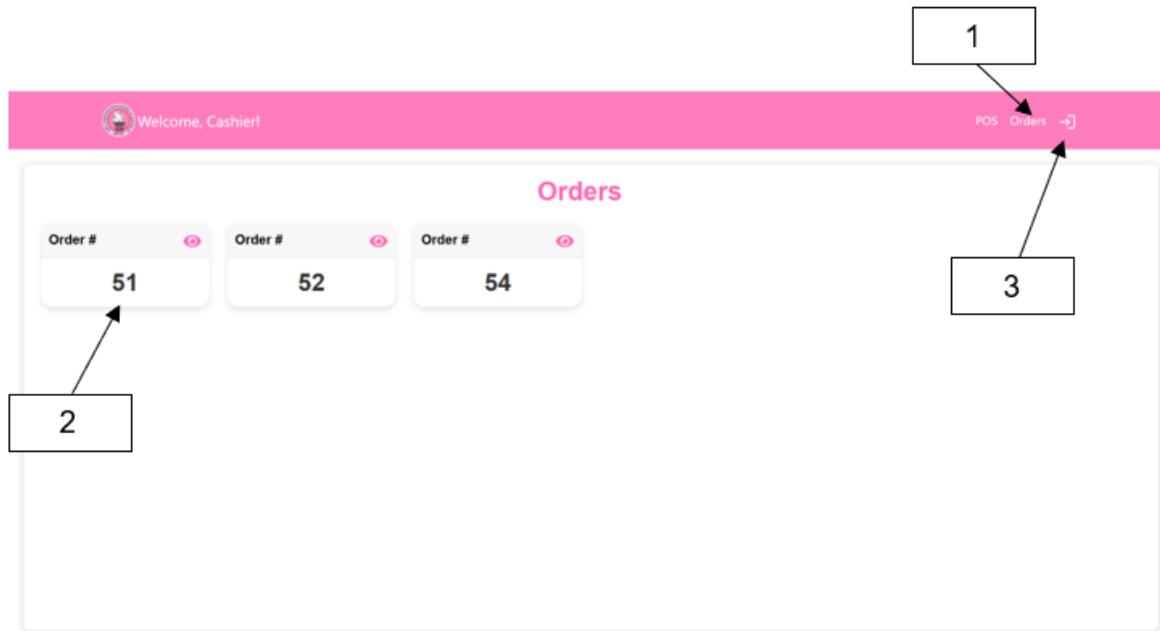
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Orders



1. Click “Orders” to Complete or Cancel online or walk-in orders.
2. Click the order number to view the selected order.
3. Click “Log Out (Arrow Right icon)” button to Log out account.



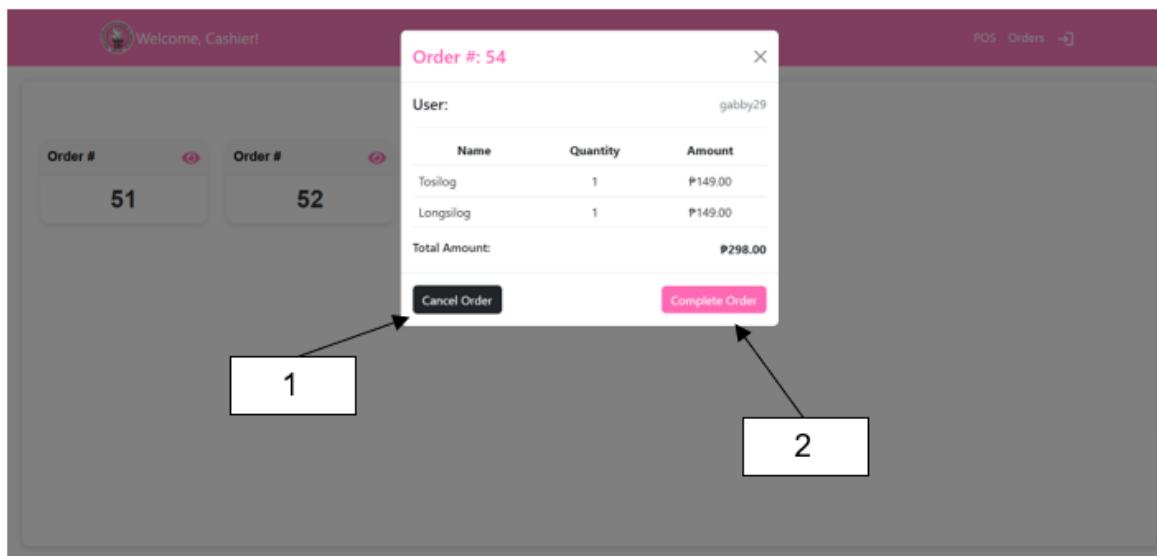
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Complete Order



1. Click "**Complete Order**" to complete the order.
2. Click "**Cancel Order**" to cancel the order.



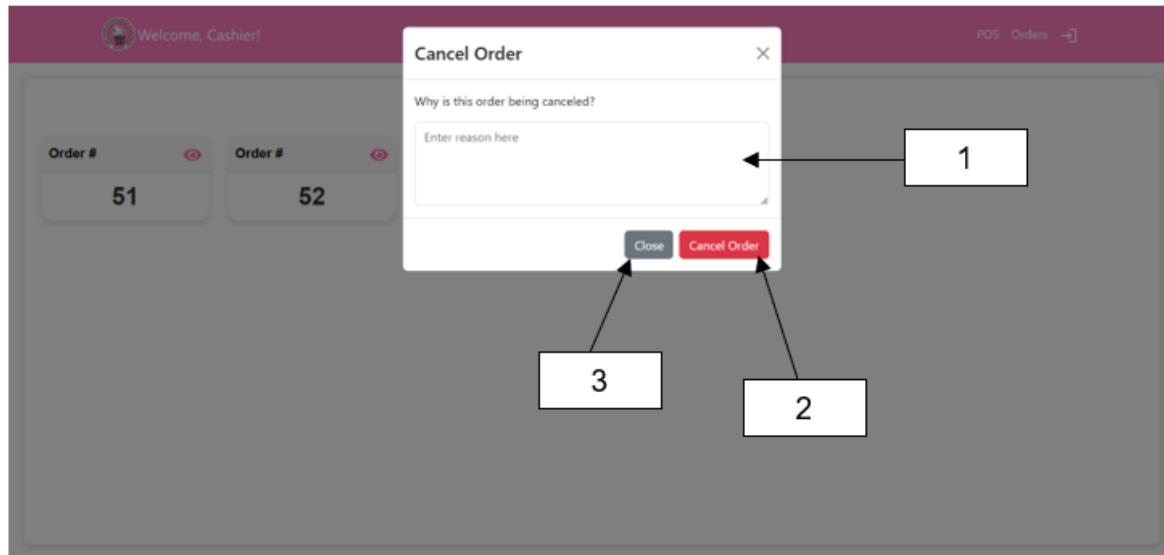
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Cancel Order



1. Enter cancellation reason.
2. Click "**Cancel Order**" to confirm the cancellation.
3. Click "**Close**" to cancel the order cancellation.



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ADMIN MANAGEMENT

Admin Login



The screenshot shows a pink header bar with the JISC logo and a close button (X). Below it is a white login form titled "Admin Login". The form has two input fields: "Enter username" with a user icon and "Enter password" with a lock icon. There is also a visibility toggle icon (eye) next to the password field. A pink "Login" button is at the bottom. Two numbered callouts point to these fields: "1" points to the "Enter username" field, and "2" points to the "Login" button.

1 Enter username

2 Login

1. Enter username and password.
2. Click the "Login" button to submit and log in.



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Inventory Management (Food)

The screenshot shows a web-based inventory management system. At the top, there is a pink header bar with the text "Welcome Admin!" and navigation links for "Inventory", "Sales", and "Accounts". Below the header, there is a menu bar with tabs: "Inventory" (which is selected and highlighted in pink), "Food", "Stocks", and "Storage". The main content area displays a table of food items with their details. The table has columns for "Item Name" and "Stock Details". The "Food" tab is selected, showing the following data:

Item Name	Stock Details
Tosilog	Egg (1 Piece (ea)), Rice (1 Cup (cup)), Tocino (1 Piece (ea))
Longsiolog	Egg (1 Piece (ea)), Longganisa (1 Piece (ea)), Rice (1 Cup (cup))
Beefsilog	Beef (1 Piece (ea)), Egg (1 Piece (ea)), Rice (1 Cup (cup))
Porksilog	Egg (1 Piece (ea)), Pork (1 Piece (ea)), Rice (1 Cup (cup))
Chicksilog	Chicken (1 Piece (ea)), Egg (1 Piece (ea)), Rice (1 Cup (cup))
Hotsilog	Egg (1 Piece (ea)), Hotdog (1 Piece (ea)), Rice (1 Cup (cup))
Hamsilog	Egg (1 Piece (ea)), Ham (1 Piece (ea)), Rice (1 Cup (cup))

On the right side of the screen, there is a vertical sidebar with columns for "Price" and "Action". The "Price" column lists prices: ₱ 149.00, ₱ 149.00, ₱ 159.00, ₱ 159.00, ₱ 159.00, ₱ 149.00, and ₱ 149.00. The "Action" column contains edit and delete icons for each item. A large button labeled "Add Product" is located at the bottom left of the main content area.

Numbered callouts point to specific elements:

- 1: Points to the "Inventory" link in the pink header bar.
- 2: Points to the "Food" tab in the menu bar.
- 3: Points to the "Add Product" button at the bottom left.
- 4: Points to the "Edit" icon in the "Action" column of the table.
- 5: Points to the "Delete" icon in the "Action" column of the table.

1. Click “**Inventory**” to monitor and manage inventory items.
2. Click “**Food**” Tab to Manage the food items that is shown in the Menu and Point of Sales.
3. Click “**Add Product**” to Add Food Item.
4. Click “**Edit** (Pencil Icon)” button to Edit the Food.
5. Click “**Delete (Trash Icon)**” button to Delete the Food.



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131

Add Food Item

The screenshot shows the University of Cabuyao inventory management system. On the left, there's a sidebar with 'Inventory', 'Food' (which is selected), 'Stocks', and 'Storage'. Below this is a list of food items: Tosilog, Longsilog, Beefsilog (highlighted with a white box labeled '1'), Porksilog, Chicksilog, Hotsilog, and Hamsilog. The main area has tabs for 'Food Name', 'Price', 'Food Category', 'Ingredients', and 'Image'. The 'Image' tab shows a placeholder 'Choose File' and 'No file chosen'. At the bottom right of the dialog is a pink 'Save Food' button. In the bottom right corner of the main interface, there's a white box labeled '2'.

1. Enter all required Fields.
2. Click “**Save Food**” to add new food item.



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Edit Food Item

The screenshot shows a web-based inventory management system for the University of Cabuyao. The main interface has a purple header with tabs for 'Inventory', 'Food' (which is selected), 'Stocks', and 'Storage'. Below the header is a table of food items with columns for 'Name', 'Price', and 'Action'. A modal window titled 'Edit Food Item' is open over the table. The modal contains fields for 'Name' (Tosilog), 'Price' (149.00), and 'Ingredients' (Select Ingredient). There are 'Close' and 'Save Changes' buttons at the bottom of the modal. Three numbered callouts point to specific elements: '1' points to the 'Tosilog' entry in the list; '2' points to the 'Save Changes' button in the modal; and '3' points to the 'Close' button in the modal.

1. Edit food item details to update the food item.
2. Click “**Save Changes**” to update the food item.
3. Click “**Close**” to cancel update.



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133

Inventory Management (Stocks)

Welcome Admin!

Inventory Sales Accounts

Inventory Food Stocks Storage

Name	Quantity	Unit	Actions
Ham	247	Piece (ea)	
Hotdog	220	Piece (ea)	
Rice	662	Cup (cup)	
Tocino	170	Slice (sl)	
Cheese	593	Piece (ea)	
Bun	293	Piece (ea)	
Longganisa	176	Piece (ea)	
Total	448		

Add Stock

1. Click “**Stocks**” Tab to Manage the Stocks used in the Food Items.
2. Click “**Add Stock**” to add stock item.
3. Click “**Edit** (Pencil Icon)” button to edit the stock item.
4. Click “**Delete (Trash Icon)**” button to delete the stock item.



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Add Stock Item

The screenshot shows a mobile application interface for managing inventory. On the left, there's a sidebar with tabs for 'Inventory', 'Food', 'Stocks' (which is selected), and 'Storage'. Below these tabs is a list of items: Ham, Hotdog, Rice, Tocino, Cheese, Bun, and Longganisa. A white box labeled '1' is placed over the 'Stocks' tab and the list of items. In the center, a modal window titled 'Add New Stock' is open. It contains fields for 'Stock Name' (with a white box labeled '2'), a checkbox for 'Does this stock require raw materials?' (which is checked), a 'Select Unit' dropdown, a 'Choose item from food storage' section with a 'Tap to select' button, a 'Quantity of Item to Use from Storage' input field, a 'Enter quantity to use' input field, a 'Quantity Required for Recipe' input field, and a 'Conversion Ratio' input field. At the bottom of the modal is a pink 'Save Stock' button. To the right of the modal, there's a table with columns for 'Unit' and 'Actions'. The table lists various units: Piece (ea), Piece (ea), Cup (cup), Piece (ea), Slice (sl), and Piece (ea). Each row has a delete icon (trash can) in the 'Actions' column. A white box labeled '3' is placed over the 'Actions' column of the table.

1. Enter all required Fields.
2. Click the checkbox for stock item that requires raw materials.
3. Click “Save Stock” to add new stock item.



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135

Edit Stock Item

The screenshot shows a web-based inventory management system. At the top, there's a header with the university's logo and name, followed by a navigation bar with links for Inventory, Sales, and Accounts.

The main area is titled "Inventory" and has tabs for Food, Stocks (which is selected), and Storage. Below this, there's a table of stock items:

Name	Quantity	Unit	Actions
Ham	1	Piece (ea)	[Edit]
Holding	293	Piece (ea)	[Edit]
Rice	176	Cup (cup)	[Edit]
Tocino	2	Piece (ea)	[Edit]
Cheese	3	Slice (sl)	[Edit]
Bun	44 d	Piece (ea)	[Edit]
Longganisa	1	Piece (ea)	[Edit]

A modal dialog box titled "Edit Stock" is open, centered over the "Bun" row. It contains the following fields:

- Stock Name: Ham
- Quantity of Raw Material to Use: 10
- Conversion Ratio: 10
- Unit: Piece (ea)

At the bottom of the dialog are two buttons: "Close" and "Save Changes". Arrows from the numbered callouts below point to the "Save Changes" button, the "Close" button, and the quantity field in the dialog respectively.

1. Edit stock item details to update and re-stock item.
2. Click “Save Changes” to update the stock item.
3. Click “Close” to cancel update.



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Inventory Management (Storage)

Name	Quantity	Unit	Date Added	Actions
Ham Raw	75	Pack (pk)	2024-11-11T00:30:00.000Z	
Ham Raw	178	Pack (pk)	2024-11-11T01:00:00.000Z	
Rice Raw	146	Sack (sk)	2024-11-11T01:00:00.000Z	
Tocino Raw	29	Pack (pk)	2024-11-11T02:00:00.000Z	
Cheese Raw	280	Pack (pk)	2024-11-11T02:30:00.000Z	
Bun Raw	50	Pack (pk)	2024-11-11T00:30:00.000Z	
Longganisa Raw	180	Pack (pk)	2024-11-11T01:00:00.000Z	
Chicken Fillets	+++	kilogram (kg)	2024-11-11T01:00:00.000Z	

1. Click “**Storage**” Tab to Manage the Stocks in the Storage.
2. Click “**Add to Storage**” to add new stock Item.
3. Click “**Edit** (Pencil Icon)” button to Edit the stock item in the storage.
4. Click “**Delete (Trash Icon)**” button to Delete the stock item in the storage.



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Add Storage Item

The screenshot shows a web-based inventory management system. On the left, there's a sidebar with tabs for 'Inventory', 'Food', 'Stocks', and 'Storage'. The 'Storage' tab is selected. Below it is a table listing various raw food items with their names, quantities, and units. A row for 'Ham Raw' has a quantity of 75. A row for 'Hotdog Raw' has a quantity of 178. A row for 'Rice Raw' has a quantity of 146. A row for 'Tocino Raw' has a quantity of 29. A row for 'Cheese Raw' has a quantity of 280. A row for 'Bun Raw' has a quantity of 50. A row for 'Longganisa Raw' has a quantity of 180. A row for 'Chicken Drum' has a quantity of 4.5. The 'Unit' column for 'Ham Raw' shows 'Pack (pk)'. The 'Unit' column for 'Hotdog Raw' shows '(pc)'. The 'Unit' column for 'Rice Raw' shows 'Kilogram (kg)'. The 'Unit' column for 'Tocino Raw' shows 'Box (bx)'. The 'Unit' column for 'Cheese Raw' shows 'Box (bx)'. The 'Unit' column for 'Bun Raw' shows 'Box (bx)'. The 'Unit' column for 'Longganisa Raw' shows 'Box (bx)'. The 'Unit' column for 'Chicken Drum' shows 'Box (bx)'. In the center, a modal window titled 'Add New Item in Storage' is open. It has fields for 'Item Name' (with a placeholder 'Item Name'), 'Quantity' (with a placeholder 'Quantity'), and 'Unit' (with a placeholder 'Select Unit'). At the bottom of the modal is a pink button labeled 'Save Ingredient'. To the right of the modal, a list of dates is shown with small edit and delete icons next to each date. The first date is 2024-11-11T00:30:00.000Z. The second date is 2024-11-11T01:00:00.000Z. The third date is 2024-11-11T01:30:00.000Z. The fourth date is 2024-11-11T02:00:00.000Z. The fifth date is 2024-11-11T02:30:00.000Z. The sixth date is 2024-11-11T03:00:00.000Z. Arrows from the text '1' point to the quantity field in the modal and the quantity of 'Ham Raw' in the table. Arrows from the text '2' point to the date '2024-11-11T03:00:00.000Z' and the date field in the modal.

1. Enter all required Fields.
2. Click “**Save Ingredient**” to add new stock item in the storage.



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Edit Stock Item in the Storage

The screenshot shows a web-based inventory management system for the University of Cabuyao. The main interface has tabs for 'Inventory', 'Food', 'Stocks', and 'Storage'. The 'Storage' tab is selected, showing a list of items with their names, current quantities, and unit of measurement (e.g., Ham Raw, 75, Pack (pk)). A modal dialog box titled 'Edit Item from Storage' is open over this list. Inside the dialog, the item 'Ham Raw' is selected, with its quantity set to 75. The 'Save Changes' button is highlighted with a pink box and an arrow pointing to it. Three numbered callouts point to specific elements: '1' points to the quantity field in the dialog; '2' points to the 'Save Changes' button in the dialog; and '3' points to the 'Close' button in the dialog.

1. Edit stock item details to update and re-stock item in the storage.
2. Click “**Save Changes**” to update the stock item in the storage.
3. Click “**Close**” to cancel update.



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Sales

Welcome Admin!

Inventory Sales Accounts

Sales Dashboard Overview

Date: Today Filter by: All Sales

Sale ID	Order Number	Cashier	Customer	Status	Total Amount	Sale Date	Item Name	Quantity
35	53	Cashier 1	Gab Delgado	online	P 457.00	12/15/2024	Tosilog	1
36	53	Cashier 1	Gab Delgado	online	P 457.00	12/15/2024	Longsilog	1
37	53	Cashier 1	Gab Delgado	online	P 457.00	12/15/2024	Beefsilog	1
38	54	Cashier 1	Gab Delgado	online	P 298.00	12/15/2024	Tosilog	1
39	54	Cashier 1	Gab Delgado	online	P 298.00	12/15/2024	Longsilog	1
40	55	Cashier 1	*	walk-in	P 149.00	12/15/2024	Beefsilog	1

1. Click “**Sales**” to monitor or generate sales.
2. Click “**Overview**” to view the sales into tables.
3. Click the “**Date**” and “**Filter by**” dropdown buttons to filter sales.
4. Click “**Print**” button to generate sales into pdf.



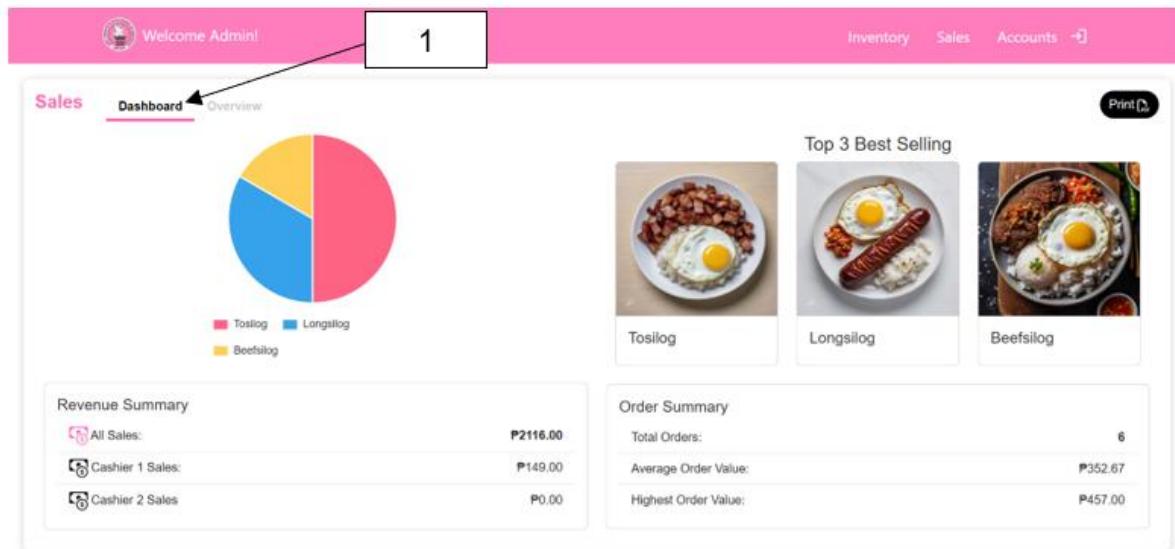
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Sales Dashboard



1. Click the “**Dashboard**” to view the pie graph for the sold items, “**Revenue Summary**”, “**Top 3 Best Selling**”, and “**Order Summary**” based on the filtered data in the sales overview.



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Account Management (Customer)

1

2

3

4

5

ID	Name	Gender	Username	Mobile No.	Actions
1	Emanuel Domoos	Male	emandomo	43211	
2	Gab Alra	Female	g	43211	
5	gab	Male	a	09876543211	
6	gabbbbbbbb	Male	aaaaqw	09876543211	
8	aaa	Male	qwewe	09876543211	
9	qaa	Female	ddd	09876543211	
10	sean	Female	seanat	09876543211	
12	aira	Female	airay	09876543211	

1. Click “Accounts” to manage accounts.
2. Click “Customer” Tab to manage accounts of the customer who order online.
3. Click “Edit (Pencil Icon)” button to edit customer details
4. Click “Delete (Trash Icon)” button to delete account.
5. Click “Log Out (Arrow Right icon)” button to logout account.



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Edit Customer Details

A screenshot of a software application titled "Edit Account". The main window shows a list of accounts with columns for ID, Name, Gender, and Mobile No. A modal dialog box is open over the list, containing fields for Name, Username, Password, and Gender. The "Name" field has "Emanuel Domoos" entered. The "Username" field has "emandomo" entered. The "Password" field has "....." entered. The "Gender" field has "Male" selected. At the bottom of the modal are two buttons: "Close" and "Save Changes". The "Save Changes" button is highlighted with a pink rectangle. Three white boxes are overlaid on the interface: Box 1 is over the "Name" field in the modal; Box 2 is over the "Save Changes" button; Box 3 is over the "Name" column header in the main list.

1. Modify the name, username, password and gender.
2. Click "**Save Changes**" to save after editing.
3. Click "**Close**" to cancel update.



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Account Management (Cashier)

The screenshot shows a web-based application interface for managing accounts. At the top, there is a pink header bar with the text "Welcome Admin!" and a user icon. To the right of the header are links for "Inventory", "Sales", "Accounts", and a settings icon. A large white rectangular area below the header contains a table titled "Accounts". The table has columns for "ID", "Name", "Username", and "Actions". There are two rows of data: Row 1 has ID 1, Name "Cashier 1", Username "cashier1", and an "Edit" button in the Actions column; Row 2 has ID 2, Name "Cashier 2", Username "cashier2", and an "Edit" button in the Actions column. Above the table, there is a navigation bar with tabs: "Accounts" (selected), "Customer", "Cashier" (underlined in red), and "Admin". A red arrow points from a box labeled "1" to the "Cashier" tab. Another red arrow points from a box labeled "2" to the edit icon in the Actions column of the second table row.

ID	Name	Username	Actions
1	Cashier 1	cashier1	
2	Cashier 2	cashier2	

1. Click “**Cashier**” Tab to manage accounts of the Cashier.
2. Click “**Edit (Pencil Icon)**” button to edit cashier details



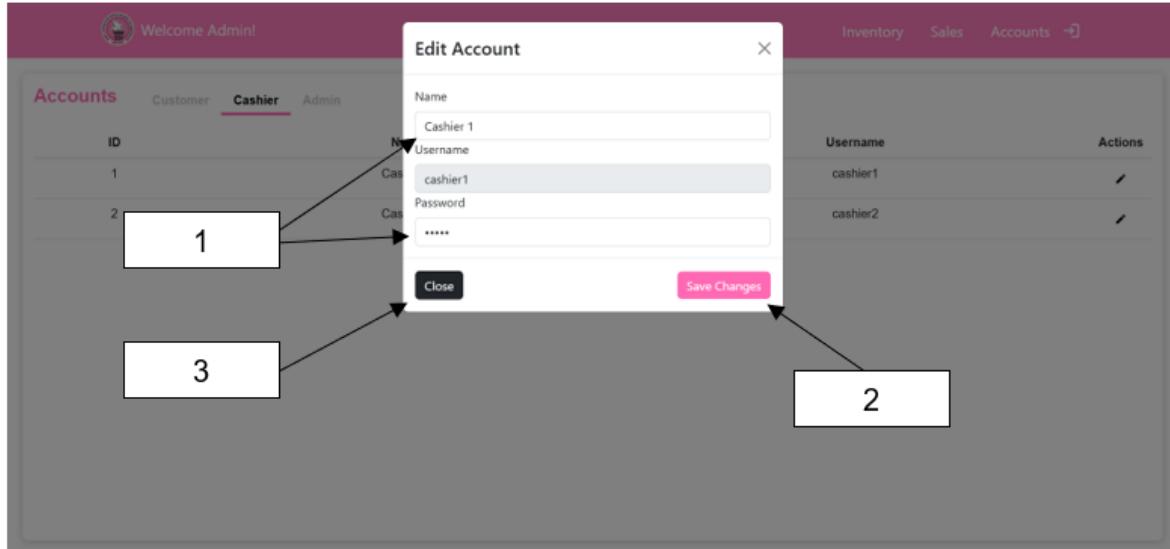
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Edit Cashier Details



1. Modify the name and password.
2. Click "**Save Changes**" to save after editing.
3. Click "**Close**" to cancel update.



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Account Management (Admin)

The screenshot shows a web-based application for managing accounts. At the top, there is a pink header bar with the text "Welcome Admin!" and navigation links for "Inventory", "Sales", "Accounts", and a user icon. Below the header is a toolbar with tabs: "Accounts" (highlighted in pink), "Customer", "Cashier", and "Admin" (underlined with a pink line). A large arrow labeled "1" points from the text "Click 'Admin' Tab to manage account of the Admin." to the "Admin" tab. The main content area displays a table of account details:

ID	Name	Username	Actions
1	Eman	admin	

A second large arrow labeled "2" points from the text "Click 'Edit (Pencil Icon)' button to edit admin details" to the edit icon in the "Actions" column of the table.

1. Click “Admin” Tab to manage account of the Admin.
2. Click “Edit (Pencil Icon)” button to edit admin details



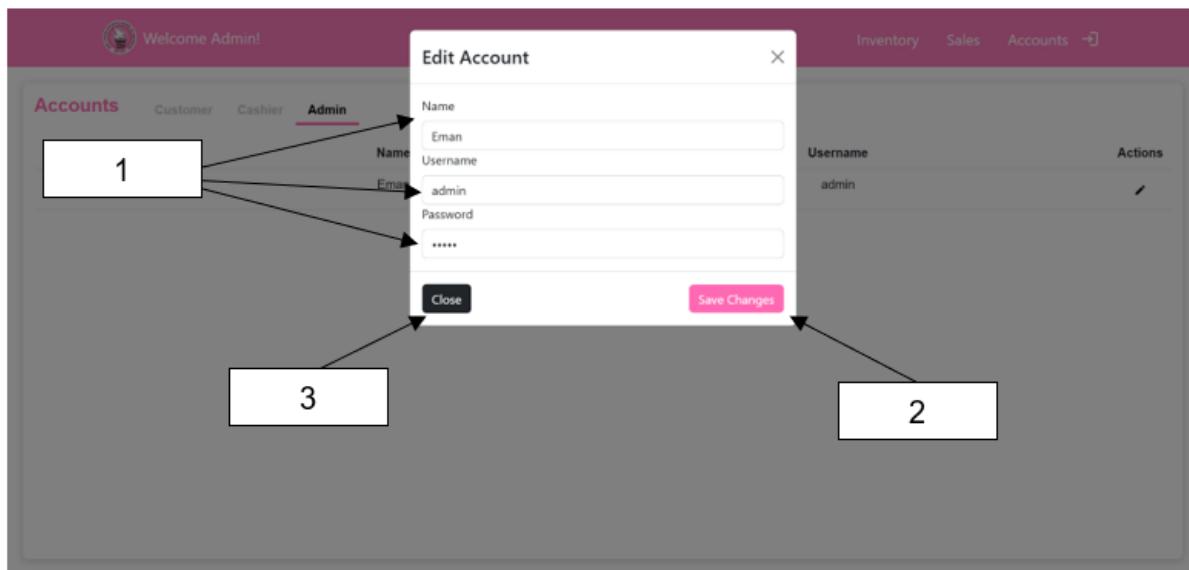
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Edit Admin Details



1. Modify the name, username and password.
2. Click "**Save Changes**" to save after editing.
3. Click "**Close**" to cancel update.



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Appendix G: Program Listing

Inventory.jsx

```
import React, { useEffect, useState } from 'react';
import axios from 'axios';
import './styles/Inventory.css';
import Modal from 'react-bootstrap/Modal';
import Form from 'react-bootstrap/Form';
import Button from 'react-bootstrap/Button';
import { IoTrashOutline } from "react-icons/io5";
import Dropdown from 'react-bootstrap/Dropdown';
import DropdownButton from 'react-bootstrap/DropdownButton';
import Table from 'react-bootstrap/Table';
import Header1 from './HeaderAdmin';
import { MdEdit } from "react-icons/md";
import { FaRegTrashAlt } from "react-icons/fa";
import Tab from 'react-bootstrap/Tab';
import Tabs from 'react-bootstrap/Tabs';
import { IoMdAdd } from "react-icons/io";
import { host } from '../apiRoutes';
import { Toast } from 'react-bootstrap';
import { ToastContainer } from 'react-bootstrap';
import ButtonGroup from 'react-bootstrap/ButtonGroup';

const Inventory = () => {
  const [data, setData] = useState([]);
  const [categories, setCategories] = useState([]);
  const [newCategory, setNewCategory] = useState("");
  const [stockData, setStockData] = useState([]);
  const [rawMaterialsData, setRawMaterials] = useState([]);
  const [isAddingCategory, setIsAddingCategory] = useState(false);
  const [ingredients, setIngredients] = useState([]);
  const [selectedIngredients, setSelectedIngredients] = useState([]);
  const [selectedIngredient, setSelectedIngredient] = useState("");
  const [selectedIngredientUnit, setSelectedIngredientUnit] = useState("");
```



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```
const [ingredientQuantity, setIngredientQuantity] = useState("");
const [showConfirmationModal, setShowConfirmationModal] = useState(false);
const [show, setShow] = useState(false);
const [modalShow, setModalShow] = useState(false);
const [stockModalShow, setStockModalShow] = useState(false);
const [rawMaterialModalShow, setRawMaterialModalShow] = useState(false);
const [showModal, setShowModal] = useState(false);
const [modalMessage, setModalMessage] = useState("");
const [fname, setFName] = useState("");
const [file, setFile] = useState("");
const [quantity, setQuantity] = useState("");
const [price, setItemPrice] = useState("");
const [category, setCategoryName] = useState("");
const [stockName, setStockName] = useState("");
const [stockQuantity, setStockQuantity] = useState("");
const [stockUnit, setStockUnit] = useState("");
const [rawMaterialName, setRawMaterialName] = useState("");
const [rawMaterialQuantity, setRawMaterialQuantity] = useState("");
const [rawMaterialUnit, setRawMaterialUnit] = useState("");
const [rawMaterialNameError, setRawMaterialNameError] = useState("");
const [rawMaterialQuantityError, setRawMaterialQuantityError] = useState("");
const [rawMaterialUnitError, setRawMaterialUnitError] = useState("");
const [showInventory, setShowInventory] = useState(true);
const [showStocks, setShowStocks] = useState(false);
const [showRawMaterials, setShowRawMaterial] = useState(false);
const [selectedInventory, setSelectedInventory] = useState('Food Inventory');
const [requiresRawMaterial, setRequiresRawMaterial] = useState(false);
const [selectedRawMaterialId, setSelectedRawMaterialId] = useState("");
const [quantityRequired, setQuantityRequired] = useState("");
const [conversionRatio, setConversionRatio] = useState('');
const [rawMaterialUsageQuantity, setRawMaterialUsageQuantity] = useState("");
const [editModalShow, setEditModalShow] = useState(false);
const [selectedRawMaterial, setSelectedRawMaterial] = useState({});
const [editStockModalShow, setEditStockModalShow] = useState(false);
const [selectedStock, setSelectedStock] = useState({});
const [editFoodModalShow, setEditFoodModalShow] = useState(false);
const [selectedFood, setSelectedFood] = useState({});
```



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```
const [updatedIngredients, setUpdatedIngredients] = useState([]);  
const [errors, setErrors] = useState({});  
const [isToastVisible, setIsToastVisible] = useState(false);  
const toggleToast = () => setIsToastVisible(!isToastVisible);  
const [errorMessage, setErrorMessage] = useState("");  
const handleShow = () => setModalShow(true);  
const handleStockShow = () => setStockModalShow(true);  
const handleRawMaterialShow = () => setRawMaterialModalShow(true);  
const [units, setUnits] = useState([]);  
const [unit, setUnit] = useState("");  
const [newUnit, setNewUnit] = useState("");  
const [isAddingUnit, setIsAddingUnit] = useState(false);  
const [unitStocks, setUnitStocks] = useState([]);  
const [newUnitStock, setNewUnitStock] = useState("");  
const [rawMaterialUnitStock, setRawMaterialUnitStock] = useState("");  
const [isAddingUnitStock, setIsAddingUnitStock] = useState(false);  
const [toastsRaw, setToastsRaw] = useState([]);  
  
useEffect(() => {  
    getUserData();  
    getCategories();  
    getStockData();  
    getRawMaterialsData();  
    getUnits();  
    getUnitStocks();  
  
}, []);  
  
const handleClose = () => {  
    setModalShow(false);  
    setStockModalShow(false);  
    setRawMaterialModalShow(false);  
    setIsAddingCategory(false);  
    setNewCategory("");  
  
    setFName("");  
    setItemPrice("");
```



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```
setCategoryName("");
setNewCategory("");
setSelectedIngredient("");
setIngredientQuantity("");
setSelectedIngredients([]);
setFile(null);

setStockName("");
setStockQuantity("");
setStockUnit("");
setRequiresRawMaterial(false);
setSelectedRawMaterialId("");
setRawMaterialUsageQuantity("");
setQuantityRequired("");
setConversionRatio("");

setRawMaterialName("");
setRawMaterialQuantity("");
setRawMaterialUnit("");
setErrorMessageBox("");
};

const addToastRaw = (message, type = 'success') => {
  const id = new Date().getTime();
  setToastsRaw((prevToasts) => [...prevToasts, { id, message, type }]);
};

const removeToastRaw = (id) => {
  setToastsRaw((prevToasts) => prevToasts.filter((toast) => toast.id !== id));
};

const getUserData = async () => {
  try {
    const token = localStorage.getItem('token');
    const res = await axios.get(` ${host}/getinventorydata`, {
      headers: {
        'Content-Type': 'application/json',
      }
    });
    return res.data;
  } catch (err) {
    console.error(err);
  }
};
```



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```
'Authorization': `Bearer ${token}`,  
},  
});  
  
if (res.data.status === 200) {  
    const updatedData = res.data.data.map(item => ({  
        ...item,  
        id: item.id || item.food_id  
    }));  
    setData(updatedData);  
}  
} catch (error) {  
    console.error('Error fetching data:', error);  
}  
};  
  
const getCategories = async () => {  
    try {  
        const res = await axios.get(`${host}/categories`);  
        if (res.data.status === 200) {  
            setCategories(res.data.data);  
        }  
    } catch (error) {  
        console.error('Error fetching categories:', error);  
    }  
};  
  
const getStockData = async () => {  
    try {  
        const token = localStorage.getItem('token');  
        const res = await axios.get(`${host}/getstock` , {  
            headers: {  
                'Content-Type': 'application/json',  
                'Authorization': `Bearer ${token}`,  
            },  
        });  
    }  
};
```



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```
if (res.data.status === 'success') {
    setStockData(res.data.data);
    setIngredients(res.data.data);
}
} catch (error) {
    console.error('Error fetching stock data:', error);
}
};

const getRawMaterialsData = async () => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.get(` ${host}/get-raw-materials` , {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });
        if (res.data.status === 'success') {
            setRawMaterials(res.data.data);
        }
    } catch (error) {
        console.error('Error fetching raw material data:', error);
    }
};

const handleEditClick = (material) => {
    setSelectedRawMaterial(material);
    setEditModalShow(true);
};

const handleEditChange = (e) => {
    setSelectedRawMaterial({
        ...selectedRawMaterial,
        [e.target.name]: e.target.value,
    });
};
```



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```
const saveRawMaterialChanges = async () => {
    const newErrors = {};
    if (!selectedRawMaterial.raw_material_name) newErrors.raw_material_name = "Name
is required.";
    if (!selectedRawMaterial.raw_material_quantity) newErrors.raw_material_quantity =
"Quantity is required.";
    if (!selectedRawMaterial.raw_material_unit) newErrors.raw_material_unit = "Unit is
required.";

    if (Object.keys(newErrors).length > 0) {
        setErrors(newErrors);
        return;
    }

    try {
        const token = localStorage.getItem('token');
        await axios.put(`${host}/update-raw-
material/${selectedRawMaterial.raw_material_id}`, selectedRawMaterial, {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });
        setEditModalShow(false);
        getRawMaterialsData();
        setErrors({});
    } catch (error) {
        console.error('Error updating raw material:', error);
    }
};

const handleEditStockClick = (stock) => {
    setSelectedStock(stock);
    setEditStockModalShow(true);
};
```



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```
const handleStockEditChange = (e) => {
    const { name, value } = e.target;
    setSelectedStock((prev) => ({
        ...prev,
        [name]: value,
    }));
    if (value === 'addNewUnitStock') {
        setIsAddingUnitStock(true);
    } else {
        setIsAddingUnitStock(false);
    }
};

const saveStockChanges = async () => {
    const newErrors = {};
    if (!selectedStock.stock_item_name) newErrors.stock_item_name = "Stock name is required.";
    if (!selectedStock.stock_quantity) newErrors.stock_quantity = "Quantity is required.";
    if (!selectedStock.unit) newErrors.unit = "Unit is required.";

    if (Object.keys(newErrors).length > 0) {
        setErrors(newErrors);
        return;
    }

    try {
        const token = localStorage.getItem('token');
        await axios.put(`${host}/update-stock/${selectedStock.stockId}`, selectedStock, {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });
    }
};
```



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```
setEditStockModalShow(false);
getStockData();
getRawMaterialsData();
setErrors({});

} catch (error) {
    console.error('Error updating stock:', error);
}

};

const handleArchive = async (id, type) => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.put(` ${host}/archive/${type}/${id}` , {}, {
            headers: {
                'Authorization': `Bearer ${token}`,
            },
        });

        if (res.status === 200) {
            console.log(`${type} archived successfully`);
            if (type === "item") {
                getUserData();
            } else if (type === "stock") {
                getStockData();
            } else if (type === "raw_material") {
                getRawMaterialsData();
            }
        }

        getStockData();
        getUserData();
        getRawMaterialsData();
    }

} catch (error) {
    if (error.response && error.response.status === 400) {
        setModalMessage(error.response.data.message);
        setShowModal(true);
    }
}
```



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```
    } else {
      console.error('Error archiving item:', error);
    }
  };
const handleEditFoodClick = (food) => {
  console.log('Selected food:', food);
  if (!food.id) {
    console.error('Food item is missing an ID');
    return;
  }
  setSelectedFood({
    id: food.id,
    Item_Name: food.Item_Name,
    Price: food.Price,
    ingredients: food.ingredients || []
  });
  setUpdatedIngredients(food.ingredients || []);
  setEditFoodModalShow(true);
};

const handleEditFoodChange = (e) => {
  setSelectedFood({
    ...selectedFood,
    [e.target.name]: e.target.value,
  });
};

const addUpdatedIngredient = () => {
  const ingredient = ingredients.find((ing) => ing.stock_item_name ===
selectedIngredient);
  if (ingredient && ingredientQuantity && selectedIngredientUnit) {
    setUpdatedIngredients([...updatedIngredients, {
      stock_id: ingredient.stockId,
      name: selectedIngredient,
      quantity: ingredientQuantity,
      unit: selectedIngredientUnit,
    }]);
  }
};
```



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```
});  
setSelectedIngredient("");  
setIngredientQuantity("");  
setSelectedIngredientUnit("");  
}  
};  
  
const removeUpdatedIngredient = (index) => {  
    setUpdatedIngredients((prevIngredients) => prevIngredients.filter((_, i) => i !== index));  
};  
  
const saveFoodChanges = async () => {  
    if (!selectedFood.id) {  
        console.error('Error: selectedFood.id is undefined');  
        return;  
    }  
  
    try {  
        const token = localStorage.getItem('token');  
        await axios.put(`${host}/update-food/${selectedFood.id}` , {  
            ...selectedFood,  
            ingredients: updatedIngredients,  
        }, {  
            headers: {  
                'Content-Type': 'application/json',  
                'Authorization': `Bearer ${token}`,  
            },  
        });  
        setEditFoodModalShow(false);  
        getUserData();  
    } catch (error) {  
        console.error('Error updating food item:', error);  
    }  
};  
  
const dltUser = async (id) => {
```



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```
try {
    const token = localStorage.getItem('token');
    const res = await axios.delete(`/${host}/delete/${id}`, {
        headers: {
            'Content-Type': 'application/json',
            'Authorization': `Bearer ${token}`,
        },
    });

    if (res.data.status === 201) {
        getUserData();
        setShow(true);
    }
} catch (error) {
    console.error('Error deleting item:', error);
}
};

const [showDuplicateModal, setShowDuplicateModal] = useState(false);
const [duplicateIngredient, setDuplicateIngredient] = useState(null);

const addIngredient = () => {
    const ingredient = ingredients.find(ing => ing.stock_item_name ===
selectedIngredient);

    if (ingredient && ingredientQuantity && selectedIngredientUnit) {
        const ingredientExists = selectedIngredients.some(ing => ing.stock_id ===
ingredient.stockId);

        if (ingredientExists) {
            setDuplicateIngredient(ingredient);
            setShowDuplicateModal(true);
        } else {
            setSelectedIngredients(prevIngredients => [
                ...prevIngredients,
                {
                    stock_id: ingredient.stockId,
                    quantity: ingredientQuantity,
                    unit: selectedIngredientUnit,
                },
            ]);
        }
    }
};
```



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```
name: selectedIngredient,  
quantity: ingredientQuantity,  
unit: selectedIngredientUnit,  
}  
]);  
setSelectedIngredient("");  
setIngredientQuantity("");  
setSelectedIngredientUnit("");  
}  
}  
};  
  
const increaseQuantity = (index) => {  
    setSelectedIngredients(prevIngredients => {  
        const updatedIngredients = [...prevIngredients];  
        updatedIngredients[index].quantity = Number(updatedIngredients[index].quantity) +  
1; // Ensure it's treated as a number  
        return updatedIngredients;  
    });  
};  
  
const decreaseQuantity = (index) => {  
    setSelectedIngredients(prevIngredients => {  
        const updatedIngredients = [...prevIngredients];  
        const currentQuantity = Number(updatedIngredients[index].quantity); // Ensure it's  
treated as a number  
        if (currentQuantity > 1) {  
            updatedIngredients[index].quantity = currentQuantity - 1; // Decrease the quantity  
        }  
        return updatedIngredients;  
    });  
};  
  
const removeIngredient = (index) => {  
    setSelectedIngredients(prevIngredients => prevIngredients.filter((_, i) => i !== index));  
};
```



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};

```
const handleIngredientSelection = (e) => {
    const selected = e.target.value;
    const ingredient = ingredients.find(ing => ing.stock_item_name === selected);

    setSelectedIngredient(selected);
    setSelectedIngredientUnit(ingredient ? ingredient.unit : "");
};

const addUserData = async (e) => {
    e.preventDefault();

    if (file && !file.type.startsWith('image/')) {
        alert('Please upload a valid image file.');
        return;
    }

    const formData = new FormData();
    formData.append("photo", file);
    formData.append("fname", fname);
    formData.append("quantity", quantity);
    formData.append("price", price);
    formData.append("category", category);
    formData.append("ingredients", JSON.stringify(selectedIngredients));

    try {
        const res = await axios.post(`${host}/addItem`, formData, {
            headers: {
                "Content-Type": "multipart/form-data"
            }
        });

        if (res.data.status === 201) {
            handleClose();
            getUserData();
            setShowConfirmationModal(true);
        }
    } catch (err) {
        console.error(err);
    }
};
```



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```
    addToastRaw("Food added successfully.", 'success');
}
} catch (error) {
    console.error("Error submitting data:", error);
}
};

const addStockData = async (e) => {
    e.preventDefault();
    const token = localStorage.getItem('token');

    let calculatedQuantity = stockQuantity;

    if (!stockName || !stockUnit || (!requiresRawMaterial && !stockQuantity)) {
        setErrorMessage("Please provide all required fields.");
        return;
    }

    if (requiresRawMaterial && rawMaterialUsageQuantity && conversionRatio) {
        calculatedQuantity = rawMaterialUsageQuantity * conversionRatio;
    }

    const stock = {
        stockName,
        stockQuantity: calculatedQuantity,
        stockUnit,
        requiresRawMaterial,
        raw_material_id: requiresRawMaterial ? selectedRawMaterialId : null,
        quantity_required: requiresRawMaterial ? quantityRequired : null,
        conversion_ratio: requiresRawMaterial ? conversionRatio : null,
        raw_material_usage_quantity: requiresRawMaterial ? rawMaterialUsageQuantity :
null,
        is_archive: 0
    };
}
```



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```
console.log("Stock Data:", stock);

const config = {
  headers: {
    'Content-Type': 'application/json',
    'Authorization': `Bearer ${token}`
  }
};

try {
  const res = await axios.post(`${host}/addStock`, stock, config);
  if (res.data.status === 201) {
    handleClose();
    await getStockData();
    getRawMaterialsData();
    setShowConfirmationModal(true);

    addToastRaw("Item added successfully.", 'success');
  }
} catch (error) {
  if (error.response && error.response.status === 409) {
    setErrorMessage(error.response.data.message);
  } else {
    console.error('Error adding stock:', error);
    setErrorMessage("An error occurred while adding stock.");
  }
}
};

const addRawMaterial = async (e) => {
  e.preventDefault();

  setRawMaterialNameError("");
  setRawMaterialQuantityError("");
  setRawMaterialUnitError("");
  setErrorMessage("");
```



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```
if (!rawMaterialName) {
    setRawMaterialNameError("Item name is required.");
    return;
}

if (!rawMaterialQuantity) {
    setRawMaterialQuantityError("Quantity is required.");
    return;
}

if (!rawMaterialUnit) {
    setRawMaterialUnitError("Unit is required.");
    return;
}

const token = localStorage.getItem('token');

const rawMaterial = {
    rawMaterialName,
    rawMaterialQuantity,
    rawMaterialUnit
};

const config = {
    headers: {
        'Content-Type': 'application/json',
        'Authorization': `Bearer ${token}`
    }
};

try {
    const res = await axios.post(`${host}/add-raw-material`, rawMaterial, config);

    if (res.data.status === 201) {
        handleClose();
        await getRawMaterialsData();
        setRawMaterialName("");
    }
}
```



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```
setRawMaterialQuantity("");
setRawMaterialUnit("");
setIsToastVisible(true);

    addToastRaw("Item added to Storage successfully.", 'success');
}
} catch (error) {
    if (error.response && error.response.status === 409) {
        setErrorMessage(error.response.data.message);
    } else {
        console.error('Error adding raw material:', error);
    }
};

const addCategory = async (e) => {
    e.preventDefault();

    try {
        const res = await axios.post(`${host}/category`, { category: newCategory }, {
            headers: {
                'Content-Type': 'application/json'
            }
        });

        if (res.data.status === 201) {
            getCategories();
            setCategoryName(newCategory);
            setNewCategory("");
            setIsAddingCategory(false);
        }
    } catch (error) {
        console.error('Error adding category:', error);
    }
};

const handleTabSelect = (key) => {
```



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```
setSelectedInventory(key);
setShowInventory(key === "Food Inventory");
setShowStocks(key === "Stocks Inventory");
setShowRawMaterial(key === "Kitchen Inventory")
};

const getUnits = async () => {
  try {
    const res = await axios.get(` ${host}/units`);
    if (res.data.status === 200) {
      setUnits(res.data.data);
    }
  } catch (error) {
    console.error('Error fetching units:', error);
  }
};

const addUnit = async (e) => {
  e.preventDefault();

  if (!newUnit.trim()) return;

  try {
    const res = await axios.post(` ${host}/unit`, { unit_name: newUnit }, {
      headers: {
        'Content-Type': 'application/json',
      },
    });

    if (res.data.status === 201) {
      const addedUnit = res.data.data;
      setUnits((prevUnits) => [...prevUnits, addedUnit]);
      setRawMaterialUnit(addedUnit.unit_name);
      setSelectedRawMaterial((prev) => ({
        ...prev,
        raw_material_unit: addedUnit.unit_name,
      }));
    }
  } catch (error) {
    console.error('Error adding unit:', error);
  }
};
```



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```
        setNewUnit("");
        setIsAddingUnit(false);
    }
} catch (error) {
    console.error('Error adding unit:', error);
}
};

const getUnitStocks = async () => {
try {
    const res = await axios.get(`${host}/unit-stocks`);
    if (res.data.status === 200) {
        setUnitStocks(res.data.data);
    }
} catch (error) {
    console.error('Error fetching unit stocks:', error);
}
};

const addUnitStock = async (e) => {
e.preventDefault();

if (!newUnitStock.trim()) {
    setErrorMessage("Unit name cannot be empty.");
    return;
}

try {
    const res = await axios.post(`${host}/unit-stock`, { unit_stock_name: newUnitStock }, {
        headers: {
            'Content-Type': 'application/json',
        },
    });
    if (res.data.status === 201) {
        setUnitStocks(prevState => [...prevState, res.data.data]);
    }
}
```



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```
setNewUnitStock("");
setErrorMessage("");
setStockUnit(res.data.data.unit_stock_name);
setIsAddingUnitStock(false);
}
} catch (error) {
  console.error('Error adding unit stock:', error);
  setErrorMessage("An error occurred while adding the new unit.");
}
};

return (
<div>
  <Header1 />
  <div className="inventoryd">
    <div className="invheader">
      <h1 className="display-6 logo-label">Inventory</h1>
      <div className="tab-header">
        <Tabs
          activeKey={selectedInventory}
          onSelect={handleTabSelect}
          id="fill-tab-example"
          className="tabs mb-3"
          fill
        >
          <Tab eventKey="Food Inventory" title="Food" />
          <Tab eventKey="Stocks Inventory" title="Stocks" />
          <Tab eventKey="Kitchen Inventory" title="Storage" />
        </Tabs>
      </div>
    </div>
    <div className="">
      {selectedInventory === 'Food Inventory' && (
        <div className='inventory-tables'>
          <Table hover responsive className="table-fixed">
            <thead>
```



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```
<tr>
  <th className='text-center'>Item Name</th>
  <th className='text-center'>Stock Details</th>
  <th className='text-center'>Price</th>
  <th className='text-center' id='action-inventory' style={{ width:
    '80px' }}>Action</th>
</tr>
</thead>
<tbody>
  {data.map((el, i) => (
    <tr key={i}>
      <td>{el.Item_Name}</td>
      <td className='text-center'>{el.Stock_Details}</td>
      <td className='text-center'>₱ {el.Price}</td>
      <td>
        <div className='d-flex justify-content-between action-
buttons'>
          <Button onClick={() => handleEditFoodClick(el)} id='edit-
inventory'><MdEdit /></Button>
          <Button onClick={() => handleArchive(el.id, 'item')} id='delete-
inventory'><FaRegTrashAlt /></Button>
        </div>
      </td>
    </tr>
  ))}
</tbody>
</Table>
</div>
)}
{selectedInventory === 'Stocks Inventory' && (
  <div className='inventory-tables'>
    <Table hover responsive className="table-fixed">
      <thead className='position-sticky z-3'>
        <tr>
          <th className='text-center'>Name</th>
```



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```
<th className='text-center'>Quantity</th>
<th className='text-center'>Unit</th>
<th className='text-center' style={{ width: '80px' }}>Actions</th>
</tr>
</thead>
<tbody>
{stockData.map((stock) => (
  <tr key={stock.stockId}>
    <td>{stock.stock_item_name}</td>
    <td className='text-center'>{stock.stock_quantity}</td>
    <td className='text-center'>{stock.unit}</td>
    <td>
      <div className='d-flex justify-content-between action-buttons'>
        <Button onClick={() => handleEditStockClick(stock)} id='edit-inventory'><MdEdit /></Button>
        <Button onClick={() => handleArchive(stock.stockId, 'stock')} id='delete-inventory'><FaRegTrashAlt /></Button>
      </div>
    </td>
  </tr>
))
</tbody>
</Table>
</div>
)}
{selectedInventory === 'Kitchen Inventory' && (
  <div className='inventory-tables'>
    <Table hover responsive className="table-fixed">
      <thead className='position-sticky z-3'>
        <tr>
          <th className='text-center'>Name</th>
          <th className='text-center'>Quantity</th>
          <th className='text-center'>Unit</th>
          <th className='text-center'>Date Added</th>
          <th className='text-center' style={{ width: '80px' }}>Actions</th>
        </tr>
      </thead>
```



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```
<tbody>
  {rawMaterialsData.map((material) => (
    <tr key={material.raw_material_id}>
      <td>{material.raw_material_name}</td>
      <td className='text-
center'>{material.raw_material_quantity}</td>
      <td className='text-center'>{material.raw_material_unit}</td>
      <td className='text-center'>{material.date_added}</td>
      <td>
        <div className='d-flex justify-content-between action-
buttons'>
          <Button onClick={() => handleEditClick(material)} id='edit-
inventory'><MdEdit /></Button>
          <Button onClick={() =>
            handleArchive(material.raw_material_id, 'raw_material')}>id='delete-
inventory'</FaRegTrashAlt /></Button>
        </div>
      </td>
    </tr>
  )));
  </tbody>
</Table>
</div>
)}
</div>
<div className="position-absolute bottom-0 end-0 m-5 inventory-button-2">
  {showInventory &&
    <Button variant="dark" onClick={handleShow} className='btn-add-
inventory2'><IoMdAdd/></Button>
  }
  {showStocks && (
    <Button variant="dark" onClick={handleStockShow} className='btn-add-
inventory2'><IoMdAdd/></Button>
  )}
  {showRawMaterials && (
    <Button variant="dark" onClick={handleRawMaterialShow} className='btn-
add-inventory2'><IoMdAdd/></Button>
  )}
</div>
```



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```
)}
</div>

<div className="mt-5 inventory-button d-flex justify-content-center inventory-
button">
  {showInventory && (
    <Button variant="dark" className='btn-add-inventory'
    onClick={handleShow}>Add Product</Button>
  )}
  {showStocks && (
    <Button variant="dark" className='btn-add-inventory'
    onClick={handleStockShow}>Add Stock</Button>
  )}
  {showRawMaterials && (
    <Button variant="dark" className='btn-add-inventory'
    onClick={handleRawMaterialShow}>Add to Storage</Button>
  )}
</div>
</div>
<Modal show={showModal} onHide={() => setShowModal(false)}>
  <Modal.Header closeButton>
    <Modal.Title>Cannot Remove Item</Modal.Title>
  </Modal.Header>
  <Modal.Body>{modalMessage}</Modal.Body>
  <Modal.Footer>
    <Button variant="secondary" onClick={() => setShowModal(false)}>
      Close
    </Button>
  </Modal.Footer>
</Modal>
<Modal
  show={showDuplicateModal}
  onHide={() => setShowDuplicateModal(false)}
  backdrop="static"
  keyboard={false}
  dialogClassName="fullscreen-modal">
  <Modal.Header closeButton>
```



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```
<Modal.Title className='text-danger'>Cannot Add Ingredient</Modal.Title>
</Modal.Header>
<Modal.Body>
  <p>{duplicateIngredient ? `The ingredient is already exists.` : ""}</p>
</Modal.Body>
<Modal.Footer>
  <Button variant="dark" onClick={() => setShowDuplicateModal(false)}>
    Close
  </Button>
</Modal.Footer>
</Modal>
<Modal
  show={modalShow}
  onHide={handleClose}
  dialogClassName="fullscreen-modal"
  backdrop="static"
  keyboard={false}>
  <Modal.Header closeButton>
    <Modal.Title>Add New Food</Modal.Title>
  </Modal.Header>
  <Modal.Body>
    <Form>
      <Form.Group controlId="formItemName">
        <Form.Label>Food Name</Form.Label>
        <Form.Control
          type="text"
          name='fname'
          value={fname}
          onChange={(e) => setFName(e.target.value)}
          className='form-item-name'
        />
      </Form.Group>
      <Form.Group controlId="formItemPrice">
        <Form.Label>Price</Form.Label>
        <Form.Control
          type="number"
          name='price'
```



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```
value={price}
onChange={(e) => setItemPrice(e.target.value)}
className='form-item-price'
/>
</Form.Group>
<Form.Group className="mb-3" controlId="formItemCategory">
<Form.Label>Food Category</Form.Label>
<Form.Control
as="select"
value={category}
onChange={(e) => setCategoryName(e.target.value)}
className='form-item-category'
>
<option value="">Select Category</option>
{categories.map((cat, i) => (
<option key={i}
value={cat.category_name}>{cat.category_name}</option>
))}
<option value="addNew">Add New Category</option>
</Form.Control>
</Form.Group>

{category === 'addNew' && (
<Form.Group className="mb-3" controlId="formNewCategory">
<Form.Label>New Category</Form.Label>
<Form.Control
type="text"
value={newCategory}
onChange={(e) => setNewCategory(e.target.value)}
className='form-new-category'
required/>
<div className='pt-3 d-flex justify-content-end'>
<Button variant="dark" onClick={addCategory} className='add-
category-btn'>
          Add Category
        </Button>
      </div>
    </Form.Group>
  )}
```



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```
</Form.Group>
)}

<Form.Group className="mb-3" controlId="formItemIngredients">
  <Form.Label>Ingredients</Form.Label>
  <Form.Select
    aria-label="Select Ingredient"
    value={selectedIngredient}
    onChange={handleIngredientSelection}
    className='form-item-ingredient'
  >
    <option>Select Ingredient</option>
    {ingredients.map((ingredient, i) => (
      <option key={i} value={ingredient.stock_item_name}>
        {ingredient.stock_item_name}
      </option>
    )))
  </Form.Select>
</Form.Group>

{selectedIngredient && (
  <>
    <Form.Group className="mb-3" controlId="formIngredientQuantity">
      <Form.Label>Quantity</Form.Label>
      <Form.Control
        type="number"
        value={ingredientQuantity}
        onChange={(e) => setIngredientQuantity(e.target.value)}
        className='form-ingredient-quantity'
      />
    </Form.Group>

    <Form.Group className="mb-3" controlId="formIngredientUnit">
      <Form.Label>Unit</Form.Label>
      <Form.Control
        type="text"
        value={selectedIngredientUnit}
```



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```
    readOnly
    className='form-ingredient-unit'
  />
</Form.Group>
<div className='d-flex justify-content-end'>
  <Button onClick={addIngredient} className='bg-dark add-ingredient'>
    Add Ingredient
  </Button>
</div>
</>
)}

{selectedIngredients.length > 0 && (
  <div className="ingredients-list">
    <h5 className='p-1 text-center added-ing-title'>Added Ingredients</h5>
    <Table responsive className='table-ingredients'>
      <thead>
        <tr className='p-1'>
          <th className='p-2'>Ingredient Name</th>
          <th className='ing-th p2 text-center'>Qty</th>
          <th className='ing-th p2 text-center'>Unit</th>
          <th className='ing-th1 p2'>Action</th>
        </tr>
      </thead>
      <tbody>
        {selectedIngredients.map((ingredient, index) => (
          <tr key={index}>
            <td className='p-2'>{ingredient.name}</td>
            <td className='ing-td p2 text-center'>
              <ButtonGroup aria-label="Basic example"
                className='btngroup'>
                <Button className="decrease-ing" variant="dark"
                  onClick={() => decreaseQuantity(index)}>-</Button>
                <label className="px-2 pt-1">{ingredient.quantity}</label>
                <Button className="increase-ing" variant="dark"
                  onClick={() => increaseQuantity(index)}>+</Button>
              </ButtonGroup>
            </td>
          </tr>
        ))
      </tbody>
    </Table>
  </div>
)}
```



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```
</td>
<td className='ing-td p2 text-center'>
    {ingredient.unit}

</td>
<td className='text-center'>
    <button type="button" className="btn-remove-ingredient"
onClick={() => removeIngredient(index)}>
        <i>TrashOutline</i>
    </button>
</td>
</tr>
)}
</tbody>
</Table>
</div>
}

<Form.Group className="mb-3" controlId="formItemImage">
    <Form.Label>Image</Form.Label>
    <Form.Control
        type="file"
        name="photo"
        onChange={(e) => setFile(e.target.files[0])}
        className='form-item-image'
        accept="image/*"
    />
</Form.Group>

</Form>
</Modal.Body>
<Modal.Footer>
    <Button className="food-save" variant="dark" onClick={addUserData}>
        Save Food
    </Button>
</Modal.Footer>
```



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```
</Modal>

<Modal
  show={stockModalShow}
  onHide={handleClose}
  dialogClassName="fullscreen-modal"
  backdrop="static"
  keyboard={false}>
  <Modal.Header closeButton>
    <Modal.Title>Add New Stock</Modal.Title>
  </Modal.Header>
  <Modal.Body>
    <Form>
      <Form.Group controlId="formStockName">
        <Form.Label>Stock Name</Form.Label>
        <Form.Control
          type="text"
          name='stockName'
          value={stockName}
          onChange={(e) => setStockName(e.target.value)}
          className='form-stock-name'
          isValid={!errorMessage}
        />
        <Form.Control.Feedback type="invalid">
          {errorMessage}
        </Form.Control.Feedback>
      </Form.Group>

      <Form.Group controlId="requiresRawMaterial">
        <Form.Check
          type="checkbox"
          className='text-secondary mb-1'
          label="Does this stock require raw materials?"
          checked={requiresRawMaterial}
          onChange={(e) => setRequiresRawMaterial(e.target.checked)}
        />
      </Form.Group>
```



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```
{!requiresRawMaterial && (
  <Form.Group controlId="formStockQuantity">
    <Form.Label>Quantity</Form.Label>
    <Form.Control
      type="number"
      name='stockQuantity'
      value={stockQuantity}
      onChange={(e) => setStockQuantity(e.target.value)}
      className='form-stock-quantity'
    />
  </Form.Group>
)}

<Form.Group controlId="formStockUnit">
  <Form.Label>Unit</Form.Label>
  <Form.Control
    as="select"
    value={stockUnit}
    onChange={(e) => setStockUnit(e.target.value)}
    className="form-stock-unit"
  >
    <option value="">Select Unit</option>
    {unitStocks.map((unit, i) => (
      <option key={i} value={unit.unit_stock_name}>
        {unit.unit_stock_name}
      </option>
    )))
    <option value="addNewUnit">Add New Unit</option>
  </Form.Control>
</Form.Group>

{stockUnit === 'addNewUnit' && (
  <Form.Group controlId="formNewStockUnit">
    <Form.Label>New Unit</Form.Label>
    <Form.Control
      type="text"
    />
  </Form.Group>
)}
```



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```
value={newUnitStock}
onChange={(e) => setNewUnitStock(e.target.value)}
className="form-new-stock-unit"
required
/>
<div className="pt-3 d-flex justify-content-end">
<Button variant="dark" onClick={addUnitStock} className="add-unit-
stock-btn">
    Add Unit
</Button>
</div>
</Form.Group>
)}

{requiresRawMaterial && (
<>
<Form.Group controlId="formRawMaterialId">
    <Form.Label>Choose item from food storage </Form.Label>
    <Form.Control
        as="select"
        value={selectedRawMaterialId}
        onChange={(e) => setSelectedRawMaterialId(e.target.value)}
    >
        <option value="">Tap to select</option>
        {rawMaterialsData.map((material) => (
            <option key={material.raw_material_id}
value={material.raw_material_id}>
                {material.raw_material_name}
            </option>
        )))
    </Form.Control>
</Form.Group>

<Form.Group controlId="formRawMaterialUsageQuantity">
    <Form.Label>Quantity of Item to Use from Storage</Form.Label>
    <Form.Control
```



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```
        type="number"
        value={rawMaterialUsageQuantity}
        onChange={(e) => setRawMaterialUsageQuantity(e.target.value)}
        placeholder="Enter quantity to use"
      />
    </Form.Group>

    <Form.Group className="mb-3" controlId="formQuantityRequired">
      <Form.Label>Quantity Required for Recipe</Form.Label>
      <Form.Control
        type="number"
        value={quantityRequired}
        onChange={(e) => setQuantityRequired(e.target.value)}
      />
    </Form.Group>

    <Form.Group className="mb-3" controlId="formConversionRatio">
      <Form.Label>Conversion Ratio</Form.Label>
      <Form.Control
        type="number"
        value={conversionRatio}
        onChange={(e) => setConversionRatio(e.target.value)}
      />
    </Form.Group>
  </>
}

</Form>
</Modal.Body>
<Modal.Footer>
  <Button className="food-save" variant="dark" onClick={addStockData}>
    Save Stock
  </Button>
</Modal.Footer>
</Modal>

<Modal
  show={rawMaterialModalShow}>
```



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```
onHide={handleClose}
dialogClassName="fullscreen-modal"
backdrop="static"
keyboard={false}
>
<Modal.Header closeButton>
<Modal.Title>Add New Item in Storage</Modal.Title>
</Modal.Header>
<Modal.Body>
<Form>
  <Form.Group className="mb-3" controlId="formRawMaterialName">
    <Form.Label>Item Name</Form.Label>
    <Form.Control
      type="text"
      name="rawMaterialName"
      value={rawMaterialName}
      onChange={(e) => setRawMaterialName(e.target.value)}
      className="form-raw-material-name"
      isValid={!errorMessage}
    />
    <Form.Control.Feedback type="invalid">
      {errorMessage}
    </Form.Control.Feedback>
  </Form.Group>

  <Form.Group className="mb-3" controlId="formRawMaterialQuantity">
    <Form.Label>Quantity</Form.Label>
    <Form.Control
      type="number"
      name="rawMaterialQuantity"
      value={rawMaterialQuantity}
      onChange={(e) => setRawMaterialQuantity(e.target.value)}
      className="form-raw-material-quantity"
      isValid={!rawMaterialQuantityError}
    />
    <Form.Control.Feedback type="invalid">
      {rawMaterialQuantityError}
    </Form.Control.Feedback>
  </Form.Group>
</Form>
```



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```
</Form.Control.Feedback>
</Form.Group>

<Form.Group className="mb-3" controlId="formRawMaterialUnit">
<Form.Label>Unit</Form.Label>
<Form.Control
  as="select"
  value={rawMaterialUnit}
  onChange={(e) => setRawMaterialUnit(e.target.value)}
  className="form-item-unit"
  isValid={!rawMaterialUnitError}
>
  <option value="">Select Unit</option>
  {units.map((unit, i) => (
    <option key={i} value={unit.unit_name}>{unit.unit_name}</option>
  )))
  <option value="addNewUnit">Add New Unit</option>
</Form.Control>
<Form.Control.Feedback type="invalid">
  {rawMaterialUnitError}
</Form.Control.Feedback>
</Form.Group>

{rawMaterialUnit === 'addNewUnit' && (
<Form.Group className="mb-3" controlId="formNewUnit">
  <Form.Label>New Unit</Form.Label>
  <Form.Control
    type="text"
    value={newUnit}
    onChange={(e) => setNewUnit(e.target.value)}
    className="form-new-unit"
    required
  />
  <div className="pt-3 d-flex justify-content-end">
    <Button variant="dark" onClick={addUnit} className="add-unit-btn">
      Add Unit
    </Button>
```



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```
</div>
</Form.Group>
)}
</Form>
<Modal.Body>
<Modal.Footer>
<Button className="food-save" variant="dark" onClick={addRawMaterial}>
  Save Ingredient
</Button>
</Modal.Footer>
</Modal>

<ToastContainer className="position-fixed bottom-0 end-0 p-3 toast-menu" style={{ zIndex: 1 }}>
  {toastsRaw.map((toast) => (
    <Toast key={toast.id} onClose={() => removeToastRaw(toast.id)} delay={3000} autohide>
      <Toast.Header>
        <strong className={`me-auto ${toast.type === 'success' ? 'text-success' : 'text-danger'}`}>
          {toast.type === 'success' ? 'Success' : 'Error'}
        </strong>
        <small>just now</small>
      </Toast.Header>
      <Toast.Body>{toast.message}</Toast.Body>
    </Toast>
  )))
</ToastContainer>

<Modal
show={editModalShow}
onHide={() => setEditModalShow(false)}
dialogClassName="fullscreen-modal"
backdrop="static"
keyboard={false}>
  <Modal.Header closeButton>
```



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```
<Modal.Title>Edit Item from Storage</Modal.Title>
</Modal.Header>
<Modal.Body>
  <Form>
    <Form.Group controlId="formRawMaterialName">
      <Form.Label>Name</Form.Label>
      <Form.Control
        type="text"
        name="raw_material_name"
        value={selectedRawMaterial.raw_material_name || ""}
        onChange={handleEditChange}
      />
    </Form.Group>
    <Form.Group controlId="formRawMaterialQuantity">
      <Form.Label>Quantity</Form.Label>
      <Form.Control
        type="number"
        name="raw_material_quantity"
        value={selectedRawMaterial.raw_material_quantity || ""}
        onChange={handleEditChange}
      />
    </Form.Group>
    <Form.Group controlId="formRawMaterialUnit">
      <Form.Label>Unit</Form.Label>
      <Form.Control
        as="select"
        name="raw_material_unit"
        value={selectedRawMaterial.raw_material_unit || ""}
        onChange={(e) => handleEditChange(e)} disabled
      >
        <option value="">Select Unit</option>
        {units.map((unit, i) => (
          <option key={i} value={unit.unit_name}>{unit.unit_name}</option>
        ))}
        <option value="addNewUnit">Add New Unit</option>
      </Form.Control>
    </Form.Group>
```



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```
{selectedRawMaterial.raw_material_unit === 'addNewUnit' && (
  <Form.Group className="mb-3" controlId="formNewUnit">
    <Form.Label>New Unit</Form.Label>
    <Form.Control
      type="text"
      value={newUnit}
      onChange={(e) => setNewUnit(e.target.value)}
      className="form-new-unit"
      required
    />
    <div className="pt-3 d-flex justify-content-end">
      <Button variant="dark" onClick={addUnit} className="add-unit-btn">
        Add Unit
      </Button>
    </div>
  </Form.Group>
)
</Form>
</Modal.Body>
<Modal.Footer className="d-flex justify-content-between">
  <Button variant="dark" onClick={() =>
setEditModalShow(false)}>Close</Button>
  <Button variant="dark" className="food-save"
onClick={saveRawMaterialChanges}>Save Changes</Button>
</Modal.Footer>
</Modal>
<Modal
  show={editStockModalShow}
  onHide={() => setEditStockModalShow(false)}
  dialogClassName="fullscreen-modal"
  backdrop="static"
  keyboard={false}>
  <Modal.Header closeButton>
    <Modal.Title>Edit Stock</Modal.Title>
  </Modal.Header>
  <Modal.Body>
```



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```
<Form>
  <Form.Group controlId="formStockName">
    <Form.Label>Stock Name</Form.Label>
    <Form.Control
      type="text"
      name="stock_item_name"
      value={selectedStock.stock_item_name || ""}
      onChange={handleStockEditChange}>
    />
  </Form.Group>

  {selectedStock.requires_raw_material ? (
    <>
      <Form.Group controlId="formRawMaterialUsageQuantity">
        <Form.Label>Quantity of Raw Material to Use</Form.Label>
        <Form.Control
          type="number"
          name="raw_material_usage_quantity"
          value={selectedStock.raw_material_usage_quantity || ""}
          onChange={handleStockEditChange}>
        />
      </Form.Group>
      <Form.Group controlId="formConversionRatio">
        <Form.Label>Conversion Ratio</Form.Label>
        <Form.Control
          type="number"
          name="conversion_ratio"
          value={selectedStock.conversion_ratio || ""}
          readOnly disabled
        />
      </Form.Group>
    </>
  ) : (
    <Form.Group controlId="formStockQuantity">
      <Form.Label>Quantity</Form.Label>
      <Form.Control
        type="number"
```



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```
name="stock_quantity"
value={selectedStock.stock_quantity || ""}
onChange={handleStockEditChange}
/>
</Form.Group>
)}

<Form.Group controlId="formStockUnit">
<Form.Label>Unit</Form.Label>
<Form.Control
as="select"
name="unit"
value={selectedStock.unit || ""}
onChange={(e) => handleStockEditChange(e)} disabled
>
<option value="">Select Unit</option>
{unitStocks.map((unitStock, i) => (
<option key={i} value={unitStock.unit_stock_name}>
{unitStock.unit_stock_name}
</option>
))}
<option value="addNewUnitStock">Add New Unit Stock</option>
</Form.Control>
</Form.Group>

{rawMaterialUnitStock === 'addNewUnitStock' && (
<Form.Group className="mb-3" controlId="formNewUnitStock">
<Form.Label>New Unit Stock</Form.Label>
<Form.Control
type="text"
value={newUnitStock}
onChange={(e) => setNewUnitStock(e.target.value)}
className="form-new-unit-stock"
required
/>
<div className="pt-3 d-flex justify-content-end">
```



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```
<Button variant="dark" onClick={addUnitStock} className="add-unit-stock-btn">
    Add Unit Stock
</Button>
</div>
</Form.Group>
)}

</Form>
</Modal.Body>
<Modal.Footer className="d-flex justify-content-between">
    <Button variant="dark" onClick={() =>
        setEditStockModalShow(false)}>Close</Button>
    <Button variant="dark" className="food-save" onClick={saveStockChanges}>Save Changes</Button>
</Modal.Footer>
</Modal>

<Modal
show={editFoodModalShow}
onHide={() => setEditFoodModalShow(false)}
dialogClassName="fullscreen-modal"
backdrop="static"
keyboard={false}>
    <Modal.Header closeButton>
        <Modal.Title>Edit Food Item</Modal.Title>
    </Modal.Header>
    <Modal.Body>
        <Form>
            <Form.Group controlId="formFoodName">
                <Form.Label>Name</Form.Label>
                <Form.Control
                    type="text"
                    name="Item_Name"
                    value={selectedFood.Item_Name || ""}
                    onChange={handleEditFoodChange}
                />
            </Form.Group>
        </Form>
    </Modal.Body>
</Modal>
```



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```
</Form.Group>
<Form.Group controlId="formFoodPrice">
  <Form.Label>Price</Form.Label>
  <Form.Control
    type="number"
    name="Price"
    value={selectedFood.Price || ""}
    onChange={handleEditFoodChange}
  />
</Form.Group>
<Form.Group controlId="formFoodIngredients">
  <Form.Label>Ingredients</Form.Label>
  <Form.Select
    value={selectedIngredient}
    onChange={handleIngredientSelection}>
    <option>Select Ingredient</option>
    {ingredients.map((ingredient, i) => (
      <option key={i} value={ingredient.stock_item_name}>
        {ingredient.stock_item_name}
      </option>
    )))
  </Form.Select>
</Form.Group>
{selectedIngredient && (
  <>
    <Form.Group controlId="formIngredientQuantity" className="mt-3">
      <Form.Label>Quantity</Form.Label>
      <Form.Control
        type="number"
        value={ingredientQuantity}
        onChange={(e) => setIngredientQuantity(e.target.value)}
      />
    </Form.Group>

    <Form.Group controlId="formIngredientUnit" className="mt-3">
      <Form.Label>Unit</Form.Label>
```



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```
<Form.Control  
    type="text"  
    value={selectedIngredientUnit}  
    readOnly  
/>  
</Form.Group>  
  
<Button onClick={addUpdatedIngredient} className="mt-2">Add  
Ingredient</Button>  
    </>  
})  
  
{updatedIngredients.length > 0 && (  
    <Table responsive className="table-ingredients mt-3">  
        <thead>  
            <tr>  
                <th>Ingredient Name</th>  
                <th>Quantity & Unit</th>  
                <th>Action</th>  
            </tr>  
        </thead>  
        <tbody>  
            {updatedIngredients.map((ingredient, index) => (  
                <tr key={index}>  
                    <td>{ingredient.name}</td>  
                    <td>{ingredient.quantity} {ingredient.unit}</td>  
                    <td><Button onClick={() =>  
removeUpdatedIngredient(index)}><IoTrashOutline /></Button></td>  
                </tr>  
            ))}  
        </tbody>  
    </Table>  
)  
</Form>  
</Modal.Body>  
<Modal.Footer className="d-flex justify-content-between">
```



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```
<Button variant="dark" onClick={() =>
setEditFoodModalShow(false)}>Close</Button>
      <Button variant="dark" className="food-save"
onClick={saveFoodChanges}>Save Changes</Button>
    </Modal.Footer>
  </Modal>
</div>
);
}

export default Inventory;
```

Sales.jsx

```
import React, { useEffect, useState } from 'react';
import axios from 'axios';
import { Pie } from 'react-chartjs-2';
import "../styles/Sales.css";
import Header from './HeaderAdmin';
import { BsCashCoin } from "react-icons/bs";
import { Line } from 'react-chartjs-2';
import { Chart as ChartJS, ArcElement, Tooltip, Legend } from 'chart.js';
import { jsPDF } from 'jspdf';
import 'jspdf-autotable';
import { Tab, Tabs } from 'react-bootstrap';
import Dropdown from 'react-bootstrap/Dropdown';
import DropdownButton from 'react-bootstrap/DropdownButton';
import { Table, Button } from 'react-bootstrap';
import { MdEdit } from 'react-icons/md';
import { FaRegTrashAlt } from 'react-icons/fa';
import { FaRegFilePdf } from "react-icons/fa6";
import ListGroup from 'react-bootstrap/ListGroup';
import { Row, Col, Card } from 'react-bootstrap';
import { host } from '../apiRoutes';

ChartJS.register(ArcElement, Tooltip, Legend);
```



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```
const Sales = () => {

    const [salesData, setSalesData] = useState([]);
    const [cashier1Sales, setCashier1Sales] = useState([]);
    const [cashier2Sales, setCashier2Sales] = useState([]);
    const [filter, setFilter] = useState('today');
    const [loading, setLoading] = useState(true);
    const [totalSalesEarned, setTotalSalesEarned] = useState(0);
    const [totalAmount, setTotalAmount] = useState(0);
    const [cashier1Total, setCashier1Total] = useState(0);
    const [cashier2Total, setCashier2Total] = useState(0);
    const [selectedCashier, setSelectedCashier] = useState('all');
    const [pieData, setPieData] = useState(null);
    const [topSellingItems, setTopSellingItems] = useState([]);
    const token = localStorage.getItem('token');

    const options = {
        responsive: true,
        plugins: {
            legend: {
                position: 'bottom',
                align: 'start',
                labels: {
                    boxWidth: 20,
                    padding: 20,
                    font: {
                        size: 14,
                        family: 'Arial',
                    },
                    color: '#333'
                },
            },
            tooltip: {
                callbacks: {
                    label: function(tooltipItem) {
                        return `${tooltipItem.label}: ${tooltipItem.raw}`;
                    }
                }
            }
        }
    }

    return (
        <div>
            <h1>Sales Data</h1>
            <table>
                <thead>
                    <tr>
                        <th>Category</th>
                        <th>Sales</th>
                    </tr>
                </thead>
                <tbody>
                    <tr>
                        <td>Total Sales</td>
                        <td>${totalSalesEarned}</td>
                    </tr>
                    <tr>
                        <td>Total Amount</td>
                        <td>${totalAmount}</td>
                    </tr>
                    <tr>
                        <td>Cashier 1 Total</td>
                        <td>${cashier1Total}</td>
                    </tr>
                    <tr>
                        <td>Cashier 2 Total</td>
                        <td>${cashier2Total}</td>
                    </tr>
                    <tr>
                        <td>Selected Cashier</td>
                        <td>${selectedCashier}</td>
                    </tr>
                </tbody>
            </table>
            <div>
                <h3>Pie Chart</h3>
                <img alt="Pie chart showing sales distribution by category"/>
            </div>
            <div>
                <h3>Top Selling Items</h3>
                <table>
                    <thead>
                        <tr>
                            <th>Item</th>
                            <th>Sales</th>
                        </tr>
                    </thead>
                    <tbody>
                        {topSellingItems.map(item => (
                            <tr>
                                <td>{item.item}</td>
                                <td>${item.sales}</td>
                            </tr>
                        ))}
                    </tbody>
                </table>
            </div>
        </div>
    )
}
```



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```
        }
    },
},
datalabels: {
    color: '#fff',
    formatter: (value, context) => {
        const label = context.chart.data.labels[context.dataIndex];
        return `${label}: ${value}`;
    },
    anchor: 'end',
    align: 'end',
},
};

useEffect(() => {
    const fetchSalesData = async () => {
        setLoading(true);
        try {
            let response;
            if (filter === 'today') {
                response = await axios.get(`${host}/api/sales/today`, { headers: {
                    'Authorization': `Bearer ${token}` } });
            } else if (filter === 'week') {
                response = await axios.get(`${host}/api/sales/week`, { headers: { 'Authorization':
                    `Bearer ${token}` } });
            } else {
                response = await axios.get(`${host}/api/sales/month`, { headers: {
                    'Authorization': `Bearer ${token}` } });
            }

            setSalesData(response.data);
            const total = response.data.reduce((sum, sale) => sum +
            parseFloat(sale.totalAmount), 0);
            setTotalAmount(total);

            const itemsSold = {};
```



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```
response.data.forEach((sale) => {
    itemsSold[sale.itemname] = (itemsSold[sale.itemname] || 0) + sale.quantity;
});
const sortedItems = Object.entries(itemsSold).sort((a, b) => b[1] - a[1]);
const top3 = sortedItems.slice(0, 3).map(([itemname, quantity]) => ({ itemname,
quantity }));
setTopSellingItems(top3);

const totalSales = total + cashier1Total + cashier2Total;
setTotalSalesEarned(totalSales);

} catch (error) {
    console.error('Error fetching sales data:', error);
} finally {
    setLoading(false);
}
};

fetchSalesData();
}, [filter, token, cashier1Total, cashier2Total]);

const generatePDF = () => {
    const doc = new jsPDF();

    doc.setFont("helvetica", "normal");

    const schoolName = "Saint Jerome Integrated School of Cabuyao";
    const address = "0021 Mamatid Rd, Cabuyao, 4025 Laguna";
    const phone = "Phone: (049) 531 3190";
    const marginTop = 20;
    const marginBelowPhone = 1;

    doc.setFontSize(16);
    doc.setFont("helvetica", "bold");
    doc.text(schoolName, doc.internal.pageSize.width / 2, marginTop, null, 'center');

    doc.setFontSize(12);
    doc.setFont("helvetica", "normal");
```



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```
doc.text(address, doc.internal.pageSize.width / 2, marginTop + 6, null, null, 'center');
doc.text(phone, doc.internal.pageSize.width / 2, marginTop + 12, null, null, 'center');

const adjustedHeaderY = marginTop + 12 + marginBelowPhone;

doc.setFontSize(14);
doc.setFont("helvetica", "bold");
doc.setTextColor(0, 0, 0);
const title = 'Sales Report';
const titleWidth = doc.getTextWidth(title);
const titleX = (doc.internal.pageSize.width - titleWidth) / 2;
doc.text(title, titleX, adjustedHeaderY + 20);

const marginBelowTitle = 1;
const adjustedYForTable = adjustedHeaderY + 20 + marginBelowTitle;

doc.setLineWidth(0.2);
doc.setDrawColor(0, 0, 0);
doc.line(14, adjustedYForTable + 2, doc.internal.pageSize.width - 14,
adjustedYForTable + 2);

doc.setFontSize(12);
doc.setFont("helvetica", "normal");
const tableColumn = ["Sale ID", "Order #", "Cashier", "Customer", "Status", "Total
Amount", "Sale Date", "Item Name", "Qty"];

let filteredSalesData = salesData;
let totalSales = 0;
if (selectedCashier !== 'all') {
    filteredSalesData = selectedCashier === 'cashier1' ? cashier1Sales : cashier2Sales;
    totalSales = selectedCashier === 'cashier1' ? cashier1Total : cashier2Total;
} else {
    totalSales = totalAmount;
}

const tableRows = filteredSalesData.map(sale => [
    sale.saleId,
```



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```
sale.orderNumber,  
sale.cashier_name,  
sale.customer_name || "-",  
sale.status,  
'P ${sale.totalAmount}',  
new Date(sale.saleDate).toLocaleDateString(),  
sale.itemname,  
sale.quantity  
]);  
  
const availableWidth = doc.internal.pageSize.width - 28;  
  
doc.autoTable({  
    head: [tableColumn],  
    body: tableRows,  
    startY: adjustedYForTable + 5,  
    theme: 'grid',  
    headStyles: {  
        fillColor: null,  
        textColor: [255, 105, 180],  
        fontStyle: 'bold',  
        lineWidth: 0.01,  
        lineColor: [169, 169, 169]  
    },  
    styles: {  
        fontSize: 10,  
        cellPadding: 3,  
        halign: 'center',  
        valign: 'middle',  
    },  
    columnStyles: {  
        0: { cellWidth: 15 },  
        1: { cellWidth: 18 },  
        2: { cellWidth: 25 },  
        3: { cellWidth: 30 },  
        4: { cellWidth: 20 },  
        5: { cellWidth: 20 },
```



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```
6: { cellWidth: 25 },
7: { cellWidth: 23 },
8: { cellWidth: 12 },
},
});

doc.setTextColor(0, 0, 0);
doc.text('Top Selling Items', 14, doc.lastAutoTable.finalY + 10);

const marginBelowTitleForTopSelling = 5;
const startYForTable = doc.lastAutoTable.finalY + 10 +
marginBelowTitleForTopSelling;

const topSellingColumns = ["Item Name", "Quantity Sold"];
const topSellingRows = topSellingItems.map(item => [item.itemname, item.quantity]);

doc.autoTable({
  head: [topSellingColumns],
  body: topSellingRows,
  startY: startYForTable,
  theme: 'grid',
  headStyles: {
    fillColor: null,
    textColor: [255, 105, 180],
    fontStyle: 'bold',
    lineWidth: 0.1,
    lineColor: [169, 169, 169]
  },
  styles: {
    fontSize: 10,
    halign: 'center',
    valign: 'middle',
  },
  columnStyles: {
    0: { cellWidth: availableWidth / 2 },
    1: { cellWidth: availableWidth / 2 },
  },
});
```



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```
});  
  
doc.setFont("helvetica", "bold");  
doc.setTextColor(0, 0, 0);  
  
doc.text(`Total Sales Earned: P ${totalSales.toFixed(2)}` , 14, doc.lastAutoTable.finalY  
+ 20);  
  
doc.setFontSize(10);  
doc.setTextColor(150);  
const pageCount = doc.internal.getNumberOfPages();  
for (let i = 1; i <= pageCount; i++) {  
    doc.setPage(i);  
    doc.text(`Page ${i} of ${pageCount}` , doc.internal.pageSize.width - 14, 290, null,  
null, "right");  
}  
  
doc.save('sales_report.pdf');  
};  
  
useEffect(() => {  
    const fetchSalesData = async () => {  
        setLoading(true);  
        try {  
            let response;  
            if (filter === 'today') {  
                response = await axios.get(`${host}/api/sales/today` , { headers: {  
'Authorization': `Bearer ${token}` } });  
            } else if (filter === 'week') {  
                response = await axios.get(`${host}/api/sales/week` , { headers: { 'Authorization':  
`Bearer ${token}` } });  
            } else {  
                response = await axios.get(`${host}/api/sales/month` , { headers: {  
'Authorization': `Bearer ${token}` } });  
            }  
            setSalesData(response.data);  
        } catch (error) {  
            console.error(error);  
        }  
    };  
    fetchSalesData();  
});
```



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```
const total = response.data.reduce((sum, sale) => {
    const amount = parseFloat(sale.totalAmount);
    return sum + (isNaN(amount) ? 0 : amount);
}, 0);
setTotalAmount(total);

const itemsSold = {};
response.data.forEach((sale) => {
    itemsSold[sale.itemname] = (itemsSold[sale.itemname] || 0) + sale.quantity;
});

const labels = Object.keys(itemsSold);
const data = Object.values(itemsSold);

setPieData({
    labels,
    datasets: [
        {
            label: 'Items Sold',
            data,
            backgroundColor: [
                '#FF6384',
                '#36A2EB',
                '#FFCE56',
                '#4BC0C0',
                '#9966FF',
                '#FF9F40'
            ],
            hoverBackgroundColor: [
                '#FF6384',
                '#36A2EB',
                '#FFCE56',
                '#4BC0C0',
                '#9966FF',
                '#FF9F40'
            ]
        }
    ]
})
```



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```
});

} catch (error) {
    console.error('Error fetching sales data:', error);
} finally {
    setLoading(false);
}
};

fetchSalesData();
}, [filter, token]);

useEffect(() => {
    const fetchCashier1Sales = async () => {
        try {
            let response;
            if (filter === 'today') {
                response = await axios.post(`${host}/api/cashier1Sales`, {}, {
                    headers: { 'Authorization': `Bearer ${token}` }
                });
            } else if (filter === 'week') {
                response = await axios.post(`${host}/api/cashier1SalesWeek`, {}, {
                    headers: { 'Authorization': `Bearer ${token}` }
                });
            } else if (filter === 'month') {
                response = await axios.post(`${host}/api/cashier1SalesMonth`, {}, {
                    headers: { 'Authorization': `Bearer ${token}` }
                });
            }
        }

        setCashier1Sales(response.data);

        const total = response.data.reduce((sum, sale) => {
            const amount = parseFloat(sale.totalAmount);
            return sum + (isNaN(amount) ? 0 : amount);
        }, 0);
        setCashier1Total(total);
    }
}
```



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```
    } catch (error) {
      console.error('Error fetching cashier1 sales:', error);
    } finally {
      setLoading(false);
    }
  };

  if (selectedCashier === 'cashier1' || selectedCashier === 'all') {
    fetchCashier1Sales();
  }
}, [filter, selectedCashier, token]);

useEffect(() => {
  const fetchCashier2Sales = async () => {
    try {
      let response;
      if (filter === 'today') {
        response = await axios.post(` ${host}/api/cashier2Sales`, {}, {
          headers: { 'Authorization': `Bearer ${token}` }
        });
      } else if (filter === 'week') {
        response = await axios.post(` ${host}/api/cashier2SalesWeek`, {}, {
          headers: { 'Authorization': `Bearer ${token}` }
        });
      } else if (filter === 'month') {
        response = await axios.post(` ${host}/api/cashier2SalesMonth`, {}, {
          headers: { 'Authorization': `Bearer ${token}` }
        });
      }
      setCashier2Sales(response.data);

      const total = response.data.reduce((sum, sale) => {
        const amount = parseFloat(sale.totalAmount);
        return sum + (isNaN(amount) ? 0 : amount);
      }, 0);
      setCashier2Total(total);
    }
  };
}
```



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```
    } catch (error) {
      console.error('Error fetching cashier2 sales:', error);
    } finally {
      setLoading(false);
    }
  };

  if (selectedCashier === 'cashier2' || selectedCashier === 'all') {
    fetchCashier2Sales();
  }
}, [filter, selectedCashier, token]);

useEffect(() => {
  const fetchSalesData = async () => {
    setLoading(true);
    try {
      let response;
      if (filter === 'today') {
        response = await axios.get(`.${host}/api/sales/today`, { headers: {
          'Authorization': `Bearer ${token}` } });
      } else if (filter === 'week') {
        response = await axios.get(`.${host}/api/sales/week`, { headers: { 'Authorization':
          `Bearer ${token}` } });
      } else {
        response = await axios.get(`.${host}/api/sales/month`, { headers: {
          'Authorization': `Bearer ${token}` } });
      }
      setSalesData(response.data);
      const total = response.data.reduce((sum, sale) => {
        const amount = parseFloat(sale.totalAmount);
        return sum + (isNaN(amount) ? 0 : amount);
      }, 0);
      setTotalAmount(total);
    } catch (error) {
      console.error('Error fetching sales data:', error);
    } finally {
```



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```
    setLoading(false);
  }
};

fetchSalesData();
}, [filter, token]);

const renderSalesTable = (data) => {
  if (loading) return <p>Loading sales data...</p>;
  if (data.length === 0) return <p>No sales data available.</p>;

  let filteredData = data;

  if (selectedCashier === 'cashier1') {
    filteredData = cashier1Sales;
  } else if (selectedCashier === 'cashier2') {
    filteredData = cashier2Sales;
  }

  return (
    <div className='sales-tables mt-2'>
      <Table hover responsive className="table-fixed-sales">
        <thead className='position-sticky z-3'>
          <tr>
            <th className='text-center'>Sale ID</th>
            <th className='text-center'>Order Number</th>
            <th className='text-center'>Cashier</th>
            <th className='text-center'>Customer</th>
            <th className='text-center'>Status</th>
            <th className='text-center'>Total Amount</th>
            <th className='text-center'>Sale Date</th>
            <th className='text-center'>Item Name</th>
            <th className='text-center'>Quantity</th>
          </tr>
        </thead>
        <tbody>
          {filteredData.map(sale => (
```



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```
<tr key={sale.saleId}>
    <td className='text-center'>{sale.saleId}</td>
    <td className='text-center'>{sale.orderNumber}</td>
    <td className='text-center'>{sale.cashier_name}</td>
    <td className='text-center'>{sale.customer_name || '-' }</td>
    <td className='text-center'>{sale.status}</td>
    <td className='text-center'>₱ {sale.totalAmount}</td>
    <td className='text-center'>{new
Date(sale.saleDate).toLocaleDateString()}</td>
    <td className='text-center'>{sale.itemname}</td>
    <td className='text-center'>{sale.quantity}</td>
</tr>
)}
</tbody>
</Table>
</div>

);
};

const handleTabSelect = (key) => {
    setSelectedSales(key);
};

const [error, setError] = useState(null);
const [top, setTop] = useState([]);
useEffect(() => {

    getTop();
}, []);
const getTop = async () => {
    setLoading(true);
    try {
        const token = localStorage.getItem('token');
        const res = await axios.get(`${host}/top-selling-sales`, {
            headers: {
```



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```
'Content-Type': 'application/json',
'Authorization': `Bearer ${token}`,
},
});

if (res.status === 200) {
  setTop(res.data.data);
} else {
  throw new Error('Failed to fetch data');
}
} catch (error) {
  setError(error.response ? error.response.data : error.message);
} finally {
  setLoading(false);
}
};

<div style={{ width: '100%', height: '300px' }}>
  <Pie data={pieData} options={options} />
</div>

const [selectedSales, setSelectedSales] = useState('overview');

return (
  <div>
    <Header />
    <div className="salesd">
      <div className='d-flex justify-content-between'>
        <div className="sales-header">
          <h1 className="display-6 sales-label">Sales</h1>
          <div className="tab-sales-header">
            <Tabs
              activeKey={selectedSales}
              onSelect={handleTabSelect}
              id="sales-tab-example"
              className="tabs-sales mb-3"
              fill
            >
              {sales.map((sale, index) => (
                <Tab key={index}>
                  <div>
                    <h2>{sale.name}</h2>
                    <p>{sale.description}</p>
                    <div>
                      <img alt="Pie chart showing sales distribution" style={{ width: '100%', height: '100%' }} />
                    </div>
                  </div>
                </Tab>
              ))}
            </Tabs>
          </div>
        </div>
      </div>
    </div>
  </div>
)
```



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```
>
    <Tab eventKey="dashboard" title="Dashboard" />
    <Tab eventKey="overview" title="Overview" />
</Tabs>
</div>
</div>
<div className="sales-pdf-container">
    <button onClick={generatePDF} className="btn btn-primary" id='sales-report'>Print <FaRegFilePdf /></button>
</div>
</div>
{selectedSales === 'overview' &&
<div>
    <div className="sales-filters-container d-flex flex-row-reverse">
        <div className="sales-filter-dropdown d-flex">
            <label htmlFor="cashier-filter-dropdown" className='cashier-sales-label me-3'>Filter by: </label>
            <DropdownButton
                id="cashier-filter-dropdown"
                title={selectedCashier === 'all' ? 'All Sales' : selectedCashier === 'cashier1' ? 'Cashier 1' : 'Cashier 2'}
                className="me-2"
            >
                <Dropdown.Item as="button" onClick={() => setSelectedCashier('all')} active={selectedCashier === 'all'}>
                    All Sales
                </Dropdown.Item>
                <Dropdown.Item as="button" onClick={() => setSelectedCashier('cashier1')} active={selectedCashier === 'cashier1'}>
                    Cashier 1
                </Dropdown.Item>
                <Dropdown.Item as="button" onClick={() => setSelectedCashier('cashier2')} active={selectedCashier === 'cashier2'}>
                    Cashier 2
                </Dropdown.Item>
            </DropdownButton>
        </div>
    </div>
</div>
```



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```
<div className="sales-filters d-flex">
    <label htmlFor="filter-dropdown" className='date-sales-label me-3'>Date: </label>
    <DropdownButton
        id="filter-dropdown"
        title={filter === 'today' ? 'Today' : filter === 'week' ? 'This Week' : 'This Month'}
        className="me-5"
    >
        <Dropdown.Item as="button" onClick={() => setFilter('today')} active={filter === 'today'}>
            Today
        </Dropdown.Item>
        <Dropdown.Item as="button" onClick={() => setFilter('week')} active={filter === 'week'}>
            This Week
        </Dropdown.Item>
        <Dropdown.Item as="button" onClick={() => setFilter('month')} active={filter === 'month'}>
            This Month
        </Dropdown.Item>
    </DropdownButton>
</div>
{renderSalesTable(salesData)}
</div>
}
{selectedSales === 'dashboard' &&
<div class="container-fluid">
    <div class="row">
        <div class="col-12 col-lg-6">
            <div className='pie-container1 mb-4'>
                <Pie data={pieData} options={options} />
            </div>
            <div>
                <Card className="m-auto">
                    <Card.Body>
```



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```
<Card.Title>Revenue Summary</Card.Title>
<ListGroup variant="flush">
  <ListGroup.Item>
    <div className='d-flex justify-content-between'>
      <label htmlFor=""><BsCashCoin size={24} color="#ff69b4" />
      All Sales: </label>
      <span className="amount-allsales fw-bold">
        ₱{Number(totalAmount).toFixed(2)}</span>
      </div>
    </ListGroup.Item>
    <ListGroup.Item>
      <div className='d-flex justify-content-between'>
        <label htmlFor=""><BsCashCoin size={24} color="#000000" />
        /> Cashier 1 Sales: </label>
        <span className="amount">
          ₱{Number(cashier1Total).toFixed(2)}</span>
        </div>
      </ListGroup.Item>
      <ListGroup.Item>
        <div className='d-flex justify-content-between'>
          <label htmlFor=""><BsCashCoin size={24} color="#000000" />
          /> Cashier 2 Sales</label>
          <span className="amount">
            ₱{Number(cashier2Total).toFixed(2)}</span>
          </div>
        </ListGroup.Item>
      </Card.Body>
    </Card>
  </div>
<div className="col-12 col-lg-6">
  <div className='container-fluid m-auto best-selling-sales mb-4'>
    <h4 className='text-center'>Top 3 Best Selling</h4>
    <Row xs={1} md={3} lg={3} className="g-4">
      {top.length > 0 ? (

```



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```
top.map((item, index) => (
  <Col key={index}>
    <Card id="sales-card">
      <Card.Img variant="top" src={`${host}/uploads/${item.img}`}>
    <Card.Body>
      <Card.Title>{item.itemname}</Card.Title>
      <Card.Body>
        <Card>
          <Card.Img variant="top" src={`${host}/uploads/${item.img}`}>
          <Card.Body>
            <Card.Title>{item.itemname}</Card.Title>
            <Card.Text>No top-selling items available.</Card.Text>
          </Card.Body>
        </Card>
      </Card>
    </Card.Body>
  </Col>
))
):(
<Col>
  <Card>
    <Card.Img variant="top" src={`${host}/uploads/${item.img}`}>
    <Card.Body>
      <Card.Title>Order Summary</Card.Title>
      <ListGroup variant="flush">
        <ListGroup.Item>
          <div className='d-flex justify-content-between'>
            <label htmlFor="">Total Orders: </label>
            <span className="amount-allsales fw-
bold">{salesData.length}</span>
          </div>
        </ListGroup.Item>
        <ListGroup.Item>
          <div className='d-flex justify-content-between'>
            <label htmlFor="">Average Order Value: </label>
```



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```
<span className="amount">₱{(totalAmount /  
salesData.length).toFixed(2)}</span>  
        </div>  
    </ListGroup.Item>  
    <ListGroup.Item>  
        <div className='d-flex justify-content-between'>  
            <label htmlFor="">Highest Order Value: </label>  
            <span  
                className="amount">₱{Math.max(...salesData.map(sale =>  
                    sale.totalAmount)).toFixed(2)}</span>  
        </div>  
    </ListGroup.Item>  
    </ListGroup>  
    </Card.Body>  
    </Card>  
    </div>  
    </div>  
    </div>  
  
    </div>  
    </div>  
);  
}  
  
export default Sales;
```

POS.jsx

```
import React, { useEffect, useState } from 'react';  
import "../styles/POS.css";  
import Header from "./HeaderCashier";  
import Footer from "./Customer/Footer";  
import Dropdown from 'react-bootstrap/Dropdown';  
import DropdownButton from 'react-bootstrap/DropdownButton';  
import Button from 'react-bootstrap/Button';
```



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```
import Card from 'react-bootstrap/Card';
import Modal from 'react-bootstrap/Modal';
import Form from 'react-bootstrap/Form';
import Alert from 'react-bootstrap/Alert';
import axios from 'axios';
import moment from 'moment';
import { VscTrash } from "react-icons/vsc";
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';
import { IoMdAdd } from "react-icons/io";
import Table from 'react-bootstrap/Table';
import ButtonGroup from 'react-bootstrap/ButtonGroup';
import { Toast } from 'react-bootstrap';
import ToastContainer from 'react-bootstrap/ToastContainer';
import { host } from '../apiRoutes';

const POS = () => {
  const [data, setData] = useState([]);
  const [toasts, setToasts] = useState([]);
  const [posItems, setPosItems] = useState([]);
  const [filteredData, setFilteredData] = useState([]);
  const [categories, setCategories] = useState([]);
  const [show, setShow] = useState(false);
  const [showConfirmationModal, setShowConfirmationModal] = useState(false);
  const [isOutOfStockToastVisible, setIsOutOfStockToastVisible] = useState(false);
  const [isInsufficientStockToastVisible, setIsInsufficientStockToastVisible] =
    useState(false);
  const [modalShow, setModalShow] = useState(false);
  const [isToastVisible, setIsToastVisible] = useState(false);
  const toggleToast = () => setIsToastVisible(prev => !prev);
  const [fname, setFName] = useState("");
  const [file, setFile] = useState("");
  const [quantity, setQuantity] = useState("");
  const [price, setItemPrice] = useState("");
  const handleShow = () => setModalShow(true);
  const handleClose = () => setModalShow(false);
```



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```
const toggleInsufficientStockToast = () => setIsInsufficientStockToastVisible(prev =>
!prev);
const toggleOutOfStockToast = () => setIsOutOfStockToastVisible(prev => !prev);

const getUserData = async () => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.get(` ${host}/get-menu-data`, {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });

        if (res.data.status === 201) {
            setData(res.data.data);
            setFilteredData(res.data.data);
        } else {
            console.log('Error fetching data');
        }
    } catch (error) {
        console.error('Error fetching data:', error);
    }
};

const dltUser = async (id) => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.delete(` ${host}/${id}`, {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });

        if (res.data.status === 201) {
            getUserData();
        }
    } catch (error) {
        console.error('Error deleting user:', error);
    }
};
```



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```
setShow(true);
} else {
    console.error('Failed to delete item');
}
} catch (error) {
    console.error('Error deleting item:', error);
}
};

const addUserData = async (e) => {
    e.preventDefault();

    var formData = new FormData();
    formData.append("photo", file);
    formData.append("fname", fname);
    formData.append("quantity", quantity);
    formData.append("price", price);

    const config = {
        headers: {
            "Content-Type": "multipart/form-data"
        }
    }

    const res = await axios.post(` ${host}/addItem` , formData, config);

    if (res.data.status === 201) {
        handleClose();
        getUserData();
    } else {
        console.log("error");
    }
}

const addToPOS = async (itemId, quantity, price, itemName) => {
    try {
        const token = localStorage.getItem('token');
```



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```
const existingItem = posItems.find(item => item.itemId === itemId);

if (existingItem) {
    await updatePos(itemId, quantity);
    addToast(` ${itemName} added successfully!`, 'success');
} else {
    const token = localStorage.getItem('token');
    const res = await axios.post(
        `${host}/add-to-pos`,
        { itemId, quantity, price },
        {
            headers: {
                'Authorization': `Bearer ${token}`,
            }
        }
    );
}

if (res.data.status === 'success') {
    addToast(` ${itemName} added successfully!`, 'success');
    getPosItems();
}
}

} catch (error) {
    if (error.response && error.response.status === 400) {
        addToast(` ${itemName} is already in the cart!`, 'error');
    } else {
        console.error('Error adding item to POS:', error);
    }
}
};

const getPosItems = async () => {
try {
    const token = localStorage.getItem('token');
    const res = await axios.get(`${host}/getpos`, {
        headers: {
            'Authorization': `Bearer ${token}`,
        }
    });
    return res.data;
} catch (error) {
    console.error('Error getting POS items:', error);
}
};
```



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```
        }
    });

    if (res.data.status === 'success') {
        setPosItems(res.data.data);
    } else {
        console.log('Error fetching POS items');
    }
} catch (error) {
    console.error('Error fetching POS items:', error);
}
};

const removeFromPOS = async (itemId) => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.post(
            `${host}/remove-pos-item`,
            { itemId },
            {
                headers: {
                    'Authorization': `Bearer ${token}`,
                }
            }
        );
        if (res.data.status === 'success') {
            console.log('Item removed from POS');
            getPosItems();
        } else {
            console.error('Error removing item from POS:', res.data.message);
        }
    } catch (error) {
        console.error('Error removing item from POS:', error);
    }
};
}
```



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```
const updatePos = async (itemId, change) => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.post(
            `${host}/update-pos`,
            { itemId, change },
            {
                headers: {
                    'Authorization': `Bearer ${token}`,
                }
            }
        );
        if (res.data.status === 'success') {
            console.log('Item quantity updated');
            getPosItems();
        } else {
            console.error('Error updating item quantity:', res.data.message);
        }
    } catch (error) {
        console.error('Error updating item quantity:', error);
    }
};

const calculateTotal = () => {
    return posItems.reduce((total, item) => total + item.price * item.quantity, 0);
};

const handleCheckout = async () => {
    const insufficientStockItems = posItems.filter(item => item.quantity > item.max_meals);

    if (insufficientStockItems.length > 0) {
        setIsInsufficientStockToastVisible(true);
        return;
    }

    try {
```



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```
const token = localStorage.getItem('token');
const res = await axios.post(
  `${host}/pos-place-order`,
  { posItems },
  {
    headers: {
      'Authorization': `Bearer ${token}`,
    },
  }
);

if (res.data.success) {
  console.log('Order placed successfully');
  setPosItems([]);
  setIsToastVisible(true);
} else {
  console.error('Error placing order:', res.data.error);
}
} catch (error) {
  if (error.response && error.response.status === 400) {
    setIsInsufficientStockToastVisible(true);
    console.error('Insufficient stock for some items.');
  } else {
    console.error('Error placing order:', error);
  }
}
};

useEffect(() => {
  getUserData();
  getCategories();
  getPosItems();
}, []);

const getCategories = async () => {
  try {
    const res = await axios.get(`${host}/categories`);
```



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```
if (res.data.status === 200) {
    setCategories(res.data.data);
    console.log('Categories:', res.data.data);
} else {
    console.log('Error fetching categories');
}
} catch (error) {
    console.error('Error fetching categories:', error);
}
};

getPosItems();

const addToast = (message, type) => {
    setToasts((prev) => [...prev, { message, type, id: Date.now() }]);
};

const removeToast = (id) => {
    setToasts((prev) => prev.filter(toast => toast.id !== id));
};

const [selectedCategory, setSelectedCategory] = useState('Show All');

const handleCategorySelect = (categoryName) => {
    console.log('Category Selected:', categoryName);
    setSelectedCategory(categoryName);

    if (categoryName === 'Show All') {
        setFilteredData(data);
    } else {
        handleCategoryClick(categoryName);
    }
};

const handleCategoryClick = (category) => {
    console.log('Category Selected:', category);
    console.log('Data:', data);
```



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```
const selectedCategory = category.trim().toLowerCase();

const filteredItems = data.filter(item => {
    const itemCategory = item.category ? item.category.trim().toLowerCase() : "";
    console.log('Item Category:', itemCategory);

    return itemCategory === selectedCategory;
});

console.log('Filtered Items:', filteredItems);
setFilteredData(filteredItems);
};

const handleShowAll = () => {
    setFilteredData(data);
};

return (
    <div>
        <Header />
        <div className="container-fluid posd">
            <div className="row">
                <div className='col-12 col-lg-4 col-md-3 d-lg-block orders-sum-pos d-sm-none
'>
                    <div className="mx-2 my-2">
                        <h3 className="text-center">Order Summary</h3>
                    </div>
                    <div className="order-summary pos-table-container">
                        <Table responsive>
                            <thead>
                                <tr>
                                    <th className="text-center">Name</th>
                                    <th className="text-center">Quantity</th>
                                    <th className="pos-remove">Remove</th>
                                    <th className="text-center">Price</th>
                                </tr>
                            </thead>
```



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```
<tbody>
  {posItems.length > 0 ? (
    posItems.map((item, index) =>
      <tr key={index}>
        <td>{item.itemname}</td>
        <td id="quantity" className="text-center">
          <ButtonGroup className="pos-btng">
            <Button className="pos-add" onClick={() =>
              updatePos(item.itemId, 1)}>+</Button>
            <label id="pos-quantity" className="px-2 py-1 pe-3">{item.quantity}</label>
            <Button className="pos-minus" onClick={() =>
              updatePos(item.itemId, -1)}>-</Button>
          </ButtonGroup>
        </td>
        <td>
          <button id="pos-remove" onClick={() =>
            removeFromPOS(item.itemId)}>
            <VscTrash />
          </button>
        </td>
        <td>₱{item.price}</td>
      </tr>
    ))
  ) : (
    <tr>
      <td colSpan="4">No items in POS</td>
    </tr>
  )
)
</tbody>
</Table>
</div>
<div className="mt-4 px-2 py-2 order-summary-total">
  <div className="d-flex">
    <h5>Total Amount:</h5>
    <label className="col-7 d-flex justify-content-end">₱{calculateTotal().toFixed(2)}</label>
  </div>
</div>
```



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```
</div>

<div className="mt-2 d-flex flex-row-reverse cashier-checkout">
  <Button variant='dark' id="cashier-checkout-button"
    onClick={handleCheckout}>
    Checkout
  </Button>
</div>
</div>
</div>
<div className='col-12 col-lg-8 col-md-12 col-sm-12 pos-main'>
  <div className="d-flex w-100% mx-2 my-4 pos-header">
    <div className="col-7 d-flex justify-content-end">
      <h1 className="pos-menu-title ">MENU</h1>
    </div>
    <div className="col-5 d-flex px-2 py-2 flex-row-reverse">
      <DropdownButton id="category-dropdown" title={selectedCategory}>
        <Dropdown.Item onClick={() => { handleCategorySelect('Show All');
          handleShowAll(); }}>
          Show All
        </Dropdown.Item>
        {categories.map((cat, i) => (
          <Dropdown.Item key={i} onClick={() =>
            handleCategorySelect(cat.category_name)}>
            {cat.category_name}
          </Dropdown.Item>
        ))}
      </DropdownButton>
    </div>
  </div>
  <div className="mx-2 pos-content">
    <Row xs={2} md={3} lg={3} xl={4} className="gy-4">
      {filteredData.length > 0 ? (
        filteredData.map((el, i) => (
          <Col key={i}>
            <Card id="cashier-card">
```



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```
<div className="cashier-img">
  <Card.Img variant="top" src={`${host}/uploads/${el.img}`}>
<div>
  <Card.Body>
    <Card.Title className="item-name">{el.itemname}</Card.Title>
    <div className="d-flex justify-content-between p-2">
      <Card.Text className="d-flex align-items-center">
        <label className="p-1 cashier-price">₱{el.price}</label>
      </Card.Text>
      <Button
        variant="dark"
        className="cashier-add-to-cart"
        onClick={() => addToPOS(el.id, 1, el.price, el.itemname)} // Pass itemname instead of max_meals
        disabled={el.max_meals === 0} // Disable if out of stock
      >
        <IoMdAdd />
      </Button>
    </div>
    {/* Display available stock/meals */}
    <div className="text-muted text-center my-1 available">
      {el.max_meals > 0
        ? `Available Meals: ${el.max_meals}`
        : 'Out of Stock'}
    </div>
    <div className="text-muted text-center mb-1 no-purchase">
      {el.totalQuantity > 0
        ? `${el.totalQuantity} purchased yesterday`
        : ''}
    </div>
  </Card.Body>
</Card>
</Col>
```



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```
        ))  
    ) : (   
        <Col>  
            <Card className="text-center">  
                <Card.Body>  
                    <Card.Text>No items available in the menu.</Card.Text>  
                </Card.Body>  
            </Card>  
        </Col>  
    )}  
    </Row>  
    </div>  
    </div>  
    </div>  
</div>  
<div className="position-fixed bottom-0 end-0 p-3">  
<Row>  
    <Col xs={12}>  
        <Toast onClose={toggleToast} show={isToastVisible} delay={3000} autohide>  
            <Toast.Header>  
                <strong className="me-auto order-add">Order Added!</strong>  
                <small>Just now</small>  
            </Toast.Header>  
            <Toast.Body className="confirmation-toast-body">  
                <p>Proceed to My Orders to complete your order/s!</p>  
            </Toast.Body>  
        </Toast>  
        <Toast onClose={toggleOutOfStockToast} show={isOutOfStockToastVisible} delay={3000} autohide>  
            <Toast.Header>  
                <strong className="me-auto">Out of Stock</strong>  
                <small>Just now</small>  
            </Toast.Header>  
            <Toast.Body className="out-of-stock-toast-body">  
                <p>This item is out of stock and cannot be added to the cart.</p>  
            </Toast.Body>  
        </Toast>
```



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```
<Toast onClose={toggleInsufficientStockToast}>
show={isInsufficientStockToastVisible} delay={3000} autohide>
<Toast.Header>
  <strong className="me-auto">Insufficient Stock</strong>
  <small>Just now</small>
</Toast.Header>
<Toast.Body className="insufficient-stock-toast-body">
  <p>Some items in your cart exceed available stock and cannot be checked
out.</p>
  </Toast.Body>
</Toast>
</Col>
</Row>
</div>
<ToastContainer className="position-fixed bottom-0 end-0 p-3 toast-menu" style={{zIndex: 1 }}>
  {toasts.map((toast) => (
    <Toast key={toast.id} onClose={() => removeToast(toast.id)} delay={3000}
autohide>
      <Toast.Header>
        <strong className={` me-auto ${toast.type === 'success' ? 'text-success' : 'text-danger'}`}>
          {toast.type === 'success' ? 'Added in the Cart' : 'Already in the Cart'}
        </strong>
        <small>just now</small>
      </Toast.Header>
      <Toast.Body>{toast.message}</Toast.Body>
    </Toast>
  )));
</ToastContainer>
</div>
);
}

export default POS;
```



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Orders.jsx

```
import React, { useState, useEffect } from 'react';
import axios from 'axios';
import Header from './HeaderCashier';
import "../styles/Orders.css";
import { FaEye } from "react-icons/fa";
import Modal from 'react-bootstrap/Modal';
import Button from 'react-bootstrap/Button';
import Card from 'react-bootstrap/Card';
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';
import { OverlayTrigger, Tooltip } from 'react-bootstrap';
import { Toast } from 'react-bootstrap';
import Table from 'react-bootstrap/Table';
import { host } from '../apiRoutes';

const Orders = () => {
  const [orders, setOrders] = useState([]);
  const [groupedOrders, setGroupedOrders] = useState({});
  const [showOrderModal, setShowOrderModal] = useState(false);
  const [selectedOrderGroup, setSelectedOrderGroup] = useState(null);
  const [showCancelModal, setShowCancelModal] = useState(false);
  const [selectedOrderId, setSelectedOrderId] = useState(null);
  const [cancelReason, setCancelReason] = useState('');
  const [showConfirmationModal, setShowConfirmationModal] = useState(false);
  const token = localStorage.getItem('token');
  const [isToastVisible, setIsToastVisible] = useState(false);
  const toggleToast = () => setIsToastVisible(prev => !prev);
  const cashierName = localStorage.getItem('username');

  const renderTooltip = (props) =>
    <Tooltip id="button-tooltip" {...props}>
      View order
    </Tooltip>
  );

  useEffect(() => {
    const fetchOrders = async () => {
      try {
        const response = await axios.get(`${host}/orders`);
        const groupedData = response.data.reduce((acc, curr) => {
          if (!acc[curr.group]) acc[curr.group] = [];
          acc[curr.group].push(curr);
          return acc;
        }, {});
        setGroupedOrders(groupedData);
      } catch (error) {
        console.error(error);
      }
    };
    fetchOrders();
  }, []);

  const handleViewOrder = (order) => {
    setShowOrderModal(true);
    setSelectedOrderGroup(order.group);
    setSelectedOrderId(order.id);
  };

  const handleCancelOrder = (order) => {
    setCancelReason('');
    setShowCancelModal(true);
    setSelectedOrderId(order.id);
  };

  const handleShowConfirmationModal = (order) => {
    setShowConfirmationModal(true);
    setSelectedOrderId(order.id);
  };

  const handleCancelReasonChange = (e) => {
    setCancelReason(e.target.value);
  };

  const handleCancelOrderSubmit = async () => {
    try {
      const response = await axios.put(`${host}/orders/${selectedOrderId}`, {
        reason: cancelReason,
      });
      if (response.status === 200) {
        setShowCancelModal(false);
        toggleToast();
        const updatedOrders = [...orders];
        const updatedGroupedOrders = { ...groupedOrders };
        const updatedOrderGroup = updatedGroupedOrders[selectedOrderGroup];
        const updatedOrderIndex = updatedOrderGroup.findIndex(
          (o) => o.id === selectedOrderId
        );
        updatedOrderGroup[updatedOrderIndex].status = 'Cancelled';
        updatedGroupedOrders[selectedOrderGroup] = updatedOrderGroup;
        setGroupedOrders(updatedGroupedOrders);
        setOrders(updatedOrders);
      }
    } catch (error) {
      console.error(error);
    }
  };

  const handleConfirmationModalSubmit = async () => {
    try {
      const response = await axios.put(`${host}/orders/${selectedOrderId}`);
      if (response.status === 200) {
        setShowConfirmationModal(false);
        toggleToast();
        const updatedOrders = [...orders];
        const updatedGroupedOrders = { ...groupedOrders };
        const updatedOrderGroup = updatedGroupedOrders[selectedOrderGroup];
        const updatedOrderIndex = updatedOrderGroup.findIndex(
          (o) => o.id === selectedOrderId
        );
        updatedOrderGroup[updatedOrderIndex].status = 'Confirmed';
        updatedGroupedOrders[selectedOrderGroup] = updatedOrderGroup;
        setGroupedOrders(updatedGroupedOrders);
        setOrders(updatedOrders);
      }
    } catch (error) {
      console.error(error);
    }
  };

  return (
    <div>
      <Header />
      <div>
        <Table>
          <thead>
            <tr>
              <th>Order ID</th>
              <th>Customer Name</th>
              <th>Status</th>
              <th>Actions</th>
            </tr>
          </thead>
          <tbody>
            {Object.values(groupedOrders).map((group) => (
              <tr key={group[0].id}>
                <td>{group[0].id}</td>
                <td>{group[0].customer}</td>
                <td>{group[0].status}</td>
                <td>
                  <button onClick={()=>handleViewOrder(group[0])}>View order</button>
                  <br/>
                  <button onClick={()=>handleCancelOrder(group[0])}>Cancel order</button>
                  <br/>
                  <button onClick={()=>handleShowConfirmationModal(group[0])}>Confirm order</button>
                </td>
              </tr>
            ))}
          </tbody>
        </Table>
      </div>
      <Modal show={showOrderModal} onHide={()=> setShowOrderModal(false)}>
        <Modal.Header>
          <h4>Order Details</h4>
        <Modal.Body>
          <Table>
            <tbody>
              <tr>
                <td>Order ID:</td>
                <td>{selectedOrderGroup[0].id}</td>
              </tr>
              <tr>
                <td>Customer Name:</td>
                <td>{selectedOrderGroup[0].customer}</td>
              </tr>
              <tr>
                <td>Status:</td>
                <td>{selectedOrderGroup[0].status}</td>
              </tr>
            </tbody>
          </Table>
        <Modal.Footer>
          <button onClick={()=> setShowOrderModal(false)}>Close</button>
        </Modal.Footer>
      </Modal>
      <Modal show={showCancelModal} onHide={()=> setShowCancelModal(false)}>
        <Modal.Header>
          <h4>Cancel Order</h4>
        <Modal.Body>
          <p>Are you sure you want to cancel this order?</p>
        <Modal.Footer>
          <button onClick={()=> handleCancelOrderSubmit()}">Cancel</button>
          <button onClick={()=> setShowCancelModal(false)}>Cancel</button>
        </Modal.Footer>
      </Modal>
      <Modal show={showConfirmationModal} onHide={()=> setShowConfirmationModal(false)}>
        <Modal.Header>
          <h4>Confirm Order</h4>
        <Modal.Body>
          <p>Are you sure you want to confirm this order?</p>
        <Modal.Footer>
          <button onClick={()=> handleConfirmationModalSubmit()}">Confirm</button>
          <button onClick={()=> setShowConfirmationModal(false)}>Cancel</button>
        </Modal.Footer>
      </Modal>
    </div>
  );
}
```



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```
useEffect(() => {
  const fetchOrders = async () => {
    try {
      const response = await axios.get(` ${host}/orders`, {
        headers: {
          'Authorization': `Bearer ${token}`
        }
      });
      setOrders(response.data);
      groupOrdersByNumber(response.data);
    } catch (error) {
      console.error('Error fetching orders:', error);
    }
  };
  fetchOrders();
}, [token]);

const groupOrdersByNumber = (orders) => {
  const grouped = orders.reduce((acc, order) => {
    if (!acc[order.orderNumber]) {
      acc[order.orderNumber] = [];
    }
    acc[order.orderNumber].push(order);
    return acc;
  }, {});
  setGroupedOrders(grouped);
};

const handleCompleteOrder = async () => {
  try {
    const orderIds = selectedOrderGroup.map(order => order.orderId);
    const userId = selectedOrderGroup[0].userId;
    const totalAmount = selectedOrderGroup.reduce((total, order) => total + order.price * order.quantity, 0);
    const quantity = selectedOrderGroup.reduce((totalQty, order) => totalQty + order.quantity, 0);
  }
}
```



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```
const userName = selectedOrderGroup[0].userName;

const response = await axios.post(`/${host}/complete-order`, {
    orderIds,
    userId,
    totalAmount,
    userName,
    quantity,
    cashierName
}, {
    headers: {
        'Authorization': `Bearer ${token}`
    }
});

if (response.data.success) {
    setOrders(orders.filter(order => !orderIds.includes(order.orderId)));
    groupOrdersByNumber(orders.filter(order => !orderIds.includes(order.orderId)));
    handleShowConfirmationModal();
    setShowOrderModal(false);
    setIsToastVisible(true);
} else {
    console.error('Failed to complete orders:', response.data.error);
}
} catch (error) {
    console.error('Error completing orders:', error);
}
};

const handleCancelOrder = async () => {
try {
    const orderIds = selectedOrderGroup.map(order => order.orderId);

    const response = await axios.post(`/${host}/cancel-order`, {
        orderIds,
        reason: cancelReason,
    }, {
        headers: {
```



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```
'Authorization': `Bearer ${token}`  
}  
});  
  
if (response.data.success) {  
    setOrders(orders.filter(order => !orderIds.includes(order.orderId)));  
    groupOrdersByNumber(orders.filter(order => !orderIds.includes(order.orderId)));  
    setShowCancelModal(false);  
    setCancelReason("");  
} else {  
    console.error('Failed to cancel orders:', response.data.error);  
}  
} catch (error) {  
    console.error('Error canceling orders:', error);  
}  
};  
  
const handleShowOrderModal = (orderGroup) => {  
    setSelectedOrderGroup(orderGroup);  
    setShowOrderModal(true);  
};  
  
const handleCloseOrderModal = () => {  
    setShowOrderModal(false);  
    setSelectedOrderGroup(null);  
};  
  
const handleShowCancelModal = (orderId) => {  
    setSelectedOrderId(orderId);  
    setShowCancelModal(true);  
    setShowOrderModal(false);  
};  
  
const handleCloseCancelModal = () => {  
    setShowCancelModal(false);  
    setCancelReason("");  
};
```



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```

const handleShowConfirmationModal = () => {
  setShowConfirmationModal(true);
};

const calculateTotal = () => {
  return selectedOrderGroup.reduce((total, order) => total + order.price * order.quantity,
0);
};

return (
  <div>
    <Header />
    <div className="ordersd">
      <h1 className="display-6 order-cashier-label">Orders</h1>
      {Object.keys(groupedOrders).length > 0 ? (
        <div className="order-list-container">
          <Row xs={2} md={4} lg={6} className="g-4 mb-5 pb-5 px-2">
            {Object.entries(groupedOrders).map(([orderId, orderGroup]) => (
              <Col key={orderId}>
                <Card className="order-card" onClick={() =>
handleShowOrderModal(orderGroup)}>
                  <Card.Header className="order-card-header d-flex justify-content-between text-black">
                    <strong htmlFor="">Order #</strong>
                    <OverlayTrigger
                      placement="bottom"
                      delay={{ show: 200, hide: 200 }}
                      overlay={renderTooltip}
                    >
                      <div>
                        <FaEye
                          className="order-action-icon view-icon"
                          onClick={() => handleShowOrderModal(orderGroup)}
                        />
                      </div>
                    </OverlayTrigger>

```



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```
</Card.Header>
<strong className='text-center p-2 fs-2'>
{orderGroup[0].orderNumber}</strong>
</Card>
</Col>
))}
</Row>
</div>
) : (
<p>No orders available.</p>
)}

{selectedOrderGroup && (
<Modal show={showOrderModal} onHide={handleCloseOrderModal}
dialogClassName="fullscreen-modal">
<Modal.Header closeButton>
<Modal.Title className='modalorder'>Order #:
{selectedOrderGroup[0].orderNumber}</Modal.Title>
</Modal.Header>
<Modal.Body>
<div className='d-flex justify-content-between'>
<div><h5>User:</h5></div>
<div><label className='text-
secondary'>{selectedOrderGroup[0].userName}</label></div>
</div>
<div className="order-items-list">
<Table>
<thead>
<tr>
<th className='text-center'>Name</th>
<th className='text-center'>Quantity</th>
<th className='text-center'>Amount</th>
</tr>
</thead>
<tbody>
{Object.values(selectedOrderGroup.reduce((acc, order) => {
```



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```
if (!acc[order.itemname]) {
    acc[order.itemname] = {
        itemname: order.itemname,
        quantity: 0,
        totalPrice: 0
    };
}
acc[order.itemname].quantity += order.quantity;
acc[order.itemname].totalPrice += order.price * order.quantity;
return acc;
}, {}).map((groupedItem, index) => (
    <tr key={index}>
        <td>{groupedItem.itemname}</td>
        <td className='text-center'>{groupedItem.quantity}</td>
        <td className='text-
center'>₱{groupedItem.totalPrice.toFixed(2)}</td>
    </tr>
))
</tbody>
</Table>
</div>
<div className="d-flex justify-content-between">
    <h6>Total Amount:</h6>
    <strong className="col-7 d-flex justify-content-
end">₱{calculateTotal().toFixed(2)}</strong>
</div>
</Modal.Body>

<Modal.Footer className='d-flex justify-content-between'>
    <Button variant="dark" onClick={() =>
handleShowCancelModal(selectedOrderGroup[0].orderId)}>
        Cancel Order
    </Button>
    <Button variant="dark" className='cashier-complete-order'
onClick={handleCompleteOrder}>
        Complete Order
    </Button>
```



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```
</Modal.Footer>
</Modal>
)}

<Modal show={showCancelModal} onHide={handleCloseCancelModal}
dialogClassName="fullscreen-modal">
  <Modal.Header closeButton>
    <Modal.Title>Cancel Order</Modal.Title>
  </Modal.Header>
  <Modal.Body>
    <p>Why is this order being canceled?</p>
    <textarea
      className="form-control"
      value={cancelReason}
      onChange={(e) => setCancelReason(e.target.value)}
      rows="4"
      placeholder="Enter reason here"
    />
  </Modal.Body>
  <Modal.Footer>
    <Button variant="secondary" onClick={handleCloseCancelModal}>
      Close
    </Button>
    <Button variant="danger" onClick={handleCancelOrder}>
      Cancel Order
    </Button>
  </Modal.Footer>
</Modal>
<div className="position-fixed bottom-0 end-0 p-3">
  <Row>
    <Col xs={12}>
      <Toast onClose={toggleToast} show={isToastVisible} delay={3000}>
        autohide>
          <Toast.Header>
            <strong className="me-auto text-success">Order
          Complete</strong>
          <small>Just now</small>
        </Toast.Header>
      </Toast>
    </Col>
  </Row>
</div>
```



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```
</Toast.Header>
<Toast.Body className="confirmation-toast-body">
  <p>Checkout completed!</p>
</Toast.Body>
</Toast>
</Col>
</Row>
</div>
</div>
</div>
);
};

export default Orders;
```

Header.jsx

```
import Nav from 'react-bootstrap/Nav';
import Navbar from 'react-bootstrap/Navbar';
import Logo1 from "../../Assets/logo.png";
import React, { useState, useEffect } from "react";
import "../../styles/Header.css";
import { jwtDecode } from 'jwt-decode';
import Modal from 'react-bootstrap/Modal';
import Button from 'react-bootstrap/Button';
import { Table, Container, Alert } from 'react-bootstrap';
import axios from 'axios';
import { useNavigate } from 'react-router-dom';
import { FaPlus, FaMinus, FaTrash } from 'react-icons/fa';
import { MdOutlineLogin } from "react-icons/md";
import { host } from '../../apiRoutes';
import { Spinner } from 'react-bootstrap';
import { GoHome } from "react-icons/go";
import { LuShoppingCart } from "react-icons/lu";
import { IoFastFoodOutline } from "react-icons/io5";
import OverlayTrigger from 'react-bootstrap/OverlayTrigger';
import Tooltip from 'react-bootstrap/Tooltip';
```



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```
import { FaRegUser } from "react-icons/fa";
import Form from 'react-bootstrap/Form';
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';
import { FaRegEye } from "react-icons/fa";
import { FaRegEyeSlash } from "react-icons/fa";
import InputGroup from 'react-bootstrap/InputGroup';

function Header() {
  const [data, setData] = useState([]);
  const [userName, setUserName] = useState("");
  const [errorMessage, setErrorMessage] = useState("");
  const [userGender, setUserGender] = useState("");
  const [openLinks, setOpenLinks] = useState(false);
  const [cartItems, setCartItems] = useState([]);
  const [showCart, setShowCart] = useState(false);
  const [showOrders, setShowOrders] = useState(false);
  const [orders, setOrders] = useState([]);
  const [loading, setLoading] = useState(true);
  const [error, setError] = useState(null);
  const [showLogoutConfirm, setShowLogoutConfirm] = useState(false);
  const navigate = useNavigate();
  const [showPassword, setShowPassword] = useState(false);
  const [showProfileModal, setShowProfileModal] = useState(false);
  const handleProfileModalShow = () => setShowProfileModal(true);
  const handleProfileModalClose = () => setShowProfileModal(false);
  const handleCartClose = () => setShowCart(false);
  const handleOrdersClose = () => setShowOrders(false);
  const [showLogoutModal, setShowLogoutModal] = useState(false);
  const [loadingLogout, setLoadingLogout] = useState(false);

  const togglePasswordVisibility = () => {
    setShowPassword(!showPassword);
  };

  const fetchUserDetails = async () => {
    try {
```



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```
const token = localStorage.getItem('token');
if (!token) {
    console.log('No token found');
    return;
}

const response = await axios.get(` ${host}/UserDetails`, {
    headers: {
        'Authorization': `Bearer ${token}`,
    },
});

if (response.status === 200) {
    const { name, gender, username, mobile_number, password } =
    response.data.user;
    setUserName(name);
    setUserGender(gender);
    setFormData((prevState) => ({
        ...prevState,
        username: username,
        name: name,
        number: mobile_number,
        password: password,
    }));
} else {
    console.error('Error fetching user details:', response.data.message);
}
} catch (error) {
    console.error('Error fetching user details:', error);
}
};

const [formData, setFormData] = useState({
    username: '',
    name: '',
    password: '',
    confirmPassword: '',
```



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```
number: ""  
});  
  
function handleChange(e) {  
    const { name, value } = e.target;  
    setFormData(prevState => ({  
        ...prevState,  
        [name]: value  
    }));  
}  
  
const update = async () => {  
    handleSubmit();  
}  
  
const handleSubmit = async () => {  
    const token = localStorage.getItem('token');  
    if (!token) {  
        console.log('No token found');  
        return;  
    }  
  
    try {  
        const response = await axios.put(`/${host}/updateUserDetails`, formData, {  
            headers: {  
                'Authorization': `Bearer ${token}`,  
            },  
        });  
  
        if (response.status === 200) {  
            console.log('User details updated successfully');  
            handleProfileModalClose();  
            setErrorMessage("");  
        }  
    } catch (error) {  
        if (error.response && error.response.status === 400) {  
            setErrorMessage(error.response.data.message);  
        }  
    }  
}
```



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```
    } else {
      console.error('Error updating user details:', error);
    }
  };
};

useEffect(() => {
  const token = localStorage.getItem('token');
  if (token) {
    const decodedToken = jwtDecode(token);
    setUserName(decodedToken.name);
    setUserGender(decodedToken.gender);
  }
  getUserData();
  getCartData();
  fetchOrders();
  fetchUserDetails();
}, []);

const getUserData = async () => {
  try {
    const token = localStorage.getItem('token');
    const res = await axios.get(` ${host}/get-menu-data`, {
      headers: {
        'Content-Type': 'application/json',
        'Authorization': `Bearer ${token}`,
      },
    });
    if (res.data.status === 201) {
      setData(res.data.data);
    } else {
      console.log('Error fetching data');
    }
  } catch (error) {
    console.error('Error fetching data:', error);
  }
};
```



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```
const getCartData = async () => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.get(` ${host}/cart`, {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });
        if (res.data.status === 'success') {
            setCartItems(res.data.data);
        } else {
            console.log('Error fetching cart data');
        }
    } catch (error) {
        console.error('Error fetching cart data:', error);
    }
};

const fetchOrders = async () => {
    try {
        const token = localStorage.getItem('token');
        const response = await axios.get(` ${host}/my-orders`, {
            headers: {
                'Authorization': `Bearer ${token}`
            },
        });
        setOrders(response.data.orders);
    } catch (error) {
        setError(error.response ? error.response.data.message : error.message);
    } finally {
        setLoading(false);
    }
};

const handleCartShow = () => {
```



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```
getCartData();
setShowCart(true);
}

const handleOrdersShow = () => {
  setShowOrders(true);
  setLoading(true);
  setError(null);
  fetchOrders();
};

const handleIncreaseQuantity = async (itemId) => {
  await updateCartItemQuantity(itemId, 1);
};

const handleDecreaseQuantity = async (itemId) => {
  await updateCartItemQuantity(itemId, -1);
};

const handleRemoveItem = async (itemId) => {
  await removeCartItem(itemId);
};

const updateCartItemQuantity = async (itemId, change) => {
  try {
    const token = localStorage.getItem('token');
    await axios.post(
      `${host}/update-cart`,
      { itemId, change },
      {
        headers: {
          'Content-Type': 'application/json',
          'Authorization': `Bearer ${token}`,
        },
      }
    );
    getCartData();
  } catch (error) {
    setError(error.message);
  }
};
```



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```
    } catch (error) {
      console.error('Error updating cart item quantity:', error);
    }
};

const removeCartItem = async (itemId) => {
  try {
    const token = localStorage.getItem('token');
    await axios.post(
      `${host}/remove-cart-item`,
      { itemId },
      {
        headers: {
          'Content-Type': 'application/json',
          'Authorization': `Bearer ${token}`,
        },
      }
    );
    getCartData();
  } catch (error) {
    console.error('Error removing cart item:', error);
  }
};

const handleCheckout = () => {
  navigate('/checkout', { state: { cartItems } });
};

const deleteOrder = async (orderId) => {
  try {
    const token = localStorage.getItem('token');
    await axios.delete(`${host}/delete-order/${orderId}`, {
      headers: {
        'Authorization': `Bearer ${token}`
      }
    });
    fetchOrders();
  }
```



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```
    } catch (error) {
      setError(error.response ? error.response.data.message : error.message);
    }
  };

const toggleNavbar = () => {
  setOpenLinks(!openLinks);
};

const handleLogout = () => {
  setLoadingLogout(true);
  setTimeout(() => {
    localStorage.removeItem('token');
    setLoadingLogout(false);
    navigate('/');
  }, 2000);
};

return (
  <>
  <Navbar expand="lg" sticky="top" className="bg-body-tertiary customer-nav">
    <Container>
      <Navbar.Brand href="/">
        <div className='d-flex'>
          <img
            alt="Logo"
            src={Logo1}
            className="d-inline-block align-top logo1"
          />
          <label id='header-customer-title' className='name ms-1 text-white'>Welcome Back, </label>
          <label id='header-customer-title' className='ms-1 text-white'>{userName}</label>
        </div>
      </Navbar.Brand>
      <Navbar.Toggle aria-controls="basic-navbar-nav" id='toggle-nav-customer' />
      <Navbar.Collapse id="basic-navbar-nav">
```



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```
<Nav className="ms-auto mt-1">
  <OverlayTrigger placement="bottom" overlay={<Tooltip id="tooltip-home">Home</Tooltip>}>
    <Nav.Link href="#customer-home" className='text-white d-lg-block home-customer mx-2'><GoHome/></Nav.Link>
  </OverlayTrigger>
  <Nav.Link href="#customer-home" className='text-white d-lg-none d-sm-block'> Home </Nav.Link>
  <OverlayTrigger placement="bottom" overlay={<Tooltip id="tooltip-home">My Orders</Tooltip>}>
    <Nav.Link onClick={handleOrdersShow} className='text-white d-lg-block home-customer mx-2'><IoFastFoodOutline/></Nav.Link>
  </OverlayTrigger>
  <Nav.Link onClick={handleOrdersShow} className='text-white d-lg-none d-sm-block'> Orders </Nav.Link>

  <OverlayTrigger placement="bottom" overlay={<Tooltip id="tooltip-home">Cart</Tooltip>}>
    <Nav.Link onClick={handleCartShow} className='text-white d-lg-block home-customer mx-2'><LuShoppingCart/></Nav.Link>
  </OverlayTrigger>
  <Nav.Link onClick={handleCartShow} className='text-white d-lg-none d-sm-block'>My Cart </Nav.Link>

  <OverlayTrigger placement="bottom" overlay={<Tooltip id="tooltip-home">Profile</Tooltip>}>
    <Nav.Link onClick={handleProfileModalShow} className='text-white d-lg-block home-customer mx-2'><FaRegUser/></Nav.Link>
  </OverlayTrigger>
  <Nav.Link onClick={handleProfileModalShow} className='text-white d-lg-none d-sm-block'>My Profile </Nav.Link>

  <div className="d-flex">
    <OverlayTrigger placement="bottom" overlay={<Tooltip id="tooltip-home">Log Out</Tooltip>}>
```



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```
<Nav.Link onClick={() => setShowLogoutModal(true)}  
className='text-white ms-0 d-lg-block home-customer mx-2'><MdOutlineLogin  
/></Nav.Link>  
    </OverlayTrigger>  
    <Nav.Link onClick={() => setShowLogoutModal(true)} className='text-  
white d-lg-none d-sm-block'>Logout</Nav.Link>  
    </div>  
  </Nav>  
  </Navbar.Collapse>  
</Container>  
</Navbar>  
  
<Modal show={showCart} onHide={handleCartClose} dialogClassName="fullscreen-  
modal">  
  <Modal.Header closeButton>  
    <Modal.Title className='cart-title'>Cart Items</Modal.Title>  
  </Modal.Header>  
  <Table>  
    <thead>  
      <tr>  
        <th className='text-center'>Name</th>  
        <th className='text-center' style={{ width: '50px' }}>Quantity</th>  
        <th className='text-center'>Price</th>  
        <th className='text-center' style={{ width: '50px' }}>Actions</th>  
      </tr>  
    </thead>  
    <tbody className='px-2 mx-1'>  
      {cartItems.length > 0 ? (  
        cartItems.map((item) => (  
          <tr key={item.itemId}>  
            <td>{item.itemname}</td>  
            <td className='text-center'>  
              <div className='d-flex justify-content-between checkOut-  
              container'>  
                <Button variant='outline-primary' className='quantity-  
                buttonmin' size='sm' onClick={() => handleDecreaseQuantity(item.itemId)}>-</Button>  
                <label className='px-1 py-1'>{item.quantity}</label>  
              </div>  
            </td>  
          </tr>  
        )) : (  
          <tr>  
            <td colspan='4'>Your cart is currently empty.</td>  
          </tr>  
        )}  
      ) : (  
        <tr>  
          <td colspan='4'>Your cart is currently empty.</td>  
        </tr>  
      )}  
    </tbody>  
  </Table>  
</Modal>
```



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```
<Button variant='outline-primary' className='quantity-
buttonadd' size='sm' onClick={() => handleIncreaseQuantity(item.itemId)}>+</Button>
    </div>
    </td>
    <td className='text-center'>₱{item.price}</td>
    <td>
        <Button variant='outline-danger' className='text-center' onClick={() => handleRemoveItem(item.itemId)}><FaTrash /></Button>
    </td>
</tr>
))
) : (
<tr>
    <td colSpan={4} className="text-center">Your cart is empty</td>
</tr>
)
</tbody>
</Table>
<Modal.Footer>
    <Button variant="dark" className='customer-cart' onClick={handleCheckout} disabled={cartItems.length === 0}>
        Checkout
    </Button>
</Modal.Footer>
</Modal>

<Modal dialogClassName="fullscreen-modal" size="lg" show={showOrders} onHide={handleOrdersClose} aria-labelledby="my-orders-modal-title">
    <Modal.Header closeButton>
        <Modal.Title id="my-orders-modal-title">My Orders</Modal.Title>
    </Modal.Header>
    <Modal.Body>
        {loading ? (
            <p>Loading...</p>
        ) : error ? (
            <Alert variant="danger">{error}</Alert>
        ) : orders.length === 0 ? (
```



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```
<Alert variant="info">No orders found.</Alert>
) : (
<div style={{ maxHeight: '400px', overflowY: 'auto' }}>
  <Table responsive id='order-table' style={{ fontSize: '0.9em', lineHeight:
    '1.2' }}>
    <thead>
      <tr>
        <th>Order #</th>
        <th>Name</th>
        <th>Quantity</th>
        <th>Price</th>
        <th>Status</th>
        <th>Cancellation Reason</th>
        <th>Actions</th>
      </tr>
    </thead>
    <tbody>
      {orders.map((order) => (
        <tr key={order.orderId}>
          <td className='text-center'>{order.orderNumber}</td>
          <td>{order.itemname}</td>
          <td className='text-center'>{order.quantity}</td>
          <td>₱{order.price}</td>
          <td>{order.status}</td>
          <td className='text-center'>{order.cancelReason || 'N/A'}</td>
          <td className='text-center'>
            {order.status === 'completed' || order.status === 'cancelled' ?
              (
                <Button variant="outline-danger" onClick={() =>
                  deleteOrder(order.orderId)}>
                  <FaTrash />
                </Button>
              ) : null}
            </td>
          </tr>
        )))
    </tbody>
```



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```
</Table>
</div>
)}
</Modal.Body>
<Modal.Footer>
  <Button variant="dark" onClick={handleOrdersClose}>Close</Button>
</Modal.Footer>
</Modal>

<Modal show={showLogoutModal} onHide={() => setShowLogoutModal(false)} dialogClassName="fullscreen-modal">
  <Modal.Header closeButton>
    <Modal.Title className='text-danger'>Confirm Logout</Modal.Title>
  </Modal.Header>
  <Modal.Body>Are you sure you want to logout?</Modal.Body>
  <Modal.Footer className="d-flex justify-content-between">
    {loadingLogout ? (
      <Button variant="dark" disabled>
        <Spinner animation="border" size="sm" />
        Logging out...
      </Button>
    ) : (
      <>
        <Button variant="dark cancel-logout" onClick={() => setShowLogoutModal(false)}>
          Cancel
        </Button>
        <Button variant="dark confirm-logout" onClick={handleLogout}>
          Yes
        </Button>
      </>
    )}
  </Modal.Footer>
</Modal>

<Modal show={showProfileModal} onHide={handleProfileModalClose} fullscreen="sm-down">
  <Modal.Header closeButton>
    <Modal.Title>Edit Profile</Modal.Title>
```



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```
</Modal.Header>
<Modal.Body>
  <Form onSubmit={handleSubmit}>
    <Row>
      <Col xs={12}>
        <Form.Group controlId="formUsername">
          <Form.Label>Username</Form.Label>
          <Form.Control
            type="text"
            name="username"
            value={formData.username}
            onChange={(e) => {
              handleChange(e);
              setErrorMessage("");
            }}
            placeholder="Enter username"
            className="mb-2 inputheader"
            required
          />
          {errorMessage && <Form.Text className="text-danger">{errorMessage}</Form.Text>}
        </Form.Group>
      </Col>

      <Col xs={12}>
        <Form.Group controlId="formName">
          <Form.Label>Name</Form.Label>
          <Form.Control
            type="text"
            name="name"
            value={formData.name}
            onChange={handleChange}
            placeholder="Enter your full name"
            className='mb-2 inputheader'
            required
          />
        </Form.Group>
```



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```
</Col>
<Col xs={12}>
  <Form.Group controlId="formPassword">
    <Form.Label>Password</Form.Label>
    <div className='d-flex'>

      <Form.Control
        name="password"
        type={showPassword ? 'text' : 'password'}
        placeholder="Enter password"
        value={formData.password}
        onChange={handleChange}
        className='mb-2 inputheader'
        required
      />
      <InputGroup.Text
        className="login-body-icon"
        onClick={togglePasswordVisibility}
      >
        {showPassword ? <FaRegEyeSlash className="fs-5 inputheader" /> : <FaRegEye className="fs-5 inputheader" />}
      </InputGroup.Text>
    </div>
  </Form.Group>
</Col>

<Col xs={12}>
  <Form.Group controlId="formNumber">
    <Form.Label>Phone Number</Form.Label>
    <Form.Control
      type="tel"
      name="number"
      value={formData.number}
      onChange={handleChange}
      placeholder="Enter your phone number"
      className='mb-2 inputheader'
    </Form.Control>
  </Form.Group>
</Col>
```



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```
        required
    />
  </Form.Group>
</Col>
</Row>
</Form>
</Modal.Body>
<Modal.Footer>
<div className="d-flex justify-content-end updatehead">
  <Button variant="dark" onClick={update} className="updateheader">
    Save Changes
  </Button>
</div>
</Modal.Footer>
</Modal>
</>
);
}
}

export default Header;
```

Menu.jsx

```
import Header2 from "./Header";
import React, { useEffect, useState } from 'react';
import Carousel from 'react-bootstrap/Carousel';
import '../styles/Menu.css';
import Card from 'react-bootstrap/Card';
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';
import Button from 'react-bootstrap/Button';
import axios from 'axios';
import Footer from "./Footer";
import { IoMdAdd } from "react-icons/io";
import { useNavigate } from 'react-router-dom';
import DropdownButton from 'react-bootstrap/DropdownButton';
import Dropdown from 'react-bootstrap/Dropdown';
```



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```
import Toast from 'react-bootstrap/Toast';
import ToastContainer from 'react-bootstrap/ToastContainer';
import { host } from '../apiRoutes';
import Modal from 'react-bootstrap/Modal';

var heroData = [
  {
    id: 1,
    image: require('../Assets/silog1.jfif')
  },
  {
    id: 2,
    image: require('../Assets/silog4.jfif')
  },
  {
    id: 3,
    image: require('../Assets/silog3.jfif')
  }
];

const Menu = () => {
  const [data, setData] = useState([]);
  const [topSellingItems, setTopSellingItems] = useState([]);
  const [cartItems, setCartItems] = useState([]);
  const navigate = useNavigate();
  const [filteredData, setFilteredData] = useState([]);
  const [categories, setCategories] = useState([]);
  const [toasts, setToasts] = useState([]);
  const [selectedCategory, setSelectedCategory] = useState('Show All');
  const [showModal, setShowModal] = useState(false);

  useEffect(() => {
    getUserData();
    getTopSellingItems();
    getCartData();
    getCategories();
  }, []);
}
```



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```
const handleCategorySelect = (categoryName) => {
    setSelectedCategory(categoryName);
    if (categoryName === 'Show All') {
        setFilteredData(data);
    } else {
        handleCategoryClick(categoryName);
    }
};

const handleCategoryClick = (category) => {
    const filteredItems = data.filter(item => item.category.toLowerCase() ===
category.toLowerCase());
    setFilteredData(filteredItems);
};

const handleShowAll = () => {
    setFilteredData(data);
};

const getUserData = async () => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.get(`/${host}/get-menu-data`, {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });

        if (res.data.status === 201) {
            setData(res.data.data);
            setFilteredData(res.data.data);
        } else {
            console.log('Error fetching data');
        }
    } catch (error) {
```



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```
        console.error('Error fetching data:', error);
    }
};

const getCategories = async () => {
    try {
        const res = await axios.get(`.${host}/categories`);
        if (res.data.status === 200) {
            setCategories(res.data.data);
        } else {
            console.log('Error fetching categories');
        }
    } catch (error) {
        console.error('Error fetching categories:', error);
    }
};

const getTopSellingItems = async () => {
    try {
        const token = localStorage.getItem('token');
        const res = await axios.get(`.${host}/top-selling`, {
            headers: {
                'Content-Type': 'application/json',
                'Authorization': `Bearer ${token}`,
            },
        });

        if (res.status === 200) {
            setTopSellingItems(res.data.data);
        } else {
            console.log('Error fetching top-selling items');
        }
    } catch (error) {
        console.error('Error fetching top-selling items:', error);
    }
};
```



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```
const getCartData = async () => {
  try {
    const token = localStorage.getItem('token');
    const res = await axios.get(`${host}/cart`, {
      headers: {
        'Content-Type': 'application/json',
        'Authorization': `Bearer ${token}`,
      },
    });
    if (res.data.status === 'success') {
      setCartItems(res.data.data);
    } else {
      console.log('Error fetching cart data');
    }
  } catch (error) {
    console.error('Error fetching cart data:', error);
  }
};

const handleAddToCart = async (itemId, itemName) => {
  const quantity = 1;

  try {
    const token = localStorage.getItem('token');
    const res = await axios.post(`${host}/add-to-cart`, { itemId, quantity }, {
      headers: {
        'Content-Type': 'application/json',
        'Authorization': `Bearer ${token}`,
      },
    });
    if (res.data.status === 'success') {
      getCartData();
      const newToast = {
        id: new Date().getTime(),
        message: `${itemName} added successfully!`,
      };
    }
  } catch (error) {
    console.error('Error adding item to cart:', error);
  }
};
```



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```
};

setToasts(prevToasts => [...prevToasts, newToast]);

setTimeout(() => {
  setToasts(prevToasts => prevToasts.filter(toast => toast.id !== newToast.id));
}, 3000);
} else {
  console.log("Response Status: ", res.data.status);
  console.log("Response Message: ", res.data.message);
}
} catch (error) {
  console.error('Error adding item to cart:', error);
}
};

return (
<div>
<Header2 />
<div className="customer-main">
  <section id="customer-home" className="block">
    <div className="bg-warning hero-block mx-3 my-3">
      <Carousel>
        {heroData.map(hero => (
          <Carousel.Item key={hero.id}>
            <img
              className="d-block w-100"
              src={hero.image}
              alt={"slide " + hero.id}
            />
          </Carousel.Item>
        )));
      </Carousel>
    </div>
  </section>

  <ToastContainer className="position-fixed bottom-0 end-0 p-3 toast-menu" style={{ zIndex: 1 }}>
```



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```
{toasts.map(toast => (
  <Toast key={toast.id}>
    <Toast.Header>
      <strong className="me-auto text-success">Added to Cart</strong>
      <small>just now</small>
    </Toast.Header>
    <Toast.Body>{toast.message}</Toast.Body>
  </Toast>
))}

</ToastContainer>

<section id="top-menu" className="pt-5 block">
  <div className="d-flex flex-column mx-3 my-3 customer-top-selling">
    <h1 className="display-6 text-left my-3">Recommended</h1>
    <Row xs={2} md={3} lg={4} className="g-4">
      {topSellingItems.length > 0 ? (
        topSellingItems.map((item, index) =>
          <Col key={index}>
            <Card id="customer-card">
              <Card.Img variant="top" src={` ${host}/uploads/${item.img}`}>
                {item.itemname}
              </Card.Img>
              <Card.Body>
                <Card.Title className="item-name">{item.itemname}</Card.Title>
                <div className="d-flex justify-content-between">
                  <Card.Text className="d-flex align-items-center">
                    <label className="p-1 customer-price">₱{item.price}</label>
                  </Card.Text>
                  <Button variant="dark" className="customer-add-to-cart" onClick={() =>
                    handleAddToCart(item.id, item.itemname)
                  } disabled={item.max_meals === 0}>
                    <IoMdAdd />
                  </Button>
                </div>
                <div className="text-muted text-center available no-purchase">
                  {item.max_meals > 0
                    ? `Available Meals: ${item.max_meals}`
                    : 'Out of Stock'}
                </div>
              </Card.Body>
            </Card>
          </Col>
        )
      ) : null
    </Row>
  </div>
</section>
```



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```
<div className="text-muted text-center mb-1 no-purchase">
  {item.totalQuantity > 0
    ? `${item.totalQuantity} purchased yesterday`
    : 'No purchase yesterday'}
</div>
</Card.Body>
</Card>
</Col>
))
) : (
<Col>
<Card>
<Card.Body>
  <Card.Text>No top-selling items available.</Card.Text>
</Card.Body>
</Card>
</Col>
)}
</Row>
</div>
</section>

<section id="customer-menu" className="pt-5 block">
<div className="d-flex flex-column mx-3 my-3">
  <div className="d-flex w-100% mx-2 my-4 pos-header">
    <div className="col-7 d-flex justify-content-end">
      <h1 className="pos-menu-title ">MENU</h1>
    </div>
    <div className="col-5 d-flex px-2 py-2 flex-row-reverse">
      <DropdownButton id="category-dropdown" title={selectedCategory}>
        <Dropdown.Item onClick={() => { handleCategorySelect('Show All');
          handleShowAll(); }}>
          Show All
        </Dropdown.Item>
        {categories.map((cat, i) => (
          <Dropdown.Item key={i} onClick={() =>
            handleCategorySelect(cat.category_name)}>
```



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```
{cat.category_name}  
    </Dropdown.Item>  
    ))}  
  </DropdownButton>  
</div>  
  
</div>  
<Row xs={2} md={3} lg={4} className="g-4">  
  {filteredData.length > 0 ? (  
    filteredData.map((el, i) => (  
      <Col key={i}>  
        <Card id="customer-card">  
          <Card.Img variant="top" src={`${host}/uploads/${el.img}`}>  
          <Card.Body>  
            <Card.Title className="item-name">{el.itemname}</Card.Title>  
            <div className="d-flex justify-content-between p-2">  
              <Card.Text className="d-flex align-items-center">  
                <label className="p-1 customer-price">₱{el.price}</label>  
              </Card.Text>  
              <Button variant="dark" className="customer-add-to-cart"  
onClick={() => handleAddToCart(el.id, el.itemname)} disabled={el.max_meals === 0}>  
                <IoMdAdd />  
              </Button>  
            </div>  
            <div className="text-muted text-center available no-purchase">  
              {el.max_meals > 0  
               ? `Available Meals: ${el.max_meals}`  
               : 'Out of Stock'}  
            </div>  
            <div className="text-muted text-center mb-1 no-purchase">  
              {el.totalQuantity > 0  
               ? `${el.totalQuantity} purchased yesterday`  
               : 'No purchase yesterday'}  
            </div>  
          </Card.Body>  
        </Card>
```



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```
</Col>
  ))
) : (
<Col>
  <Card className="text-center">
    <Card.Body>
      <Card.Text>No items available in the selected
category.</Card.Text>
    </Card.Body>
  </Card>
</Col>
)
</Row>
</div>
</section>
</div>
<Footer />
</div>
);
};

export default Menu;
```

Checkout.jsx

```
import Table from 'react-bootstrap/Table';
import React, { useState } from 'react';
import { useLocation, useNavigate } from 'react-router-dom';
import Modal from 'react-bootstrap/Modal';
import Button from 'react-bootstrap/Button';
import '../styles/Checkout.css';
import Dropdown from 'react-bootstrap/Dropdown';
import DropdownButton from 'react-bootstrap/DropdownButton';
import { host } from '../apiRoutes';

const Checkout = () => {
  const location = useLocation();
```



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```
const navigate = useNavigate();
const { cartItems } = location.state || { cartItems: [] };
const overallTotal = cartItems.reduce((total, item) => total + item.quantity * item.price, 0);

const [showQRModal, setShowQRModal] = useState(false);
const [selectedFile, setSelectedFile] = useState(null);
const [paymentMethod, setPaymentMethod] = useState('Select Payment Method');

const handlePayGcash = async () => {
    try {
        const response = await fetch(`${host}/pay-gcash`, {
            method: 'POST',
            headers: {
                'Content-Type': 'application/json',
            },
            body: JSON.stringify({ totalAmount: overallTotal }),
        });
        const data = await response.json();
        if (data.url) {
            window.location.href = data.url;
        } else {
            console.error('Failed to get payment link');
        }
    } catch (error) {
        console.error('Error:', error);
    }
};

const handlePayPal = async () => {
    try {
        const response = await fetch(`${host}/pay`, {
            method: 'POST',
            headers: {
                'Content-Type': 'application/json',
            },
            body: JSON.stringify({ totalAmount: overallTotal }),
        });
    }
};
```



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```
const data = await response.json();
if (data.url) {
    window.location.href = data.url;
} else {
    console.error('Failed to get PayPal payment link');
}
} catch (error) {
    console.error('Error:', error);
}
};

<form action="/pay" method="post" className="checkout-form">
<input type="hidden" name="totalAmount" value={overallTotal} />
<button type="submit" className="paypal-button">Pay with PayPal</button>
</form>

const handlePlaceOrder = async () => {
try {
    const token = localStorage.getItem('token');
    const userId = localStorage.getItem('userId');

    const formData = new FormData();
    formData.append('userId', userId);
    formData.append('qrCodeImage', selectedFile);

    const response = await fetch(` ${host}/place-order` , {
        method: 'POST',
        headers: {
            'Authorization': `Bearer ${token}`,
        },
        body: formData,
    });

    const data = await response.json();
    console.log('Response data:', data);
    if (data.success) {
        console.log('Order placed successfully');
    } else {

```



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```
console.error('Failed to place order:', data.error);
alert('Failed to place order. Please try again.');

}

} catch (error) {
  console.error('Error placing order:', error);
  alert('An error occurred while placing the order. Please try again.');
}

};

const handleQR = () => {
  setShowQRModal(true);
};

const handleFileChange = (event) => {
  setSelectedFile(event.target.files[0]);
};

const handleCancel = () => {
  setShowQRModal(false);
};

const handleComplete = () => {
  navigate(`${host}/success`, {
    state: { cartItems, selectedFile, overallTotal, orderId: location.state.orderId },
  });
};

const handleSelectPaymentMethod = (method) => {
  setPaymentMethod(method);
};

const handleCheckout = () => {
  if (paymentMethod === 'G-Cash') {
    handlePlaceOrder();
    handlePayGcash();
  } else if (paymentMethod === 'QR Code') {
    handleQR();
  }
};
```



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```
    } else if (paymentMethod === 'Paypal') {
        handlePlaceOrder();
        handlePayPal();
    } else {
        alert('Please select a valid payment method.');
    }
};

return (
    <div>
        <div className="mx-1 text-center position-absolute top-50 start-50 translate-middle checkout-container">
            <div className="text-center checkout-header">
                <h1>Checkout</h1>
            </div>
            <div className="mx-2 my-2 customer-checkout-table">
                <Table responsive>
                    <thead>
                        <tr>
                            <th>#</th>
                            <th>Item Name</th>
                            <th>Quantity</th>
                            <th>Price</th>
                            <th>Total</th>
                        </tr>
                    </thead>
                    <tbody>
                        {cartItems.map((item, index) => (
                            <tr key={index}>
                                <td>{index + 1}</td>
                                <td>{item.itemname}</td>
                                <td>{item.quantity}</td>
                                <td>₱{item.price}</td>
                                <td>₱{item.quantity * item.price}.00</td>
                            </tr>
                        )))
                    </tbody>
    
```



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```
</Table>
</div>
<div className='mx-2 my-2 checkout-summary-customer'>
  <div className='d-flex justify-content-between mx-2 my-2 total-amount-Checkout'>
    <h6 className='p-2'>Total:</h6>
    <label className='p-2'>₱{overallTotal}.00</label>
  </div>

  <div className='d-flex justify-content-between mx-2 my-2 payment-option'>
    <div className='p-1 text-wrap paymentopt-label'>
      <label className='text-wrap'>Payment Option:</label>
    </div>
    <div className='paymentopt-drop'>
      <DropdownButton id='payment-option-button' title={paymentMethod}>
        <Dropdown.Item onClick={() => handleSelectPaymentMethod('GCash')} className='gcash-button'>G-Cash</Dropdown.Item>
        <Dropdown.Item onClick={() => handleSelectPaymentMethod('Paypal')} className='paypal-button'>Paypal</Dropdown.Item>
        <Dropdown.Item onClick={() => handleSelectPaymentMethod('QRCode')} className='qr-button'>QR Code</Dropdown.Item>
      </DropdownButton>
    </div>
  </div>

  </div>
  <div className='d-flex justify-content-between mx-2 mt-4 mb-3 checkout-buttons'>
    <Button variant='dark' onClick={() => navigate('/menu')}>Cancel</Button>
    <Button variant='dark' id='customer-checkout-button' onClick={handleCheckout} disabled={paymentMethod === 'Select Payment Method'}>
      Checkout
    </Button>
  </div>
</div>

<Modal show={showQRModal} onHide={handleCancel} centered>
```



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```
<Modal.Header closeButton>
  <Modal.Title>Scan QR Code to Pay</Modal.Title>
</Modal.Header>
<Modal.Body>
  <div className="qr-modal-content">
    
    <input type="file" onChange={handleFileChange} className="form-control mt-3" />
  </div>
</Modal.Body>
<Modal.Footer>
  <Button variant="secondary" onClick={handleCancel}>
    Cancel
  </Button>
  <Button variant="primary" onClick={handleComplete}>
    Complete
  </Button>
</Modal.Footer>
</Modal>
</div>
);
}

export default Checkout;
```

gcash.js

```
const axios = require('axios');
require('dotenv').config();

async function createPaymongoSource(amount, description, remarks) {
  try {
    const authKey =
      Buffer.from(process.env.PAYMONGO_SECRET_KEY).toString('base64');

    const response = await axios({
      url: 'https://api.paymongo.com/v1/sources',
```



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```
method: 'post',
headers: {
  'Content-Type': 'application/json',
  'Authorization': `Basic ${authKey}`
},
data: {
  data: {
    attributes: {
      amount: amount * 100,
      redirect: {
        //for online (deployed)
        // success: `https://sjisc-canteen.online/success`,
        // failed: `https://sjisc-canteen.online/failed`
        //for localhost
        success: 'http://localhost:3000/menu',
        failed: 'http://localhost:3000/failed'
      },
      type: 'gcash',
      currency: 'PHP',
      description: description,
      remarks: remarks
    }
  }
},
});
console.log('Source Created:', response.data);
return response.data;
} catch (error) {
  console.error('Error creating source:', error.response ? error.response.data : error.message);
  throw error;
}
}

module.exports = {
  createPaymongoSource
};
```



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Appendix H: User Acceptance Form



Republic of the Philippines
University of Cabuyao
(Pamantasan Ng Cabuyao)
College of Computing Studies
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



USER'S ACCEPTANCE CERTIFICATE

This is to certify that the Research of the following students, Delgado, Maria Gabrielle R., Domoos, Emanuel F., Regio, Aira Yvette R., entitled Enhancing The Efficiency Of School Canteen Operations: Implementing An Advanced Ordering Solution, was accepted in our company/establishment for deployment effectively.

ROBERT / A. ORQUEZA

COMPANY
REPRESENTATIVE
(Signature over Printed
Name)

FOR THE HOST-COMPANY (Please fill out):

Name of Company:	ST. JEROME INTEGRATED SCHOOL OF CABUYAO, INC.
Address:	0021 MANITIO, CABUYAO CITY, LAGUNA
Name of Supervisor:	ROBERT A. ORQUEZA
Position:	ASSISTANT SCHOOL PRINCIPAL
Contact Number/s:	0997 198 9487
E-mail Address:	Fax No.: robot.orqueza16@gmail.com

I agree to the collection and processing of my data for the purpose of facilitating the Capstone Project of Pamantasan ng Cabuyao interns. I understand that my personal information is protected by RA 10173, Data Privacy Act of 2012, and that I am required to provide truthful information.

Dangal ng Bayan.
Bringing pride and honor to the nation



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Appendix I: Short Report of Plagiarism Software

Pamantasan ng Cabuyao (University of Cabuyao) Report date 11/13/2024 Edit date --- Report has not been evaluated.

Similarity Report

Metadata

Title: CHAPTER 1-5 (STRIKE PLAGIARISM)
Author(s): Emanuel Domoos Coordinator: Aira Yvette Regio
Organizational unit: CCS

Alerts

In this section, you can find information regarding text modifications that may aim at temper with the analysis results. Invisible to the person evaluating the content of the document on a printout or in a file, they influence the phrases compared during text analysis (by causing intended misspellings) to conceal borrowings as well as to falsify values in the Similarity Report. It should be assessed whether the modifications are intentional or not.

Characters from another alphabet		0
Spreads		0
Micro spaces		0
Hidden characters		0
Paraphrases (SmartMarks)	a	26

Record of similarities

SCs indicate the percentage of the number of words found in other texts compared to the total number of words in the analysed document. Please note that high coefficient values do not automatically mean plagiarism. The report must be analyzed by an authorized person.

 3.65% SC1	 2.70% SC2	 0.88% QC
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10 The phrase length for the SC 2
13724 Length in words
87695 Length in characters

Active lists of similarities

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The 10 longest fragments		Color of the text	
NO	TITLE OR SOURCE URL (DATABASE)	NUMBER OF IDENTICAL WORDS (FRAGMENTS)	
1	https://www.restolabs.com/blog/advantages-food-ordering-system-restaurants	61	0.44 %
2	https://repository.up.ac.za/bitstream/handle/2263/24074/03chapter3.pdf?sequence=4	51	0.37 %
3	https://www.edweek.org/leadership/are-lunch-periods-too-short-some-states-want-to-give-kids-more-time-to-eat/2023/04	45	0.33 %
4	https://www.restolabs.com/blog/advantages-food-ordering-system-restaurants	43	0.31 %
5	Analysis The Role Of Infrastructure In Effective Learning Lainatushifa Lainatushifa, Putri Maulida, Balqis Fadiah, Deassy Yunita;	24	0.17 %



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Appendix J: Report of Language Software



Report: ITD14 CHAPTER 1-5

ITD14 CHAPTER 1-5

by CCS

General metrics

78,674	11,774	730	47 min 5 sec	1 hr 30 min
characters	words	sentences	reading time	speaking time

Writing Issues

No issues found

Plagiarism

This text hasn't been checked for plagiarism



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Report: ITD14 CHAPTER 1-5

Unique Words

15%

Measures vocabulary diversity by calculating the percentage of words used only once in your document

unique words

Rare Words

47%

Measures depth of vocabulary by identifying words that are not among the 5,000 most common English words.

rare words

Word Length

5.5

Measures average word length

characters per word

Sentence Length

16.1

Measures average sentence length

words per sentence



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Appendix K: Curriculum Vitae of Student Researchers



CONTACT

- ✉ delgadomariagabrielle48@gmail.com
📞 09184261294
📍 Blk 79 Lot 40 Phase 1,
Baclaran Cabuyao Laguna

EXPERTISE

- Communication Skills
- Microsoft Office
- Problem Solving
- Web Design
- Proficient in HTML, CSS, Javascript

REFERENCES

Maricar D. Quilla
Cashier | Robinson
09192306942



PNC:AA-FO-27 rev.0 02012023

Maria Gabrielle R. Delgado

A desire to improve my current knowledge while learning new things. To gain personal experience that will develop my skills and to work well with other people which allow me to grow personally and professionally.

EDUCATION

Bachelor of Science in Information Technology

Pamantasan ng Cabuyao (University of Cabuyao)

- N/A

Secondary

Saint Jerome Integrated School of Cabuyao 2019 - 2021

- With High Honors
- Research Innovation Awardee

Christ the King School of Cabuyao

2017 - 2019

- Achiever

The Cecilian School of Laguna

2015 - 2017

- Quiz Bee Winner in Mathematics

Elementary

Baclaran Elementary School

2009 - 2015

- With honors

WORK EXPERIENCE

Customer Service Associate

2019

CLA Town Center

LATEST SEMINAR ATTENDED

Telecall Institute of Technology Inc.

Creative Web Design

- April 20, 2024 – June 15, 2024

Pamantasan ng Cabuyao (UC)

21st Century Soft Skills & Standard Labor Education

- December 6, 2024



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PNC:AA-FO-27 rev.0 02012023

Emanuel F. Domoos

I am a dedicated and hardworking person eager to learn and grow in a team environment. Enjoys taking on new challenges, solving problems, and helping others. Committed to improving skills and contributing to the success of any team.

EDUCATION

Bachelor of Science in Information Technology 2021 - Present

Pamantasan ng Cabuyao (University of Cabuyao)

- N/A

Secondary

Saint Jerome Integrated School of Cabuyao 2019 - 2021

- With Honors

Infant Jesus Montessori School of Cabuyao 2015 - 2019

- N/A

Elementary

Infant Jesus Montessori School of Cabuyao 2009 - 2015

- Achiever
- Science Investigatory Project Winner

WORK EXPERIENCE

Sales Representative

Store in Cabuyao Laguna

2019

LATEST SEMINAR ATTENDED

Pamantasan ng Cabuyao (UC)

21st Century Soft Skills & Standard Labor Education

- December 6, 2024

CONTACT

- ✉ domoosemanuel32@gmail.com
- 📞 09354890261
- 📍 Blk 138 Lot 8 Phase 2, Mamatid Cabuyao Laguna

EXPERTISE

- Communication Skills
- Microsoft Office
- Problem Solving
- Trouble Shooting
- Proficient in HTML, CSS, Javascript

REFERENCES

John Paul Bacod
Owner | Business
09354279852





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PNC:AA-FO-27 rev.0 02012023

Aira Yvette R. Regio

A motivated and eager individual looking to develop skills, build relationships, and contribute to a team. Passionate about learning, growing personally, and solving problems. Ready to collaborate with others and work towards achieving goals.

EDUCATION

Bachelor of Science in Information Technology	2021 - Present
Pamantasan ng Cabuyao (University of Cabuyao)	
• N/A	
Secondary	
Asian Institute Technology, Sciences and the Arts	2019 - 2021
• N/A	
Gulod National High School	2017 - 2019
• With Honors	
Mamatid National High School	2015 - 2017
• With Honors	
Elementary	
Saint Lawrence Foundation School Inc.	2013 - 2015
• With Honors	
Todays Kids Creative Learning Center Inc.	2008 - 2013
• With Honors	

WORK EXPERIENCE

No work Experience

LATEST SEMINAR ATTENDED

Pamantasan ng Cabuyao (UC)

21st Century Soft Skills & Standard Labor Education
• December 6, 2024



REFERENCES

N/A