STRAW HATS' SNACK BAR: INVENTORY MANAGEMENT SYSTEM

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In Partial Fulfillment of the Requirements for the Courses:

IT311: System Administration and Maintenance

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IT313: System Analysis and Design

IT314: Web Systems and Technologies

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INTRODUCTION

CHAPTER I

I. Project Context

Milk tea is currently among the most well-liked trends in the food and beverage sector. The low cost, energizing flavor, health benefits, and store atmosphere make milk tea extremely popular. To meet the growing demand for milk tea, many business owners have opened tea shops all over the place. Most tea houses still use the traditional method of selling transactions, where they take the customer order, prepare and serve the order, and then finally, the payment. Some people prefer the fun way of preparation, which takes some time, but some do not because they may be in a hurry. This approach takes some time because everything is done by hand. Due to these issues with the current method, the proponents conducted a study titled Straw Hats Snacks Bar Inventory Management System, Points of Sales, Inventory and Costing System. This study addresses the Straw Hats Snacks Bar Inventory Management System. The creation of a system with three components: a point of sale, an inventory, and costing will be the main emphasis of this study. The system attempted to reduce the complexity of the inventory caused by the conversion of big amounts into smaller amounts and erroneous product costing during the following-transaction period.

The goal of this study is to find the solution to the problems that the manager and staff of Straw Hat’s Snack Bar Inventory Management System is currently

facing problems. This study specifically aims to address the following issues with the current system: The establishment has keeping track of its transactions because everyday transactions are still done on paper, which makes producing reports time-consuming and expensive. Due to data inconsistency, high data redundancy, and incorrect data entry, it is difficult for the establishment to record and correct stock or product data. The stocks used are not automatically updated. Occasionally, manual production of sales and inventory reports tends to become inaccurate rather than informative.

II. Purpose and Description

Today's generation, most of the businesses use a computer to manage the control and monitoring aspects of their business, since doing it in a manual way, the data processing could no longer meet the business demands in increasing the quality of any volume of transactions. Upgrading and seeking for continuous improvement using technology, the system becomes useful and its powerful application could make business transactions a lot efficient and easy. The use of technology performances increases efficiency, speed, accuracy, better planning, executing and controlling. It may cause reduction of labor cost, maximum productivity and minimums waste of time and most of all is the proper control of inventory.

Inventory management is the process of efficiently monitoring the constant flow of units into and out of an existing inventory. This process usually involves

controlling the transfer in of units in order to prevent the inventory from becoming too high, or dwindling to levels that could put the operation of the company into difficulties. Inventory management is very important for big business and private owned organizations especially where there are a lot of orders are being placed every day and there are lot of materials and the maintenance is really important which the system will do and also will record the time taken to process an order and this system is really important as it can help the organizations to be alerted when the level of inventory is very low .and focuses on the three aspects of inventory management and prevent from failures in the future .

Inventory management also demands a solid understanding of how long it will take for those materials to transfer out of the inventory to be established. By Knowing these two important lead key aspects makes it possible to know when to place an order and how many units must be ordered to keep production running smoothly.

The purpose of inventory web-based system is to effectively managing and storing, how much stock they have left and how much they need to order using of inventory. The researchers believe that it will be beneficial to the business manager of Straw-Hat's Snack bar, the staff, as well as to the owner of the Straw Hat Snack bar. The web-based system will help business like Straw-Hat's Snack bar improving their inventory management, resulting in fast and paperless documentation of records, more accurate and secured collection of data. It aims to help the small business by providing a platform that allows to check the availability of products and stocks ingredients of each product. The web-based

system will speed up the time transaction and inquiry, but at the same time, increase its coverage of services more efficiently.

Features: User Registration, User Login, Item Management, Supplier Details, Purchases Management, Search Inventory, Generate Reports.

III. Objectives

The main objective of this project is to design an inventory management system for Straw Hat's Snack Bar.

Specifically, it aims to achieve the following objectives to:

1. To track stocks activities in the inventory.
2. To provide details of the business suppliers.
3. To provide functions such as 'add', 'delete', and 'update' for the user to easily manage Straw Hat's Snack Bar inventory.
4. To reduce time in managing the business's inventory.

IV. Scope and Limitations

The scope of the system includes a day start and end function to open and close daily transactions, additional expense tabs, order list and status bar. In addition, it will contain a report function that will be used if the owner or management requests the report to be printed. Receipts can also be printed in this document. In addition, it will contain a report function that will be used if the owner or management

requests the report to be printed. This inventory system includes the ability to print invoices as well as focus on simple replenishment of items and database updates. It also has an inventory receiving facility that will be used to add inventory. Of course, an inventory system has its limitations because it was created with specific objectives in mind. Human error is one of its limitations since humans are the one who will input the data into the system. If a user has a lack of training using the system, there's a huge chance that they might put a wrong input that will make the data in the system unreliable or inaccurate. Another limitation of the system is the possible loss of data; this scenario can happen if there's a power outage, or if there's an internet outage that will cause the system to stop operating since it's a web-based system.

CHAPTER II

SYSTEM ANALYSIS

System analysis is a method or strategy used to assess how well a system performs given a certain system structure. Systems analysis is the process by which a person analyzes a system in order to assess, model, and select a logical alternative for an information system.

II. I Development Model

In this chapter showcases the software development life cycle model that was used to organize and plan all the activities that involve the development process of the project. The proponents chose the waterfall model for its linear approach in achieving the objectives of the study.

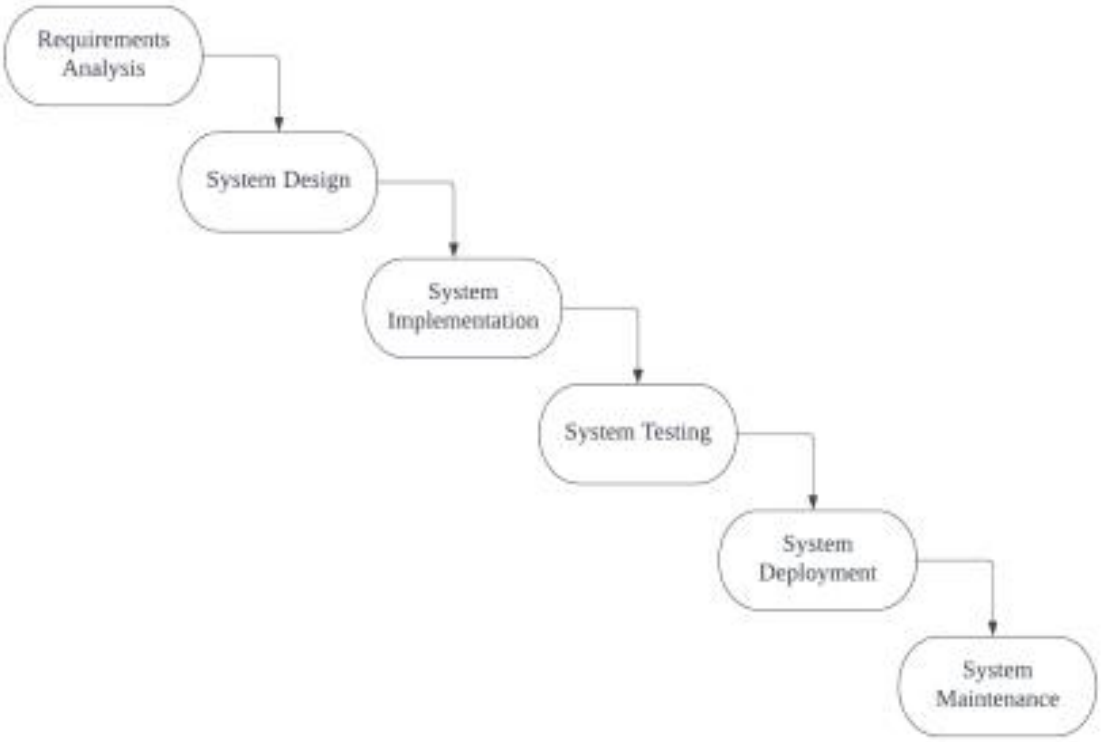

Figure 1. Waterfall Model

Figure 1 illustrates the phases of the system development life cycle which includes the requirements analysis, system design, system implementation, system testing, system deployment, and system maintenance. The waterfall model utilizes a linear, logical approach in system development which is advantageous when the system requirements are well-defined and there would be zero to minimal changes within its functional and non-functional requirements. In addition, it is also employed because of the time and budget constraints of the project. Since the waterfall model is linear, each phase is dependent on the previous one and therefore requires one phase must be concluded completely before proceeding to the next. This model is useful for the proponents as it allows a rigid overview of the progress of the project during development and allows them to focus completely on one phase at a time. It is also utilized in ensuring that the system development follows a process that strengthens each foundation and other components of the system as the proponents go through the project. Each of these phases are essential in ensuring that all the goals and objectives of the project are attained despite the constraints mentioned above.

Requirements Analysis

The first phase of the waterfall model involves the requirements analysis. This process includes the assessment of the functional and non-functional requirements of the system, including deadlines and guidelines the project must

follow. This also includes the use of fact-finding techniques in order to gather data about what are the problems with the previous system and how they can be addressed.

System Design

The system design follows as the next phase as it involves the planning of the technical design of the project to be developed. In system designing, it involves the decision for hardware that is going to be used during the creation of the system, the programming language, the network, and the data sources. It considers the data from the requirements analysis in deciding which technologies are perfect for the most efficient approach to the development of the project.

System Implementation

The third phase for the development process is the system implementation which also includes the coding and installation of the system. All the technical designs from the previous phase are used in order to achieve the system requirements from the requirements analysis. In this phase, the proponents used an object-oriented approach. After the system is finished with its coding, it is then installed in the devices of the clients to be used in the next phase.

System Deployment

System deployment phase is the phase where the system is deployed in the actual business environment. It also verifies that the system is operationally acceptable and the responsibility of the system is transferred to the owner of the business.

System Maintenance

The last phase is the system maintenance phase that is responsible for system enhancements or system upgrades. It is also responsible for preventing unwanted or unexpected problems that the system may encounter.

II. 2. Development Approach

The proponents decided to use the bottom-up approach. The bottom-up approach is a notion used in project development that outlines how the proponents start with a specific problem and work their way up to the more general features of the project. The illustration displays the steps that proponents should take to achieve the intended goals and suit the needs of the customers.

The "Planning" phase, which is the initial step, is where the proponents decided what kind of system to create. The proponents were able to lead and gather the requirements that are needed for the sales and inventory system to be effective. The data that was gathered are beneficial information that helps the inventory system to be successful.

The second phase, known as "Analysis", following system planning, proponents will discover and assess any potential weaknesses in the system both currently and in the future. Solutions for the problems that need to be solved will be developed through analysis.

The third phase, known as "Design", in the design phase, the proponent's

main goal is to satisfy the eyes of the user and for them to have a comfortable and easy use of the system. The user's needs and wants are the most important part in developing the system. A user-friendly interface will be the main focus of this phase.

The fourth phase, known as "Implementation". The system has already been tested and ensured that all buttons and categories are working properly without any bugs and errors popping. After making sure that the system is at its best, it will now be put up online for the admin and users to be used.

The fifth phase, which is called "Maintenance" While the system is still working, it will still have its maintenance. The admin will schedule a proper maintenance to the system for it to be and efficiently and effectively. Update and fixes of the system will also be implemented during a maintenance for the satisfaction of the user.

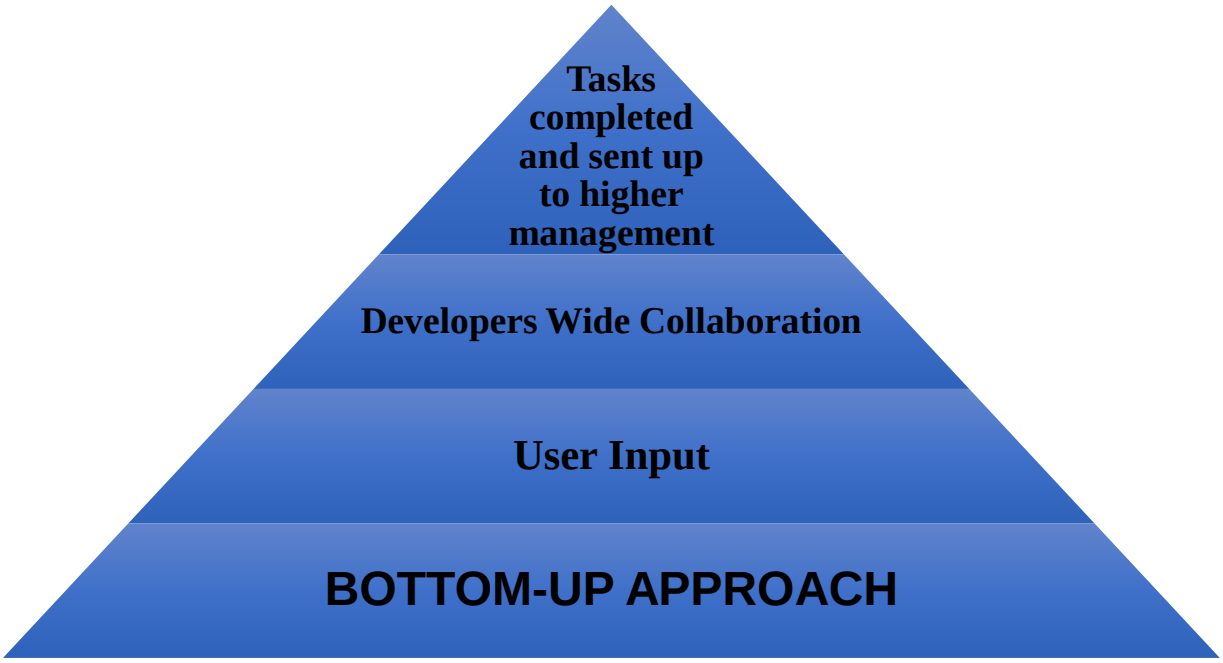

Figure 2: Bottom-Up Approach

II. 3 Schedule and Timeline

The Table 1 shows the Detailed Phase, Plans and Schedule of the proponents who responsible in every task aligned in the project.

Table 1: Detailed Phase plans and Schedule

Phase	Task	Date Started	Duration
Planning	• Gather Information	September 15 2022	4
	• Conceptualizing the project	September 22 2022	3
Analysis	• Defining Problem and solution	September 29 2022	5
	• Analyze data flow	October 6 2022	3
	• Dissemination of work	October 10 2022	2
Developing	• Creating System Layout	October 13 2022	6

	• Creating Database	October 15 2022	23
	• Program Coding and Design	October 17 2022	62
Testing and debugging	• System testing and debugging	November 20 2022	6
Evaluation	• Documentation	September 22 2022	94

GANTT CHART

Figure 3: Gantt Chart

II.4 Project Teams and Responsibilities

The cooperation of members is the way to achieve the team's objective to have an effective development process of the project. Each proponent has its own task and activities to be done:

Project Leader

A project leader engages the team, maintaining a productive work environment, controlling all team members communication, managing the project, and any necessary changes.

Lead Programmer

Lead Programmer in charge on monitoring the work development of the programmers. Ensuring the team meets the technical requirements and projects done on time. In additional on responsibilities of the lead programmer are a consolidation of the code of every system feature done by programmers

Programmers

Programmers are assigned in increasing the efficiency of the system. Responsible for coding, debugging, and designing. Also, managing service through developing, maintaining, and testing of the systems and programs.

Project Documentation

Project documentation is a process of inputting all of the project details. In charge in producing systems documents for implementation or integration of the systems. In project, documentation needs to document the following:

- Project Context, Purpose and Description
- Project Objective, Scope and Limitations
- System Development Model and Approach
- Schedule and Timeline
- System Analysis and Design
- System Integration and
- System Administration and Maintenance

II.4.1 Responsibilities

The Table 2 shows the name, title, and telephone number of the proponents who serve as points of contact for the system integration.

Table 2: Responsible Proponents for the System

System Proponent	Title	Contact Number
Leny Geron-Perdido	Client	09055101504
Bagot, Alwin Jasper D.	Project Documentation	09473993831
Castor, Criz Limuel V.	Project Documentation	09123123369
Forlaje, Miles G.	Project Leader/Project Documentation	09456718169
Magsombol, Mark Edson V.	Project Documentation	09083220988
Plata, Charles T.	Lead Developer/Programmer	09953130923

II.4.2 Activities and Tasks

The participation of group members requires to participate in every task, and also as an active member is needed. The Table 3 shows the major tasks required in the system and the key person(s) responsible for each task. The tasks are listed below.

Table 3: Activities and Tasks

Task No.	Major Task	Task to accomplish	Resources	Key person(s)	Criteria
1	Overall Planning	Provide the guidelines of each task that need to complete to achieve the project's objective.	Human materials and Time resources.	Project Leader and Project team	Provide detailed plan of a web-based system.
2	Establishing system requirements	Prepare system requirements to develop	Human materials and Time resources	Project Team	Ensure that all system requirements

		system function and design			are completed.
3	Reviewing reports	Checking the plan to ensure the system capability.	Human materials and Time resources	Project Leader and Leader Programmer	Asses each part and ensure its capability for development of the web-based system.
4	Documentation on software unit and database	Record software unit, requirement and database.	Human materials and Time resources	Project Documentation	Ensure all details and information are well documented and properly stored database.
5	Establishing test procedures	Conduct testing in all part of the system.	Human materials and Time resources	Lead Programmer	Identify if the system functionality

					performs well.
6	Unit testing and debugging	Must checked each part in order to determine which part of the system has error or bugs.	Human materials and Time resources	Project team	Determine system errors and create a solution to the errors to make a system works fine.
7	Integrate unit into system	Verify all system units if it is properly connected and works successfully.	Human materials and Time resources	Project team	Ensure that all and system features work as a whole.
8	Documentation on each unit for integration	Create a report and input all the requirements	Human materials and Time resources	Project Documentation	Record all information of the system

CHAPTER III

SYSTEM ANALYSIS AND DESIGN

In this chapter, the development process of Straw Hat's Snack Bar Inventory Management System will be analyzed and discussed. The functional and non-functional requirements will also be discussed along with the software requirements and hardware requirements.

The Inventory Management System aims to help Straw Hat's Snack Bar to manage and track their inventory accurately. The system will then generate profit for this small business since it will be easier for them to track how much stock they have and the supplies they need. The business employees will also be able to save their time because they don't need to check their inventory manually.

The only user of the system is the administrator. The admin has the access or the ability to add, delete, or update items in the system. The admin can also search for an item that they wanted to by inserting the item ID assigned to that specific item.

Hardware Requirements

The hardware requirements needed to conduct the system are stated below. This hardware requires computer. The administrator requires a computer. Processor: minimum 1 Ghz; Ethernet Connection; hard drive: Minimum 8GB; memory (RAM): minimum 1GB are the hardware requirements.

Software Requirements

For the software requirements, the system shall be using PHP, HTML, CSS and Java for the frond end. MySQL are used for the backend. These software requirements shall be applied in developing the system.

III.1.1 Functional Requirements

1. ADMIN
    1.1 The admin shall have a registered account to access the system.
    1.2 The admin shall add, delete, edit, the item of the system.
    1.3 The admin shall input the generate reports of the system.
    1.4 The admin shall display the information of a vendor.
2. VENDOR
    2.1 The vendor shall have a registered account to access the system.
    2.2 The vendor updates the item of the inventory system.
    2.3 The vendor can create an account to the system.

2.4 The vendor can change the password of an account.

2.5 The vendor can see the updated items in the system.

III.1.2 Non-Functional Requirements

1. Accessibility
   1.1 The system shall allow the user register their account.
   1.2 The system shall allow the administrator to create their account.
   1.3 The system shall allow the administrator to add update, delete and clear the item.
   1.4 The system shall allow the administrator and user to log in.
2. Accuracy
   2.1 The system shall provide accurate details of the item or product information.
   2.2 The system shall record the purchased items, ingredients, quantity also the user claimed the item.
3. Effectivity
   3.1 The system shall be accessed easily by item viewing and transactions.
4. Reliability
   4.1 The system shall accurately perform user registration, report item, item transaction and view.
5. Performance

5.1 The System's performance shall depend by the administrator's and user's access to the internet.

6. Usability

6.1 The system is designed for a user-friendly environment so that the admin of user and admin of the system can perform the various task easily and effective way.

7. Security

7.1 The system shall be able to provide a password enabled login for the user to avoid any unauthorized access to the data in the system.

III.2. DATA FLOW DIAGRAM

The Context level diagram and data flow diagram of the system that explain the interaction between the system and the user were illustrated on context diagram and level zero diagram.

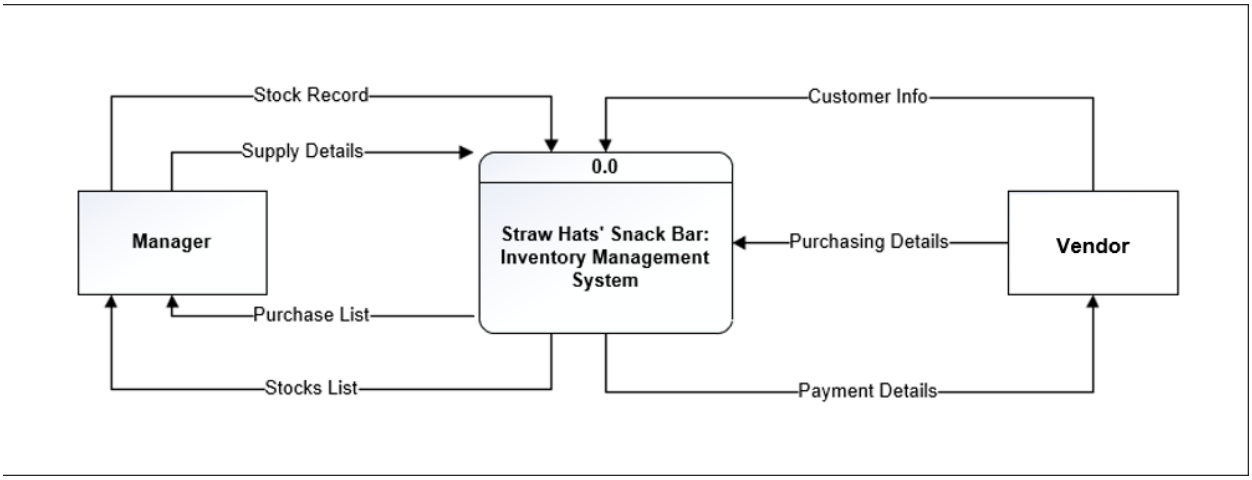

Figure 3. Context Diagram

The system consisted of two actors: the manager, and the customer. The manager can access the account of Straw Hats' Snack Bar Inventory System and the owner itself. The customer can only see their customer info, purchasing details and their payment details. All functions of the system can only see by the manager and owner of the store. Also, they were responsible for managing the inventory system.

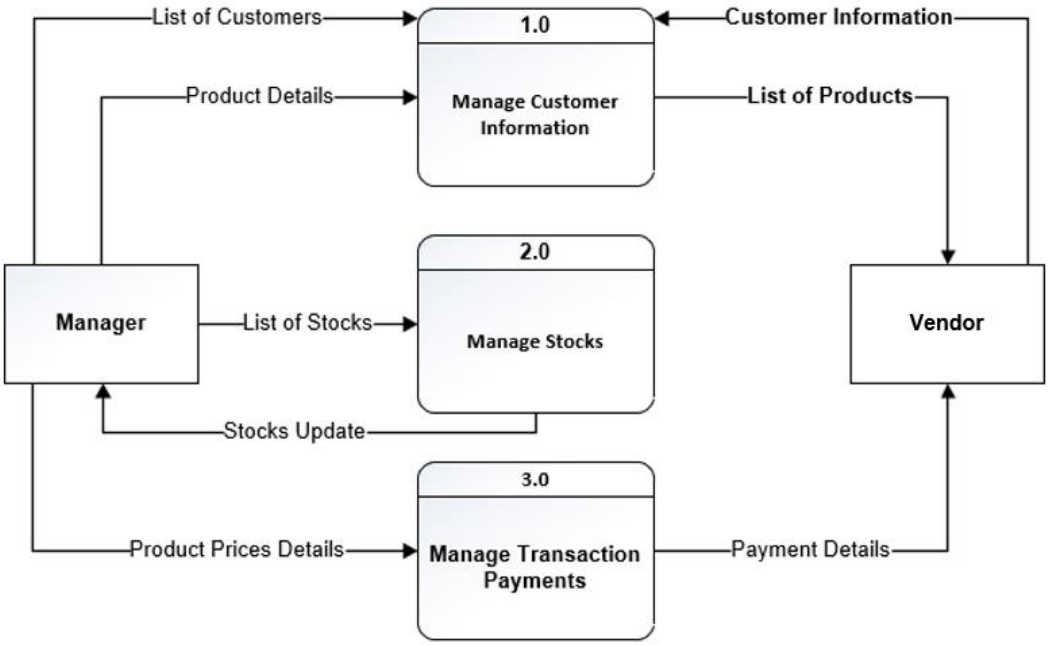

Figure 4. Level 0 Diagram

The system's Level 0 Data Flow Diagram (DFD) was shown on Figure 4. It depicted the entire process of the whole system. Compared to the previous diagram, the Context Diagram, the Level 0 DFD was more detailed because each process was broken down into sub-processes. These sub-processes work together and form the entire flow and operation of the system.

SYSTEM BOUNDARIES

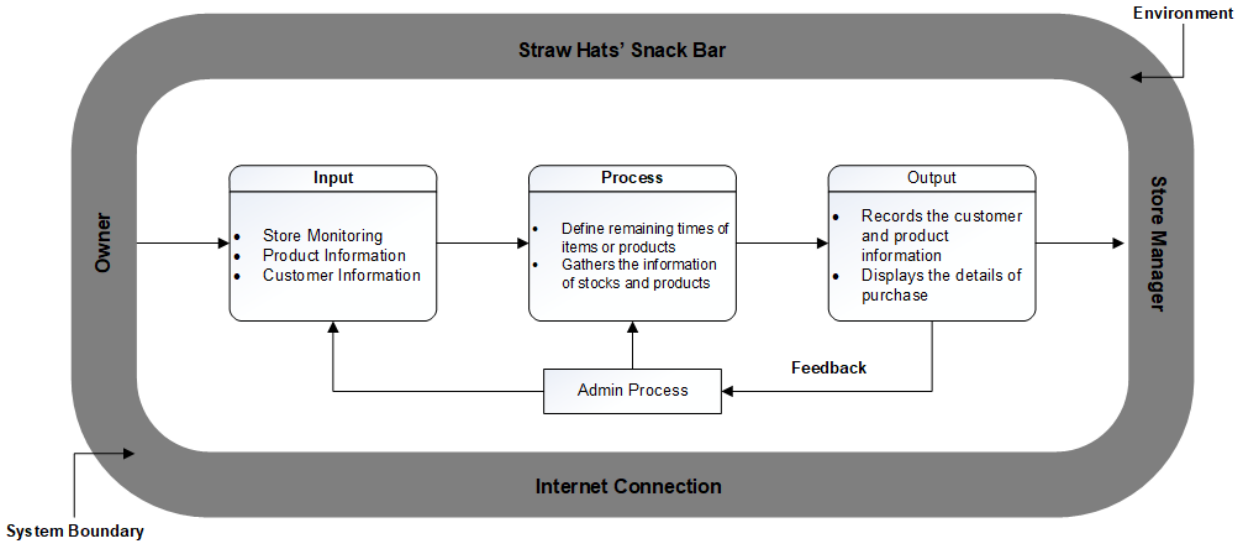

Figure 5. System Boundaries

The inputs of Straw Hats' Snack Bar: Inventory Management System, where the owner can access customer information, product information and store monitoring through website. The inventory system can automatically access once the login credentials are accepted by the system. The process can define the remaining times of stocks, including products and items and gathers their information, makes an output such as displaying the details of all purchases and records the customer and product information.

All components in the system were separated from their environment by a boundary, which reflected the person authorized for the website solution. By automating processes for handling all information, the system primarily benefits the Straw Hats'

Snack Bar, the owner, and its manager. Additionally, internet connectivity is required for the accessibility and system functionality of the inventory management system.

USE CASE DIAGRAM

The use case diagram presents the interaction between the system and the actors as well as its functions.

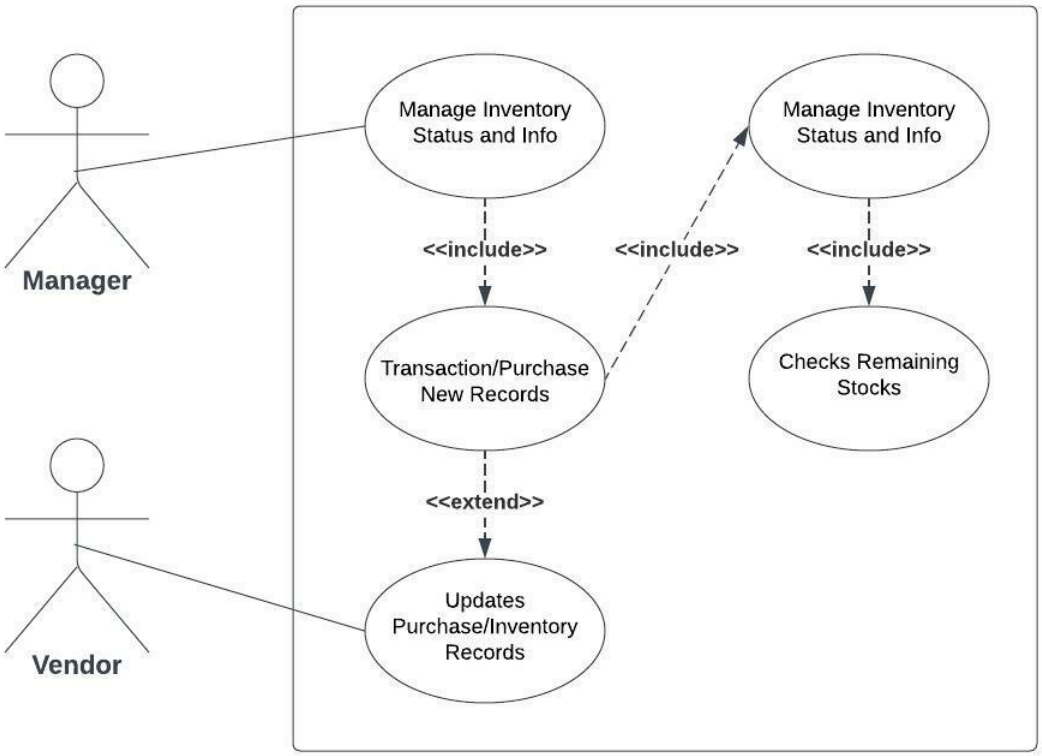

Figure 6. Use Case Diagram

Figure 6 shows the actor of the system. It displayed the viable and available interactions for actor included in the graph. Along with System Requirements, the manager must log in before viewing and managing the products info, inventory status and records, and also adding and removing the records of the Straw Hats' Snack Bar

Inventory System.

SEQUENCE DIAGRAM

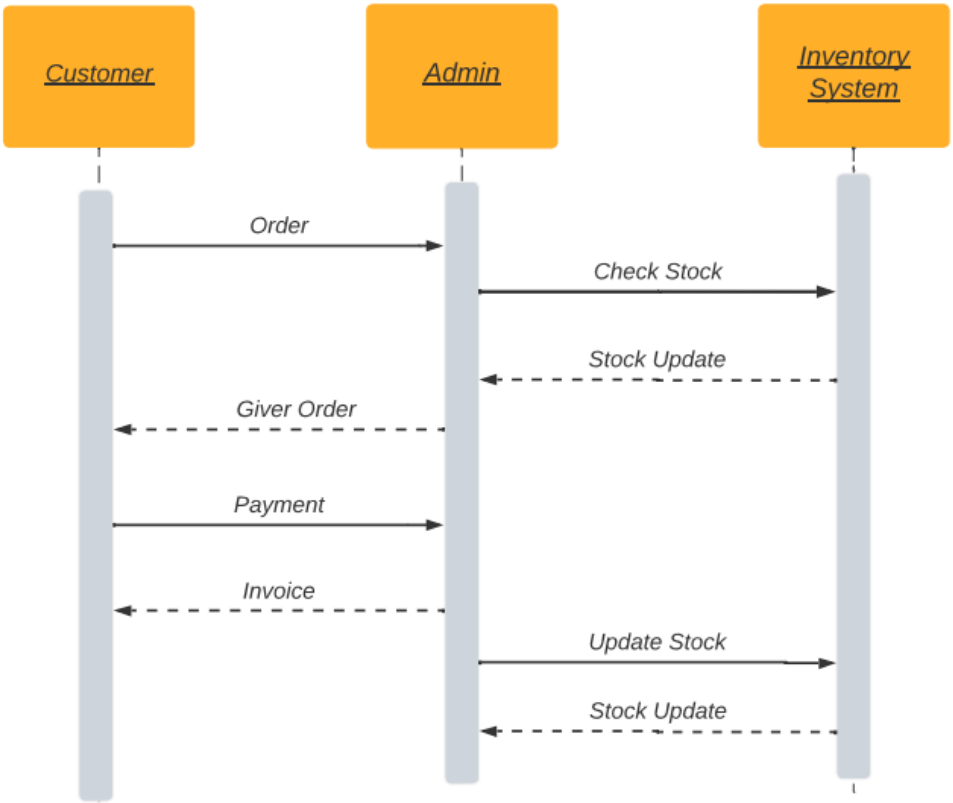

Figure 7. Sequence Diagram

In the sequence diagram, the customer must select an order first. If the order was available, the admin can check stock from the inventory system and then, the system can forward stock update back to the admin and the order will notify to the customer. The payment was made by the customer and the admin can give invoice to the customer for the order. The admin will update stock to the inventory system and the system will

give stock update back to admin.

The loop in the sequence diagram referred to the exchange of messages between the customer and the admin. After that, the stock details, including the customer order and payment details, time and date, stock updates, and all other record requirements, were recorded in the inventory system.

III. Database Design

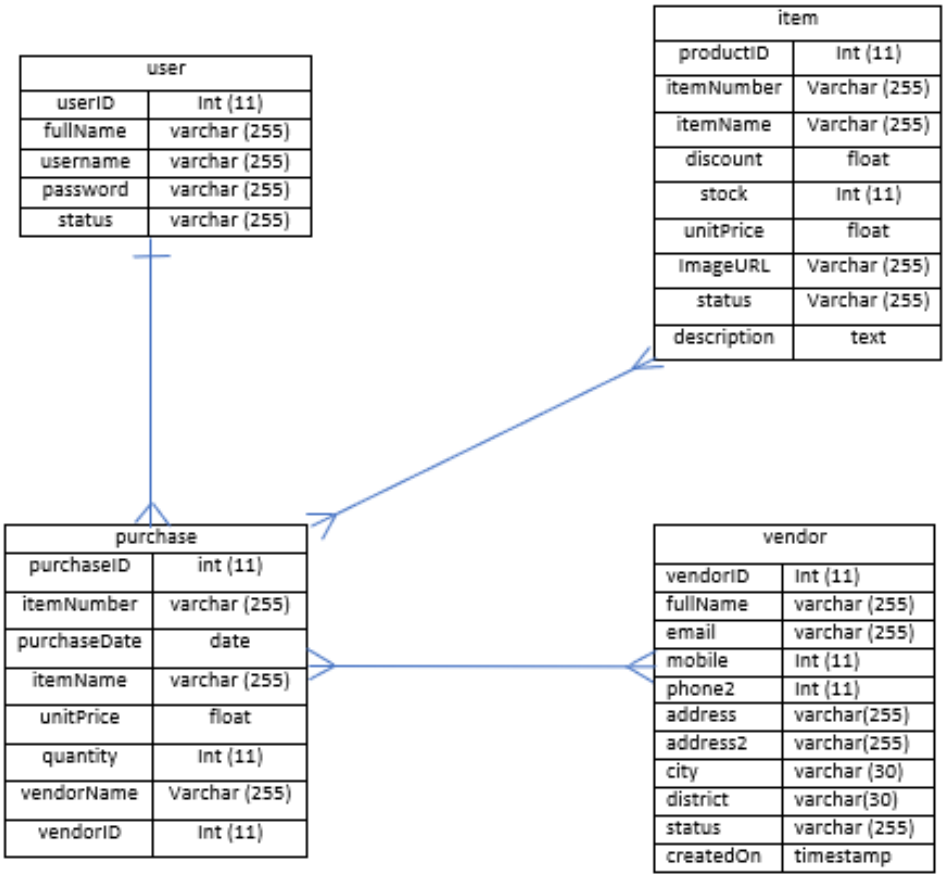

Figure 8. Database Design

This figure shows the database design. The system contains six (6) tables but, the team decided to include only the four (4) significant tables in the figure. It shows the relationship of each and how it is connected. It also involves the attribute name and datatypes of each table.

III.3 GRAPHICAL USER INTERFACE

ADMIN:

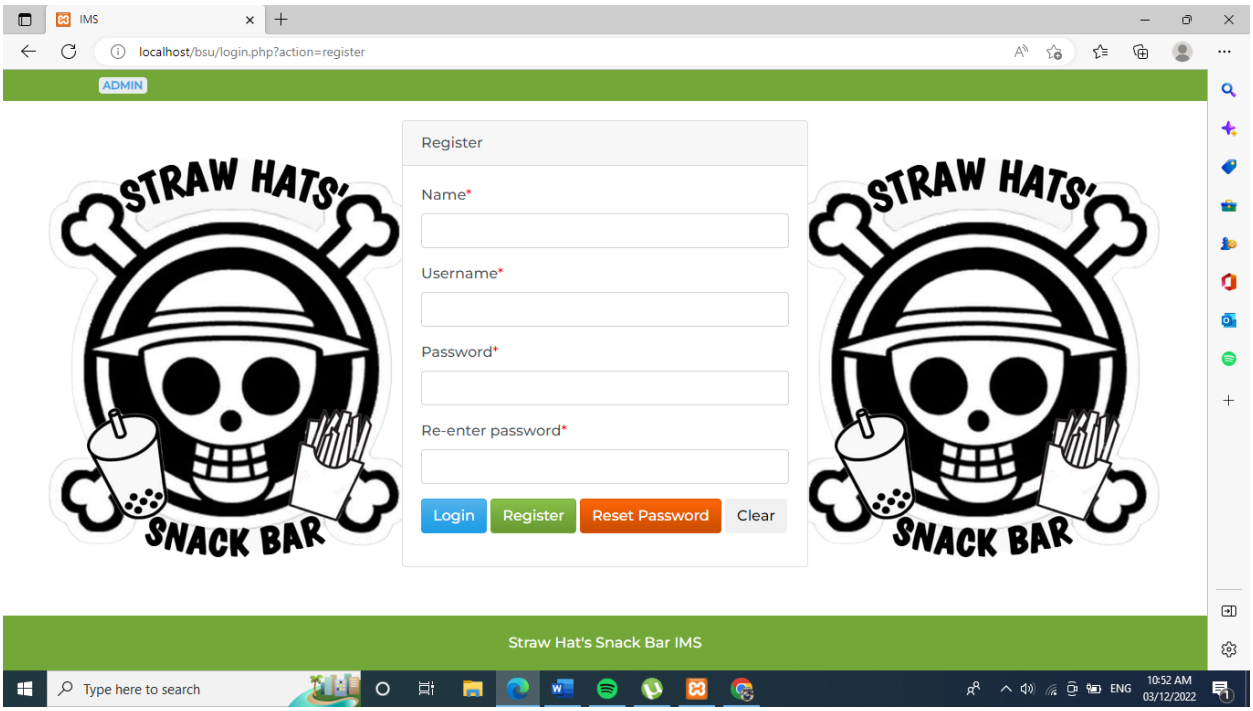

Figure 9. Create an account page.

Figure 9 shows the register page where the admin can create an account to the system. The admin can input their name, username and password. When the admin inputs the necessary information on the system, they can create and register the account and it can use it to access the system.

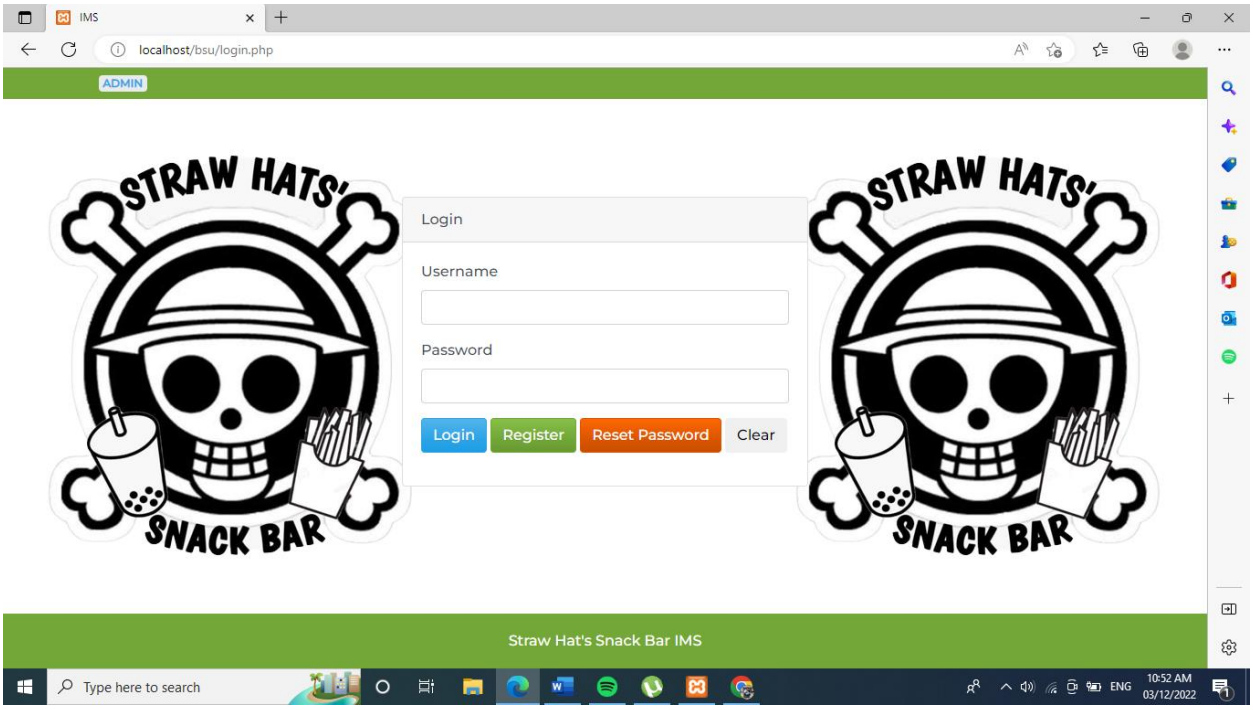

Figure 10. Admin Login page.

Figure 10 shows the admin login page where the admin can login their existing account to the system. The system can accept the account and access the inventory system. Only valid account created by admin can accept by the system.

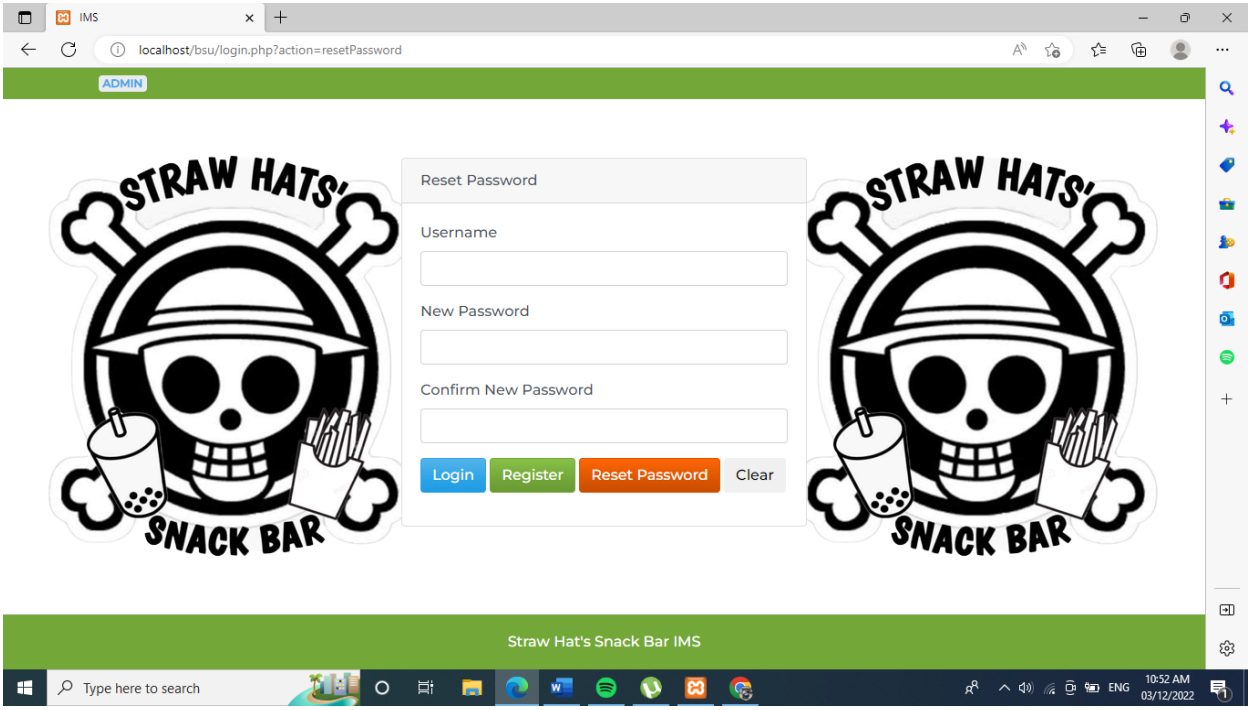

Figure 11. Reset password page.

The reset password is included in the interface. In case the admin forgot the password of the account, they can reset the password through the system. The admin should put the correct username and the new password in order to successfully change the old password of the account.

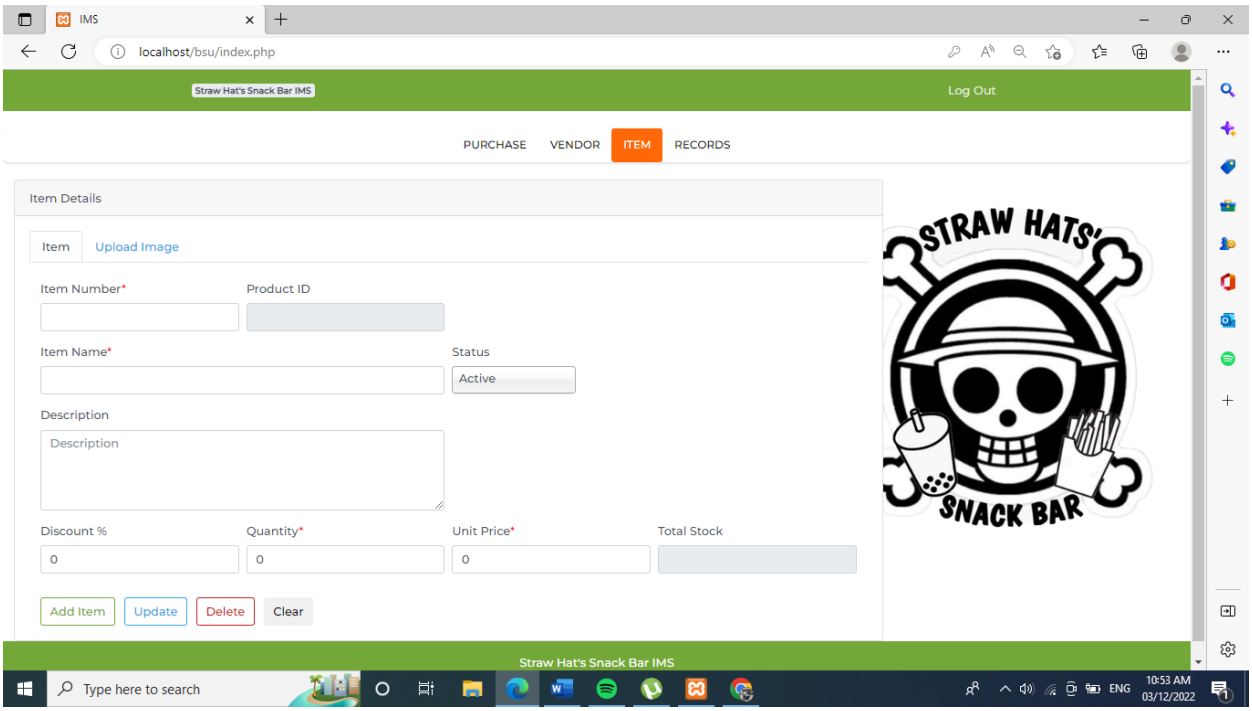

Figure 12. Item Details

Figure 12 shows the purchase details page. The admin can view, edit, create and manage the purchase details made by the vendor. Once the admin fill-ups the necessary information, the system automatically recorded the purchase details. The admin can also update the existing purchase details in order to avoid duplication of the same vendor.

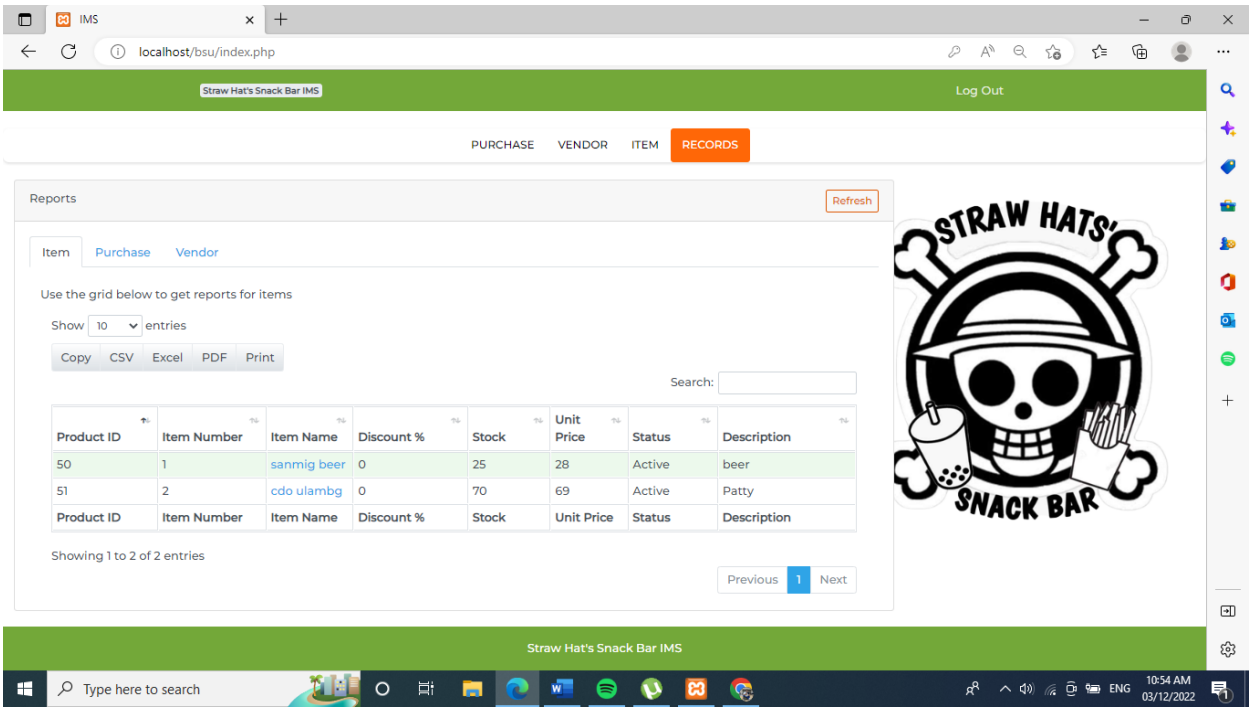

Figure 13. Generate reports

Figure 13 shows the generate reports in admin account. It displays the item details, purchase details and vendor details. The admin can use a drop-down menu below to show the number of entries in the table. All information created by the admin are recorded into system. The reports can be saved and downloaded into excel, pdf and csv format and also, it can be printed.

USER/STAFF:

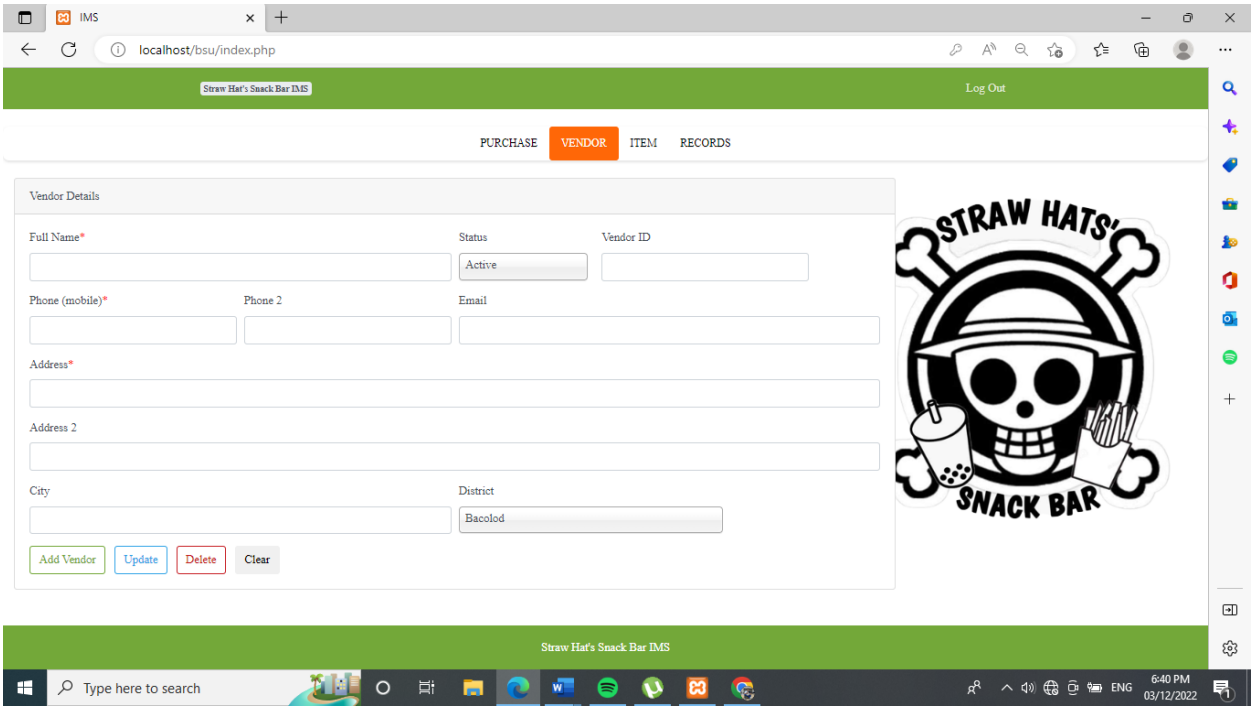

Figure 14. Staff Vendor Details.

In the item tab displays the vendor details page where the information is provided by the vendor. The admin can fill up the vendor's full name, phone number, email address, city and vendor id. Also, it can be set as active vendor or not. The admin can update the existing vendor details and it can be also deleted if necessary.

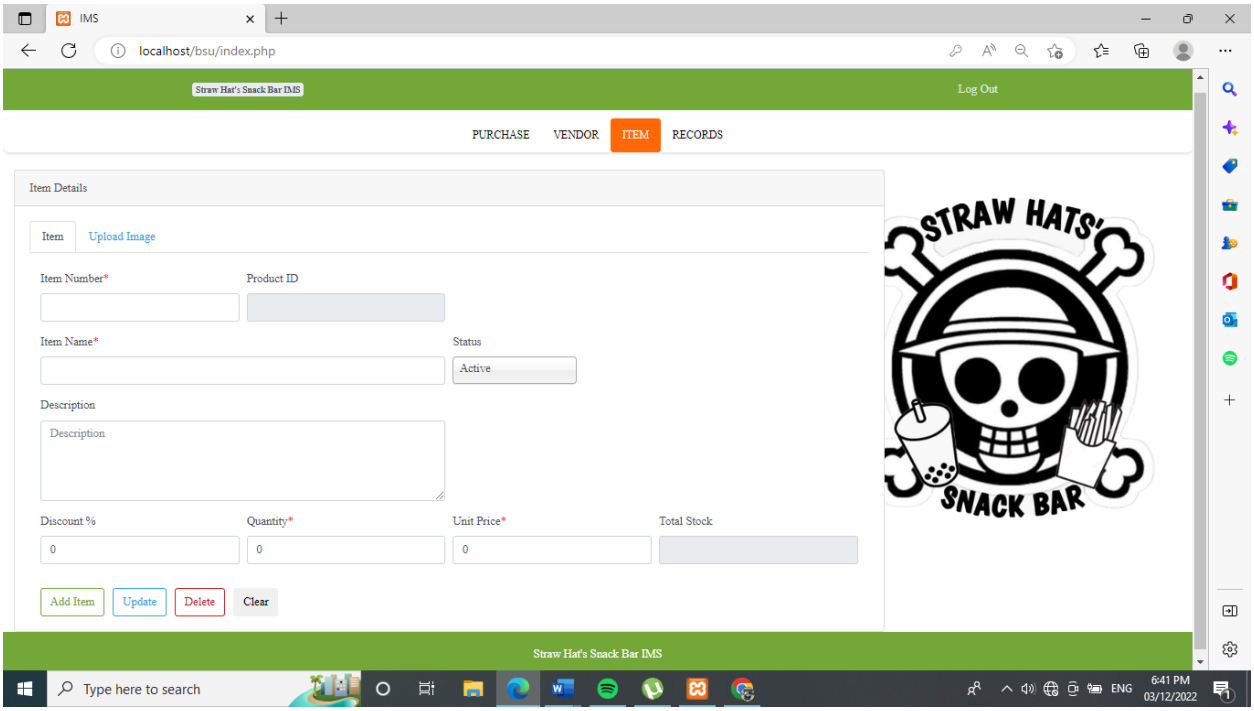

Figure 15. Staff Item Details

The staff item details tab displays the item's name, number, product id, etc. The admin can set a product as active or not based on the availability of the product stocks. In this tab can also input discount, quantity and unit price of a product. The admin can update, add and delete the existing item details and it will be recorded in the system.

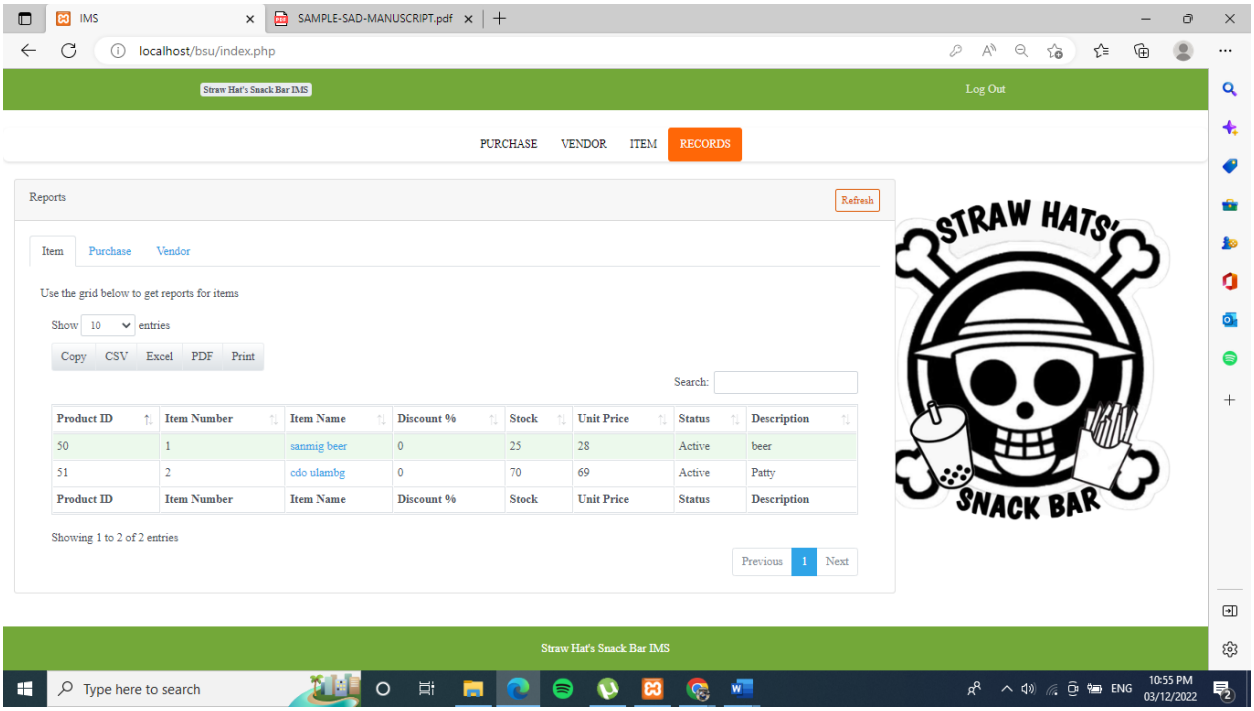

Figure 16. Generate Reports

Figure 16 shows the generate reports in user account. It displays the item details, purchase details and vendor details. The admin can use a drop-down menu below to show the number of entries in the table. All information created by the admin are recorded into system. The reports can be saved and downloaded into excel, pdf and csv format and also, it can be printed.

IV.1 System Deployment

The activities required to integrate the systems are outlined in the integration document. The software item incorporates software units and software components. The techniques of the proper procedures to be done for the software and system integration. For the project integration to be successful. It entails the transfer of the capability to the ultimate end-user as well as the transfer of the responsibility for support and maintenance to the organization or organizations providing post-deployment assistance. The coordinating document includes a summary of the tile system and a concise description of the main duties, integrating, as well as overall resources required to support the integrating action. The strategy is created throughout the development stage. The final version is delivered in the integration and test phase, where it is updated.

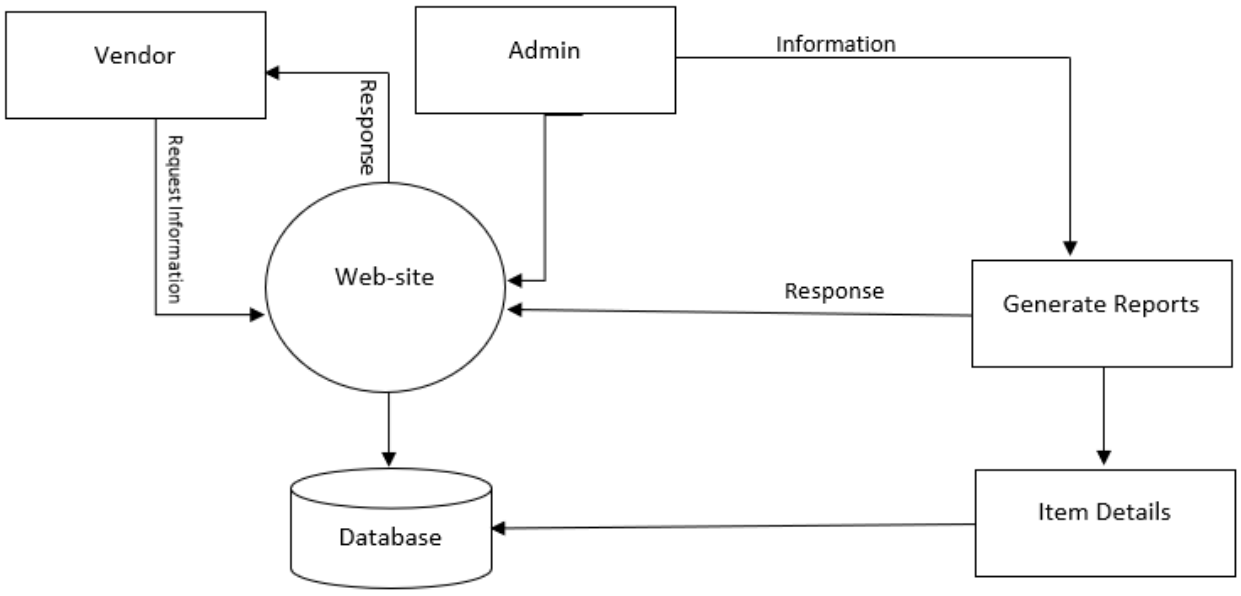

Figure 17. System Deployment

IV.2 Integration Support

Described in this section are the materials, tools, software and facilities necessary for integration, as well as staffing needs, and the integration requires training.

IV.2.1 Implementation Plan

We will discuss the implementation plan for this project in our system on the tables of many activities that will be carried out for its implementation. This project shareholders have certain rights and obligations. They can gain from a company success with this ownership structure. The participants in these activities are the researchers and the clients of our system, which holds shares of one or more Funds either directly or through an omnibus position in the name of Customer. The duration of the preparation was one week, and it outlined how businesses should be run as well as the rights and obligations of shareholders. There is also information on the company management, shareholder rights, and protection is also part of the agreement.

We have a start date for our project implementation of 5 days, and a finish date of 3 days for working with shareholders who provided stocks of an item or products. We also have an installing the system is to identify your business goals or the company profit if lower or higher cost of total sales in our system. The people involved for these activities, which the researcher and client also will offer, are to identify your goals in business or the profit of your company. The preparation for installing our system will take place over the course of 5 days.is also included in the agreement. It also we have the start for the implementation of our project in 5 days and for the end which is 3 days for collaborating

on the shareholders that provided stocks of an item or products. And also we have an installing the system is to identity your goals in business or the profit of your company if lower or higher cost of total sales in our system. The person involved for this activities which the researcher and client also will offer to drop one on your desktop, in your Start menu, and on your quick launch toolbar at the time of program installation. The duration of this activity is on 5 days for the preparation for installing our system. The total days will start in 2 days and for end is on 3 days for the implementation plan of our web-based system. And last activities to be implemented for this project which is the Testing is to check ensure that financial records match a company inventory records and that those records align with a physical inventory count. The persons involved in these activities which is researchers it also provided any information on how to test the system related on what activities to be viewed on your web-based system. Also, duration of this project is 1-3 days month of December 2022 to be implemented for testing our system level of testing that validates the complete and fully integrated software product.

Table 4. Implementation Plan

Activities	Persons Involved	Duration	Start	End
Shareholder	• Researchers • Client	1 week	12/7/2022	12/14/2022
Installation	• Researchers	5 days	12/15/2022	12/20/2022
Testing	• Researchers • Client	3 days	12/21/2022	12/24/2022

IV.2.2 Resources and Their Allocation

The table # shows the resource allocation of this project. Hosting is one of the necessary software that would allow the developed system to have its own domain. Internet or data is then needed to access the hosted website over the internet. Lastly, it is also necessary that the clients acquire hardware devices that would run this software that would allow the implementation of the whole project possible.

Table 5. Resources and Their Allocation

Facilities/ Equipment	Usage Representation	Cost
1. Hosting	To make the website available on the internet	Php 2,500

2. Internet/ Data	For the researching purposes and looking for reference of the system	Php1,500 per month
3. Desktop	To make project documents and web system project.	Php20,000

Table 6. Test Case Create an Account

Test Case	**Test Data**	**Expected Result**	**Status**
Enter valid email Enter valid password	Valid Email Valid Password	Successful	Passed
Enter invalid email Enter Invalid password	Invalid Email Invalid Password	Unsuccessful	Passed
Enter valid email Enter invalid password	Valid email invalid password	A message “Incorrect Password, Try again?”	Passed
Enter existed email	Invalid Email	A message “An email has already used”	Passed

Enter phone number	Valid Phone Number	Successful	Passed
Enter Invalid phone number	Invalid phone Number	A message “Your Phone number is Unavailable	Passed

Module Name: Login Page

Test Scenario: User will sign up for vendor Information

Pre-condition: Verify if a user will able to login with a valid username and valid password

Test Steps

1. Enter valid e-mail and password
2. Click submit button

Table 7. Login Page

Test Case	Test Data	Expected Result	Status
Enter valid email Enter valid password	Valid Email Valid Password	Successful	Passed
Enter invalid email Enter Invalid password	Invalid Email Invalid Password	Unsuccessful	Passed
Enter invalid email Enter invalid password	Valid email	A message “an email not found”	Passed

	invalid password		
Enter existed email	Invalid Email	A message “An email has already existed”	Passed
Enter wrong password	Invalid password	Password does not match	Passed

Module Name: Item Management

Test Scenario: User will add, update, delete and clear for the item that the customer is in order

Pre- condition**:** User will enter the chosen product.

Test Steps:

1. Click add items button
2. Click update button
3. Click delete button
4. Click clear button

Table 8. Item Management

Test Case	Test Data	Expected Result	Status (Pass/Fail)
Click Add Button	To insert a record into The Database.	Automated transfer of data in the system.	Passed
Click Delete Button	To delete a particular row from the database.	Selected table is empty of reports.	Passed
Click Update Button	To update the existing records of the system.	To access new reports from the database.	Passed
Click Clear Button	Clear the content of an items.	Result balance of Of the items.	Passed
Click Item Numbers of items	To categorize and uniquely identify retail items.	To measure against the performance indicates from per line items	Passed
Click Quantity of Items	Should be purchased to minimize its inventory cost of an items.	By calculating the total numbers of items in products	Passed

Module Name: Generate Reports

Test Scenario: Lists of the stored data products

Pre-condition: User will determine the remaining and used the items in a day

Test Steps

1. Searching reports of an item
2. Records the items sold
3. Print thru excel.

Table 9. Generate Reports

Test Case	**Test Data**	**Expected Result**	**Status (Pass/Fail)**
Show entries of Purchasing information	It also finds the data of records in item information.	To show the results of purchased details in items.	Passed
Purchased Details of items	It tracks from inventory purchase to the sales of goods in generate reports our item details	To show on how its current purchasing activities in the item information.	Passed

Search On the Reports of an items	It also works to view item details in our system.	To Show the result of item details or to find the reports of sales of goods in our system	Passed

IV.1.2 MANUAL GUIDE

Accessing the inventory system (Admin and Staff)

Note: Admin is the only one capable of creating an account for the staff.

Step 1: Insert the username and password given to you by the developer/admin.

Step 2: Click the login button.

Display text if unsuccessful “Incorrect Username / Password”

Once you logged in successfully it will direct you to the item tab where you can add and update the item details.

Step 3: Input your desired item number inside the box below the item number message.

Note: You cannot use the same item number to the items.

Step 3.1: If you’re just updating an item, input the item number or the item name assigned to that specific item to see the present details of that item.

Step 3.2: Fill up the remaining details (item name, item description, discount, quantity, unit price)

Step 4: After adding/updating all the needed details click the add/update item button located at the bottom left of the page.

Step 5: Once done clicking on the add/update item button a message will prompt above if the item was successfully added or if it is unsuccessful.

Displayed text if successful “Item added to the database”.

Displayed text if unsuccessful “Item already exists in DB. Please click the Update button to update the details. Or use a different Item Number”.

Uploading/Deleting item image

Step 1: You can upload an item image by clicking the “Upload Image” located below the item details message.

Step 2: Insert the item number of the item you wanted to have an image.

Step 2.1: If the selected item already has an image and you want to replace it. Click

“Delete Image” button and proceed to Step 3.

Step 3: Click “Choose File” and it will direct you to your folder. Select the image you wanted to upload.

Step 4: Once done selecting the image. Click the “Upload Image”

Displayed text if successful “Image uploaded successfully” or “Image deleted successfully”

Displayed text if unsuccessful “Image type is not allowed. Please select a valid image”

Adding/Updating/Deleting vendor details through the vendor tab.

Step 1: Insert the required information including the full name of the vendor, phone number, and the address of the vendor. Check the red asterisk for the references of the required information.

Step 2: Once done on adding/updating the needed information click the add vendor button if you’re inputting a new vendor’s name or click the update button if you’re just updating an existing vendor.

Displayed text if successful “Vendor added to database” or “Vendor details updated”

Displayed text if unsuccessful “Please enter a valid information”

Note: If you’re updating, insert the Vendor ID assigned to the vendor you wanted to search to update the vendor details.

Read only if you're going to delete a whole vendor detail.

Step 1: Insert the Vendor ID assigned to the vendor you wanted to delete in the database.

Step 2: After searching for the vendor's details. Click the delete button located at the lower left of the page.

Adding Purchase Details

Step 1: Click the purchase tab beside the vendor's tab located in the upper middle of the page.

Step 2: Insert the required information. Check the red asterisk for the references of the required information.

Step 3: Click the add purchase button once done on adding the needed information.

Displayed text if successful "Purchase details added to database and stock values updated"

Updating Purchase Details

Step 1: Click the purchase tab beside the vendor's tab located in the upper middle of the page.

Step 2: Insert the Item Number assigned to the purchase details you wanted to update.

Step 3: Click the “Update” button once done on editing the information.

Displayed text if successful “Purchase details added to database and stocks values updated.

Viewing Reports

Step 1: Click the record’s tab beside the item tab located in the upper middle of the page.

Step 2: After clicking the record’s tab you can now see the reports of the item, purchase and vendor.

Step 3: You can download those reports by clicking any of the following (CSV, Excel, PDF). You can also print the reports directly by clicking the print button. These buttons are located at the upper left corner of the records tab

Log Out

Step 1: Simply click the logout button located at the upper right corner of the page.

V. System Administration and Maintenance

System administration and maintenance is a way of managing and maintaining the software and hardware components of the system. The objective of the system administration and maintenance is to guarantee that the system is working efficiently and effectively.

V.1 Identifying the Risk

Knowing the potential risks for a system is important so that strategies may be made to reduce negative outcomes before they occur. The risk and possible outcomes for the system are shown in the table below. It is important for both the developers and the client to realize that risk detection is a continuous process and they also both need to familiarize themselves with the different potential risks the system and the business may encounter.

Category Risk

RID	Type of Risk	Description
RID 01	Data Theft	Stealing digital data from computers, servers, or other electronic devices in order to get access to private information or

		violate privacy. Example: The database of the system has been breached. The data inside the database may leak, or the hacker may demand a ransom in order to prevent the data from leaking.
RID 02	Internet Outage/ Loss of internet connection	The failure of internet services, whether total or partial. Censorship, cyberattacks, natural disaster. Example: The business's inventory will temporarily shut down depending on the time they can provide an alternative internet connection. Since the system needs connection

		to the internet to properly operate.
RID 03	Data Loss	Deletion of data that can be due to human error, viruses, power outage or data theft.
RID 04	Human Error	Unintentional error made by an employee that can lead to data loss or data inaccuracy. Example: The staff has minimal or no experience at all using the system, which may cause the staff to insert incorrect details in the system that will make the data in the inventory inaccurate.
RID 05	Defective Product	Possible expired or damaged product that

		came from the supplier. Example: Expired or damaged products cannot be sold to the customer.
RID 06	Power Outage	Interruption in the power supply. Example: Since the system also relies on electricity it will cause the system to shut down.
RID 07	Physical Theft	Attempt of an employee on stealing of the products that the business owns.

Figure 10. Category Risk

V. 2. Analyzing the Risk

After identifying the risk, it is also important to analyze those potential risk that have been identified. The risk assessment control measure table, which is shown below, lists three different measures for this risk assessment control at the level of low risk, which ranges from (1) to (4). Medium risk was assigned to the range of (5) to (10) while high risk was assigned to the range of (12) to (25). The other table presented after the risk assessment matrix is the risk evaluation table, in this table displays the result of analyzing the risk; as a result, the total high-risk level that may occur is (3), while the totals for the medium risk level and lower risk level are (1) and (3) correspondingly.

V.2.1 Risk Assessment Matrix

Risk assessment matrix is used to understand and manage risks. Businesses may get a thorough awareness of the risk environment and control hazards before they arise. The table below shows the risk assessment control measure that helps to assess which risk has the highest impact in the system or in the business.

Risk Assessment Matrix

RID	Risk Assessment Control Measure
RID 01	High Risk

RID 02	High Risk
RID 03	High Risk
RID 04	Medium Risk
RID 05	Low Risk
RID 06	Low Risk
RID 07	Low Risk

Table 11. Risk Assessment Risk

V.3 Evaluating the Risk

Evaluating the risk is also important since it will help on making decision. With the risk being evaluated the developers and the business owner can clearly determine which risk has the highest severity. The table below shows the risk evaluation where it measures the risk score that depends on the impact and likelihood, it is also based on the risk assessment control measure that is displayed above.

Risk Evaluation

RID	Impact	Likelihood	Impact	Likelihood	Risk Score
RID 01	Major	Possible	4	3	12

RID 02	Major	Likely Occur	4	4	16
RID 03	Major	Possible	4	3	12
RID 04	Moderate	Possible	3	3	9
RID 05	Minor	Rarely Occur	2	2	4
RID 06	Minor	Very Unlikely	2	1	2
RID 07	Minor	Very Unlikely	2	1	2

Table 12. Risk Evaluation

V.4 Treating the Risk

Once the risks have been evaluated, it is time to treat those risk. Treating the risk refers to a broad range of approaches intended to lessen, eliminate, avoid, transfer, or otherwise change the risk. To address certain hazards that have been recognized, specialized treatment plans might be developed. Depending on the risk situation, several treatment approaches may be used. The table below displays the risk control which will help to prevent those given potential risks from occurring.

Figure 13. Risk Control

RID	Control
RID 01	Updating system security more often.
RID 02	Provide alternative internet service provider.
RID 03	Prepare alternative source of electricity.
RID 04	Always have a backup data.
RID 05	Select the best and trusted supplier.
RID 06	Train every employee that will use the system. Make sure that they fully understand how the system works.
RID 07	Install security cameras inside and outside of the business premises.

V.5 Monitoring and Checking the Risk

Although the risks have been identified, analyzed, and evaluated, and it is known how to prevent them, they must still be monitored and checked on a regular basis. Monitoring and checking the risks will help to see if the measures taken were implemented

and successfully reduced the risks. The table below shows the review frequency and the individuals responsible for reviewing the risks**.**

Table 14. Review of Risk and Issues

REVIEW FREQUENCY
The system's potential risks are periodically observed and examined to ensure that the proponents will move quickly to find a solution so the client will be informed if something goes wrong with the system. To provide solution and avoid the risks, it will be helpful to classify the high, medium, and low risks that can affect the system.
PARTIES RESPONSIBLE FOR REVIEWING
The proponents are the one responsible for reviewing the risk and issues of the system. They evaluate the possible risks to the system and the business. Each risk will be assessed by the proponents in terms of its probability of occurrence as well as any potential losses that could result from it. The proponents will determine the software and hardware needs to assure the system's functionality and to carry out the project's objectives.

Table 15. Monitoring

REVIEW FREQUENCY
The proponents provide a system update in order to fix some bugs or problems that the user may encounter in using the system. To address the issues or possible risk in system, they made feedback into a system to submit and receive it to the developers of system to give an early update that able to fix the issues encountered.
PARTIES RESPONSIBLE FOR REVIEWING
The system's developers are in charge of making decisions and are those who are in charge of managing the system's implementation. The system will only be maintained when the authorized users discover problems within the system. As a result, feature testing and debugging tests will be used to test and assess the developed system. The test guarantees that the system is in good working order and that all system components have been repaired. Additionally, the users will evaluate the functioning of the system as described by the proponents to make sure that it operates effectively and without any errors.

Table16. Reporting

REVIEW FREQUENCY
It is important to start documenting the issues, risks, and solutions the group has run into while working on this project. In order to assist the user and discuss possible solutions to resolve the potential risk that may arise on the time that the system will be used, the proponents must report these in order for them to be informed and understand.
PARTIES RESPONSIBLE FOR REVIEWING
The proponents must record any risks or problems the system may encounter so that a reliable fix may be offered immediately. especially when the system is regularly utilized. The proponents are in charge of assessing the extent of impact on their own system and customer information. The proponents evaluate the security and design of the system to identify risks and potential weaknesses. The end-users would be the owner in Straw Hats' Snack Bar, particularly the manager of store as well as their vendors. The system can be enhanced to function more conveniently for everyone participating in this project and to serve its intended purpose.

Risk Assessment Control Measure			Severity				
From 1-4 = Low Risk							
From 5-10 = Med Risk							
From 12-15 = High Risk							
			Negligible	Minor	Moderate	Major	Extreme
Likelihood (Probability)			**1**	**2**	**3**	**4**	**5**
	Very Unlikely	**1**		RID006 RID007			
	Rarely Occur	**2**		RID005			
	Possible	**3**			RID 004	RID 01, RID 03	
	Likely Occur	**4**				RID02	
	Occurs Frequently	**5**					

Table 17. Matrix Table