



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS

Bachelor of Science in Information Technology

ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF MOTORSHOP AND ACCESSORIES

A Capstone

presented to the faculty of Department of Computing and Informatics of the
City College of Calamba
Calamba, City

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

Año, Mark Jefferson D.
Bron, Richard B.
Huseña, Princess O.

2024



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

ii

ACKNOWLEDGEMENT

The researchers would like to express their deep gratitude to everyone who in one way or another contributed to the completion and success of this work:

The Almighty God, whom the researchers want to thank the most for the knowledge, wisdom, abundant blessing and gift. endless training that makes them find the best version of themselves;

The Año, Bron, Huseña family for their unconditional love and financial, physical and emotional support and encouragement you have given them throughout their journey. This research is not possible without you. Thank you;

Professor Jesse Anne M. Salvador, MM-ITM, the researcher's thesis adviser, who was the first support from the beginning to the end, informed them, gave them endless guidance and support since the beginning of the research, her ideas and opinions helped them to improve better studies;

Mr. Michael John F. Mirabueno, Mr. Jayvee Ryan F. Banal and Mr. Mico B. Matanguihan, whom the researchers evaluated the developed system to ensure that the instrument given to respondents is accurate and suitable for the developed system;

Professor Jacqueline A. Dela Torre, coordinator of the researcher, for his guidance at the beginning of this study.

The researchers would also like to thank their dear client, RBF Motorshop and Accessories for letting them conduct the study and build a system for the institution, for their



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

iii

undeniably support and cooperation. This study will not be possible without you and your admins.

Finally, the researchers want to thank their classmates and friends inside and outside of the institutions. With the help and for the assistance they received and felt to finish the study, for motivation. To those people who keep praying and give comfort despite every situation and motivations they have given them resulted in a positive outcome. All the memories and experiences will always be remembered.

Thank you so much from the bottom of their hearts. God Bless!

- The Researchers



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

iv

Table of Contents

	PAGE
Title Page	i
Acknowledgement	ii
List of Appendices	vi
List of Figures	vii
List of Table	viii
Abstract	ix
CHAPTER 1: THE PROBLEM AND ITS BACKGROUND	1
Project Context	2
Conceptual Framework	4
Statement of the Problem	6
Objectives of the Study	7
Significance of the Study	8
Scope and Limitations	9
Definitions of Terms	10
CHAPTER 2: REVIEW OF RELATED LITERATURE & STUDIES	12
Online Scheduling	12
Advantages of Online Scheduling	14
Inventory Management System	16
Benefits of Inventory Management for Ecommerce Business.....	17
Effectiveness of Inventory Management.....	19
Purpose of Inventory Management System	21
PHP	22
SQL	23
Synthesis	24
CHAPTER 3: RESEARCH METHODOLOGY	26
Research Design	26
Research Locale	27
Population of the Study	28
Data Gathering Tools	29
Data Gathering Procedure	30
Data Analysis Plan	31
Software Development Methodology	33
Phase 1: Requirements	33
Phase 2: Design	35
Phase 3: Development	42



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS

Bachelor of Science in Information Technology

v

Phase 4: Testing	43
Phase 5: Deployment	43
Phase 6: Maintenance	44
CHAPTER 4: RESULTS AND DISCUSSION	46
CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATION	72
REFERENCES	76



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

vi

List of Appendices

LETTERS	81
TRANSCRIPT OF INTERVIEW	86
RESEARCH INTRUMENTS	90
VALIDATION FORMS	93
PROOFS/DOCUMENTATION	99
CURRICULUM VITAE	102



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

vii

List of Figures

Figure Number	Figure Title	Page No.
Figure 1-1.	Structure of the Study.....	6
Figure 3-1.	Map of RBF Motorshop and Accessories.....	27
Figure 3-2.	Map of RBF Motorshop and Accessories.....	28
Figure 3.3.	Waterfall Model.....	32
Figure 3.4.	Flowchart of Online Scheduling.....	33
Figure 3.5.	Flowchart of Inventory Management System.....	34
Figure 3.6.	Homepage.....	36
Figure 3.7.	Login Page.....	36
Figure 3.8.	Online Scheduling.....	37
Figure 3.9.	Schedule.....	37
Figure 3.10.	Client Profile.....	38
Figure 3.11.	Dashboard.....	39
Figure 3.12.	Admin Record.....	39
Figure 3.13.	Supplier Record.....	40
Figure 3.14.	Client Record.....	40
Figure 3.15.	Mechanic Record.....	41
Figure 3.16.	Category.....	41
Figure 3.17.	Products.....	42
Figure 3.18.	Archive Products.....	42
Figure 3.19.	Schedule Records.....	43
Figure 3.20.	Log History.....	43
Figure 4.1.	Summary and Results.....	71



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

viii

List of Tables

Table Number	Table Title	Page No.
Table 3.1.	Population of the Study.....	28
Table 3.2.	Data Analysis Plan.....	32
Table 3.3.	Financial/ Cost- Benefit.....	50
Table 4.1.	Evaluation in terms of Functional Suitability(Admin).....	52
Table 4.2.	Evaluation in terms of Functional Suitability(Employee).	53
Table 4.3.	Evaluation in terms of Functional Suitability(Customer).....	55
Table 4.4.	Evaluation in terms of Performance Efficiency(Admin).....	57
Table 4.5.	Evaluation in terms of Performance Efficiency(Employee)	58
Table 4.6.	Evaluation in terms of Performance Efficiency(Customer)	59
Table 4.7.	Evaluation of System in terms of Security (Admin).....	61
Table 4.8.	Evaluation of System in terms of Security (Employee).....	61
Table 4.9.	Evaluation of System in terms of Security (Customer).....	62
Table 4.10	Evaluation of System in terms of Usability (Admin).....	64
Table 4.11.	Evaluation of System in terms of Usability (Employee).....	64
Table 4.12.	Evaluation of System in terms of Usability (Customer).....	66
Table 4.13.	Evaluation of System in terms of Reliability (Admin).....	67
Table 4.14.	Evaluation of System in terms of Reliability (Employee).....	68
Table 3.15.	Evaluation of System in terms of Reliability (Customer).....	69



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

ix

ABSTRACT

The study entitled online scheduling and inventory management using QR Code for RBF Motorshop and Accessories was designed and developed to help the institution to improve the current announcement process when it comes to disseminating important information by online scheduling and also the inventory to reducing a manual process and indoor scheduling process.

In order to understand the procedures, issues, and challenges the institutions had in communicating essential information, as well as potential solutions, the researchers performed interviews, document reviews, observations, and internet searches. RBF motorshop and Accessories has a manual process of inventory records and indoor scheduling to their motorshop. Additionally, the institution received questions and concerns about the scheduling and inventory, including whether or not they were reliable. With the interview, the researchers learn about the characteristics of the institutions' announcement procedures. Through interviews and observations, the researchers were also able to uncover solutions and historical context for the system's creation.

The study and development of the system was highly beneficial to the RBF Motorshop and Accessories by providing great improvement from the institution's current method of disseminating information. Also, the online scheduling and inventory system was able to provide the institution an easy way to schedule online and to track inventory compared to the current method of disseminating information. The owner and the staff of RBF Motorshop and Accessories, benefit from the study and development of the system. Since they have an online scheduling and inventory the administrator and staff who assigned



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS

Bachelor of Science in Information Technology

x

the access and manipulate the system, it can be accessed from anywhere that has internet connectivity. Additionally, given that it was QR code-based, the client easily to track all inventory use of scanning the QR code.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

1

Chapter 1

THE PROBLEM AND ITS BACKGROUND

There are some problems of global issues that faced on their online scheduling and inventory management system. In ASOS company a total of nearly 85,000 SKUs, ASOS is an ecommerce brand with a lot of stock. Whilst their new shiny inventory management system was successfully sending out and completing orders and there was no feedback reported for a whole week. The problem centered around an inventory system intended to register what was in the warehouse and update availability on the company's website. Unfortunately for ASOS, the system was not pulling in any returning orders. Profits dropped to 68% year-over-year for the 2019 fiscal year [1].

On the other hand, Airbnb experienced technical difficulties with its online booking and scheduling system. Users reported issues with making reservations and managing their bookings, causing inconvenience and frustration for both hosts and guests. The company's support teams addressed individual complaints and provided assistance to users affected by the technical problems [2].

Similarly, There are some problem of local issues that faced a some conflict on their online scheduling and inventory management system. Land Transportation Office (LTO), the agency responsible for driver's license and vehicle registration in the Philippines, has faced issues with its online scheduling system. People have experienced problems with booking appointments for license renewal or vehicle registration due to limited availability, system errors, or slow processing[3]. However, Mercury Drug Corporation, a prominent pharmacy



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

2

chain in the Philippines, faced inventory system problems that affected their operations. The company encountered discrepancies in stock levels and had difficulties in accurately tracking product expiration dates. Inventory system problems can lead to disruptions in supply chain operations, impact customer satisfaction, and eventually led in potential financial losses for the company [4].

Project Context

As stated by [5] Inventory management enables one to track the purchase, storage, and sale of products at each stage, ensuring product availability and reducing production costs. It assists firms in keeping track of inventory levels, allowing the management to make informed decisions about how much to create and when. One can monitor stock levels at a precise, granular level once the products location is known. A effective inventory management system ensures that shipping and delivery information is transparent for customers who want to track their orders in real time. (According to research, 72% of shoppers abandoned a cart due to a lack of shipping and delivery information.) Using an inventory management system can help decrease errors and inconsistencies in records and orders. Spreadsheets and other manual inventory management methods are prone to human mistake and are difficult to update. Without current information, there is incorrect inventory counts, which will result in excess inventory or stockouts. Errors can also be introduced via manual operations in areas like reordering, delivery, and customer service.

RBF Motorshop and Accessories was established in the year 2016. Currently, they have two branches. In terms of inventory they rely on manual processes for inventory management.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

3

These conventional methods often result in errors, delays, and inconsistencies in inventory tracking, leading to customer dissatisfaction and potential revenue loss. The proposed system aims to leverage the power of technology to streamline and automate the inventory management and appointment scheduling processes. By adopting QR code technology, RBF Motorshop and Accessories can improve efficiency, accuracy, and customer satisfaction.

In terms of processing the inventory, they are based on the receipts of the purchased product. According to the owner, when an item is reduced in his shop, he can tell how many and what has been discounted at a look. The real issue they're dealing with is miscalculation, and there are consumers who buy good parts but have a limited budget. There are instances when common parts are required but are not accessible in the main branch and must be taken from another shop.

The Online Scheduling and Inventory Management System will enable customers to schedule appointments conveniently through an online platform. By scanning a unique QR code provided by the system, customers can access the store's scheduling interface and select their preferred appointment date and time. This eliminates the need for customers to visit or call the store for scheduling purposes, saving time for both customers and store personnel.

Furthermore, the system will integrate with RBF Motorshop and Accessories' inventory management system. Each item in the store's inventory will be assigned a unique QR code label, which can be easily scanned using handheld devices. This will enable store employees to quickly update inventory levels, track item movements, and generate real-time



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

4

reports. By automating these processes, inventory accuracy will be improved, reducing instances of stockouts, overstocking, and product obsolescence.

Statement of the Problem

Following the evaluation of these problems, the researchers have specified in a formal manner all of the problems that they must provide a solution in order to progress. Thus, the following problems identified by the researchers are as follows:

1. What are the existing problems with the current process of RBF motorshop and accessories in terms of:
 - 1.1. Online Scheduling;
 - 1.2. Inventory
2. What system can be proposed to help reduce or solve the existing problems with the current process of Online Scheduling and Inventory Management System for RBF motorshop and accessories?
3. What is the feasibility of the proposed system in terms of:
 - 3.1. Technical;
 - 3.2. Operational;
 - 3.3. Schedule; and
 - 3.4. Cost Benefit.
4. What is the level of usefulness of the proposed system using the ISO-25010 in terms of:
 - 4.1. Functionality;



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

5

- 4.2. Efficiency;
- 4.3. Security;
- 4.4. Usability; and
- 4.5. Reliability

Conceptual Framework

A conceptual framework is a schematic diagram that is constructed to complete research. As a result, anyone can use Conceptual Model as an analytical tool. The following figure represents the researcher's system proposal.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

6

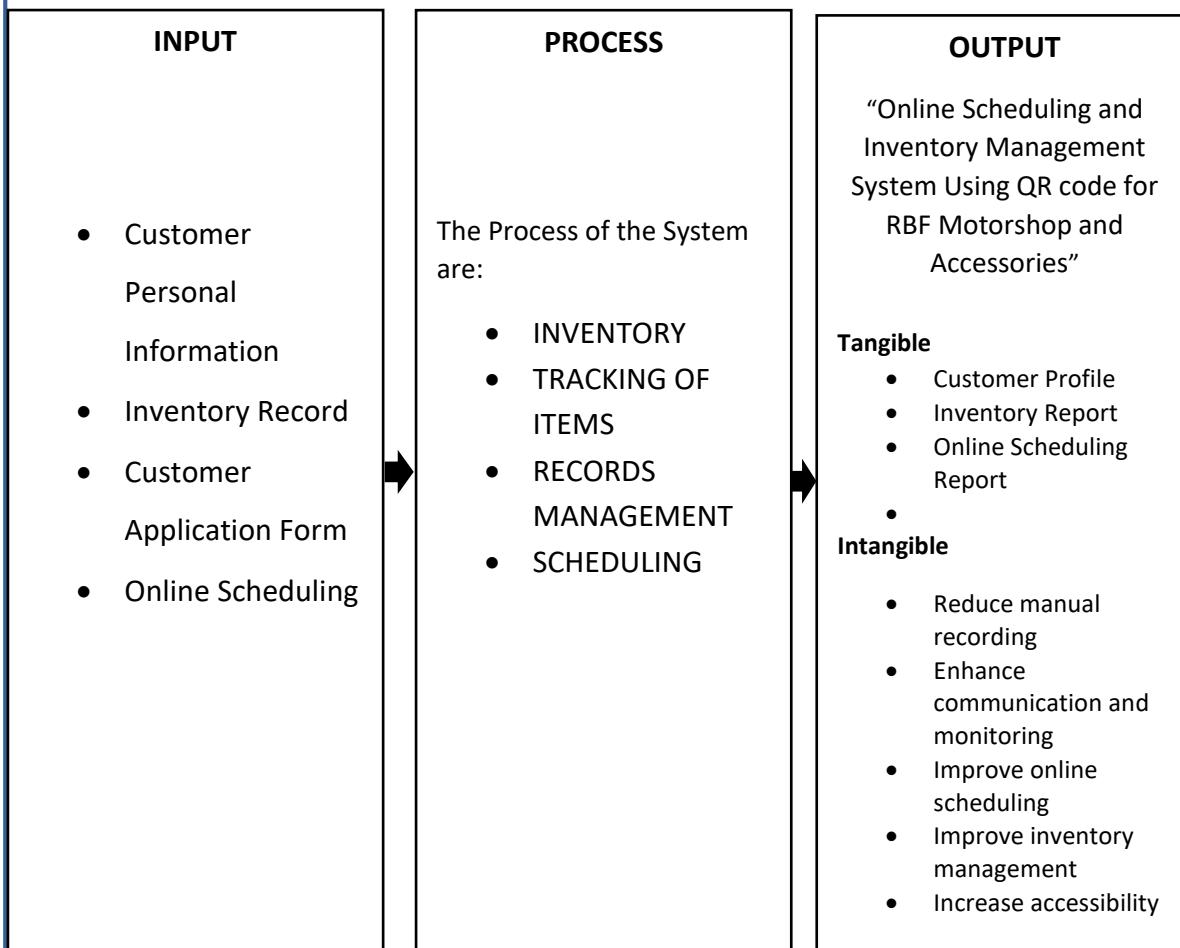


Figure 1-1. Structure of the Study

Figure 1-1 above illustrates the three primary components of the structure, which serve as the foundation for the study concept. Program administrator hold the responsibility of collecting, storing, and monitoring the data, while utilizing customer information, inventory record, customer application form and online scheduling as inputs. Then the expected tangible outputs of this study are the Customer profile, Inventory report, Online scheduling. The intangible outputs are the Reduce manual recording, enhance communication and monitoring, improve online scheduling, improve inventory management, and increase accessibility.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

7

Objectives of the Study

The study aims to develop a system that will improve the current manual system. of the RBF Motorshop and Accessories. Specifically, the following are the objectives of the study:

1. To identify the existing problems with the current process of RBF Motorshop and Accessories in terms of:
 - 1.1. Online Scheduling;
 - 1.2. Inventory
2. To proposed a Web-based Online Scheduling and Inventory Management System can be proposed to help reduce or solve the existing problems with the current process of for RBF Motorshop and Accessories.
3. To assess the feasibility of the proposed system in terms of:
 - 3.1. Technical;
 - 3.2. Operational;
 - 3.3. Schedule; and
 - 3.4. Cost Benefit.
4. To evaluate the level of usefulness of the system the ISO-25010 in terms of:
 - 4.1. Functionality;
 - 4.2. Efficiency;
 - 4.3. Security;
 - 4.4. Usability; and



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

8

4.5. Reliability

Significance of the Study

There are several reasons why it is important to conduct a study on online scheduling and inventory management system using QR code. The deployment of an online scheduling system and inventory management system based on QR codes for RBF Motorshop and Accessories is significant. It will improve transaction accessibility for customers, enable effective inventory management, identify areas for improvement, and give employees with a more efficient workflow. These advantages will eventually lead to enhanced client happiness, increased customer loyalty, and overall business growth.

RBF's Administrator: By implementing online scheduling and inventory management using QR code it will assist both the staff and the owner, as well as the consumer, by making the current process of their shop easier. The system will surely help them to know if their customers are satisfied.

RBF's Customers: Using the implemented, Online Scheduling System will benefit for the customer of RBF's motorshop and accessories, it will make easy and less hassle to make appointment to avoid waiting time in physical store.

Researcher: This study will encourage the researchers to explore and learn more about the developments of the system. Additionally, it will enhance their skills and experiences to be used for their future as I.T professional.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

9

Future Researchers: This study will serve as a guide and reference for future researchers in doing a research study that is also connected to online scheduling and inventory management using QR code.

Scope and Limitations

The Online Scheduling system and Inventory Management system using QR code for RBF Motorshop and Accessories was the subject of the research study. The main focus of the study is to develop a web-based system for the two branches of RBF Motorshop and Accessories. The online scheduling system and inventory management system includes the username and password for the users and admin. The system generates a QR code to be able to easily track and access the products of the RBF Motorshop and Accessories for their inventory.

The scope of the online scheduling system development will allow customers to set up appointments with RBF Motorshop and Accessories. Customers will be able to access an easy-to-use web platform, choose needed services, select available date, time, and mechanic for the appointment. To update and maintain appointment records, the system will also link with the motorshop's existing database. RBF Motorshop and Accessories may improve the convenience of appointment scheduling, reduce wait times, and increase overall customers' satisfaction through the use of this system. The used products for those who make an appointment in the motorshop will be deducted from the product quantity.

Additionally, the inventory management system using QR code will make it easy to track and manage motor accessories in the store effectively. Each product will be given a



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

10

unique QR code, which staff members will be able to scan to update inventory levels, check product availability, and increase the restocking process. The inventory management system will give a real-time supply updates, reducing the possibility of shortage and improving inventory management of RBF Motorshop and Accessories.

The participants of the study are only limited to the responses of the current employees, owners, and clients of RBF Motorshop and Accessories. It is focused only on scheduling and inventory management using QR codes. It is only available online and cannot be accessed offline. The administrator will be able to manage inventory. This system can only be used over the Internet and has some features that are not covered like Point of Sale.

Definition of Terms

The researchers prepared some words and terminologies that needs to be defined conceptually and operationally.

Conceptual terms

Administrator- Individuals in charge of administering the implemented of system “Online Scheduling and Inventory Management System using QR code.”

RBF Motorshop and Accessories- The chosen client of the researchers for the research study.

Customer- An individual who can make an appointment for the service of their motorcycle in the provided Online Scheduling. The one who is visiting to the shop for service or buying products or accessories.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

11

QR code- Which stands for “quick response” It is a comprehensible image that can be read instantly with a Smartphone camera. Every QR code is made up of a series of black squares and dots that represent different pieces of information.

Information- It refers to the data that have been gathered and organized.

Operational terms

Online scheduling - customers of the RBF Motorshop and Accessories who can make an appointment of the prepared date, time, and available mechanics for the service of their motorcycle through the internet.

Inventory management- the admin may use the implemented system to facilitate the inventory. Every product can easily be tracked by the use of system and it can be viewed if there are more stocks available.

Web-based-with its use it will speed up access to the implemented system as long as there is an internet connection.

Manual process- the current process of inventory is they just use a manual process where they only write on paper how many stocks or products they have.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

12

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter represents the relevant literature and studies that the researcher considered on strengthening the importance of the present study. It also presents the synthesis to fully understand the research for better comprehension of the study.

Online Scheduling

Online scheduling is a straightforward process in which it helps customers to adapt new technology that change the current way of transaction from face to face to online. This implies from the moment a client chooses the need to book by picking a date, picking a specific period of time and paying for the booking, everything is dealt with on the web, significantly lessening the burden on the staff and eliminating the entry for double scheduling of appointments. It simplifies the process for customers by allowing them to book services or appointments conveniently through the internet, eliminating the need for face-to-face interactions or phone calls. Online scheduling simplifies the booking process, improves customer satisfaction, and enhances operational efficiency for businesses. It provides a seamless and convenient experience, eliminating the need for face-to-face interactions and reducing the risk of errors or double bookings [6]. The appointments had to be made over the phone in the past. It took a lot of time for everyone involved. The retail employees had to manually arrange every booking due to the overwhelming number of calls and emails for appointment requests. Consider content for Electronic Appointment Scheduling, which has streamlined this process. Customers were no longer required to work with the store to find an



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

13

available booking. They can confirm their booking individually while conveniently checking all available appointments online. Customers often say that scheduling apps improve the in-store experience, provide more flexibility, cut down on wait times, and remove the stress of making phone or email appointments. The appointment scheduling procedure can be automated to save load on store staff. They get back many of the hours they would have spent on the phone setting up appointments, and they can now devote that time to duties that are more important. Because modern consumers like retailers and banks who employ digital technologies, a business is also more likely to gain new clients than its rivals [7].

Advantages of Online Scheduling Systems

The online scheduling and booking platform can help company make money. Customers may also be charged for missed appointments or late cancellations. Online scheduling can assist increase revenue. The ease with which content may be created, published, promoted, and sold online is another important advantage. Customers can select the package they want, or can combine the options. Although it might seem contradictory at first, making an appointment for a user really saves time. Additionally, online scheduling makes it easier for customers to use services. A excellent option to offer same-day or next-day lessons is using an online scheduling software. If a client's schedule becomes available, they can quickly plan these last-minute sessions. An appointment scheduling software makes it simple to deliver high-quality service that boosts Net Promoter Scores by facilitating customer encounters. A better customer lifetime value results from improved customer happiness, which also fosters brand loyalty. Few online programs like ours have an extra function to record client information at each stage at which they have interacted with the company. Any client, their preferences, and



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

14

behaviors can be stored in the context of this detail that has been preserved over a longer period of time.[9]

The fantastic thing about online booking forms is that it can be used them to advertise add-ons and extras to customers in order to upsell them on goods or services. If personnel were accepting reservations over the phone during a busy time, they might fail to mention some of these items. Because they will have more time to think things over, customers are also more inclined to upgrade their reservations and purchase extras

if they can do so online. Also System Bookings emphasize the one of the key advantages of online reservation systems is that they let clients make reservations at the time that suits them best. They can make their reservation using an internet booking system day or night without worrying about whether it is during regular business hours. If one has to stop to think about it, consumers are far more likely to make a reservation in the evening because they will have more time to browse the internet at their leisure than they would while at work. One stand, the best chance of drastically increasing the number of 24/7 online bookings.[10]

As stated by [11] Online scheduling is a tool that allows customers to arrange appointments through the website. The job will then be added to the calendar automatically. On the surface, it appears easy, but the advantages of an online appointment system are extensive. More work bookings result from an easier scheduling process. Teams will benefit from organized workflows, more productive workdays, and happier customers. With an efficient scheduling mechanism in place, office personnel can focus on their more important responsibilities, and the field employees can do more each day. And the benefits of online



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

15

scheduling are Customers can schedule services in a familiar space, New appointments go directly into diary, An online booking appointment system is quick and easy for customers, Online booking improves the customer scheduling journey, Online appointment systems easily convert new prospects, Customers can attach files of their issue and Reduce admin time spent booking jobs.

K. Wong emphasize that the study aims to help the staff/employees of TH Garment Center make their work faster by using the system where they can monitor the remaining products in the records where they can see in the database. Enhance work efficiency by utilizing a system that enables real-time monitoring of inventory levels and product records within the database. This system will offer valuable benefits to the company, such as improved transaction processes leading to increased profits. The inventory management process, provide employees with real-time information on product availability, and optimize transactions to increase profitability. Real-time inventory monitoring provides visibility into the entire supply chain. The movement of goods can be tracked from suppliers to the warehouse and then to customers. This visibility helps identify bottlenecks, optimize logistics, and ensure timely deliveries. The system will provide a good service to the company like better transaction process that brings bigger profit. The Researchers aimed to make a feature that will help the admin to directly be on the database where the stocks are stored and oversee the information of the customers and employees [12].

Inventory Management System



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

16

The inventory management system is a computer-based tool that helps businesses keep track of inventory levels, demands, transactions, and supplies. It can also be used in manufacturing businesses to manage work requests, resource invoices, and other related records. The inventory management software consolidates inventory information that was previously collected in hard copy format or spreadsheets. It is essential for business owners to implement an excellent inventory management system to maintain account records efficiently. Businesses invest a significant amount of money in stock, and organizing it is crucial to maximize financial gain. Manual approaches to inventory management can be cumbersome, so a computerized system would make the process more efficient and effective. A computerized inventory system that uses the association rule method can help create transactions, update stock items, keep records, generate reports for decision-making, and make stores more effective [13]. The technology helps small businesses compete with larger companies especially in the economic marketplace. Small and mid-sized businesses have come to rely on the use of computers and on computerization for business transactions, in particular inventory management system.

Inventory is accounting for the total goods, services, and materials in a factory, store, and other businesses. Inventory could be done manually, but the added requirement of business to track, monitor, and manage effectively the inventory of stocks, or services offered by the company is necessary in these modern times. Inventory management is a crucial aspect of running a successful business, whether it is a factory, store, or any other type of business. Maintaining an accurate record of the goods, services, and materials on hand is essential for efficient operations, customer satisfaction, and overall profitability [14].



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

17

Benefits of Inventory Management for Ecommerce Businesses

Based on Linnworks [15] The Inventory management enables tracking the purchase, storage, and sale of products at each stage, ensuring product availability and reducing production costs. It assists firms in keeping track of their inventory levels, allowing them to make informed decisions about how much to create and when. Inventory management approaches include just-in-time inventory management, which reduces storage costs by ensuring that adequate products are available at the appropriate moment. Regular cycle counts, which assist monitor stock correctness, and Economic order quantity, which helps establish the appropriate order size for inventory acquisition.

R.Kumar[16] has argued that companies often lose products in their inventory because of the fact that employees sometimes do not have the ability to check all of the products in their storage. An inventory management system is a solution for a business that is facing a problem in the area regulating the supply chain. An inventory management system is a software that helps the operators of the business manage the inventory more efficiently. The significance of this article by Jenkins to this research is that it focuses mainly on an inventory management system and how it works. In addition to this, it focuses on how an inventory management system can be helpful to a business.

C.A. Magallanes states that the inventory management system is one of the most secure ways to monitor products and stocks that the organization need. The inventory management system is essential for maintaining quality control in businesses that handle transactions involving customer items. With a simple database search, the Inventory Management System



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

18

makes it simple to discover and evaluate inventory information in real-time. Inventory management is complicated, and it has a significant impact on your company's bottom line. Using inventory management software eliminates inventory management errors, making firm more effective, profitable, and more equipped to service consumers. Inventory management is defined as a framework utilized by businesses to control their inventory management. It involves keeping track of stock levels, predicting future requests, and deciding when and how to reorder. Inventory management, on the other hand, is a technique that businesses employ to organize, store, and replace inventory in order to remain an acceptable provider of products while minimizing costs [17]. The Inventory management involves supervising and regulating the ordering, storage, and usage of materials used by a company to produce and sell goods. It has been widely implemented as a decision-making tool by numerous organizations and has been extensively researched in both academic and corporate settings. The objective of an inventory system is to keep track of pertinent information about items, such as their code, name, condition, location, and year of purchase, in order to facilitate their management. Creating an inventory list can be done either manually, by recording data by hand in books, or through computerized methods. Manual inventorying has several drawbacks, such as a higher risk of typographical errors when staff enters data. Despite this, many businesses still use manual processes to inventory and collect data on items. To address these issues, an inventory management system has been developed that utilizes a web-based application and a mobile application to facilitate inventorying and data collection. Quick Response (QR) Code technology is used to provide a unique tagging solution for each item, storing information from the server through a local network. This system implementation for inventory



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

19

management could be a viable solution for managing inventorying processes and storing information through QR Code technology.[18]

Effectiveness of Inventory Management

The Effective Inventory Management (IM) is crucial for a business's financial performance, as it is a top-ranking physical asset on the balance sheet. Therefore, IM should be well-managed, and replenishment rules should be applied for each item, as outlined in the strategies mentioned. The availability of the right stock in the right place and quantity is essential, while also being acquired at the lowest possible price. Stock-outs often occur when there is market demand, and insufficient stock is available for fast-selling items, leading to lost sales and decreased customer loyalty. Excessive stock leads to higher storage and handling costs, as well as interest from short-term borrowings. When selling, the company may experience a loss if materials are sold at a lower price than normal. The main goal of IM is to minimize total inventory costs and maximize profits in operations. Effective IM and inventory planning decisions, supported by inventory planning models, have been successful in many cases. Balancing the costs of acquiring and holding inventory is critical as they significantly affect the company's profitability. IM systems specify order quantities and re-order points with the intention of maximizing profits.[19]

The developing and implementing a strategy for managing inventory can pose challenges, but it is crucial for the long-term success of any e-commerce business. To begin with, having an appropriate stock of products available at all times is vital. This aspect is significant as it helps prevent stockouts, which can result to lost sales and dissatisfied



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

20

customers. Furthermore, efficient inventory management enables cost control. By avoiding overstocking, capital is not tied up in inventory that is not selling, allowing for better financial management. Additionally, inventory management aids in making informed decisions regarding the product mix. By gaining insights into the performance of individual products, businesses can determine which items are popular and which ones are not, facilitating strategic planning. Lastly, effective inventory management contributes to improved customer service. This aspect is critical as it encourages repeat purchases from satisfied customers and positive word-of-mouth referrals to friends and family, expanding the customer base [20]. Based on the research entitled “Computerized Sales and Inventory system for Ronmon Trading” (de Alday, Espino, Ragudo), 2019, The replacement of the manual system with the proposed system has resulted in numerous benefits, including enhanced efficiency and accuracy in transaction processing. The new system offers a higher level of reliability by reducing or eliminating errors and inaccurate information that were prevalent in the manual system. This improvement ensures that the data processed and stored by the system is more trustworthy and dependable. These reports provide comprehensive and reliable information that can be used for decision-making and analysis purposes. With the elimination of manual data entry and processing, the chances of errors or discrepancies in the generated reports are significantly reduced. This means that the management and users of the system can have confidence in the accuracy and integrity of the information.[21]

Purpose of Inventory Management System

J. Song, G.Houtum and J. Mieghem, states The purpose of inventory management is to enhance the utilization of resources and reduce customer response time. Companies have



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

21

the ability to produce goods ahead of actual demand and store them in inventory (known as "make to stock"). In this context, finished goods inventory acts as a substitute for production capacity, similar to how energy is stored in batteries. On the other hand, input inventories (such as raw materials, components, or subassemblies) are meant to prevent production downtime and thus complement production capacity by enhancing effective capacity. Depending on the position of inventory in relation to capacity along the supply chain, inventory and capacity can either be substitutes or complements. It is important to note that

inventory occupies physical space and ties up capital. The distribution of parts and final products often involves a network of central and regional distribution centers, as well as retail stores. Therefore, effective inventory planning is crucial to minimize the overall costs associated with inventory ordering, holding, and shortages. Traditional topics in inventory management include planning for single-stage or multistage (multi echelon) inventory, as well as determining optimal inventory control methods, which can be either static or dynamic in nature. [22]

As stated by [23] The Inventory Management System (IMS) is a software that assists firms who operate hardware stores in keeping track of sales and purchases. Mismanaged inventory leads to dissatisfied consumers, excess cash in warehouses, and slower sales. Inventory Management Systems will be able to track sales and available inventory, as well as tell a storeowner when to reorder and how much to buy. Inventory management keeps track of the items as they move through the process using a range of data, including lot numbers, serial numbers, cost of goods, quantity of goods, and the dates when they move through the process.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

22

PHP

PHP (Hypertext Processor) is a free and widely used general-purpose scripting language and interpreter for web development. The language is largely used for server-side scripting, although it is also useful for command-line scripting and, to a lesser extent, desktop applications. PHP was initially an abbreviation for Personal Home Page Tools, but it now stands for PHP: Hypertext Preprocessor, which the PHP Group characterizes as a "recursive acronym." [24]. PHP is an abbreviation for Hypertext Preprocessor. It is a server-side scripting language, which means that applications built in it run on web servers rather than on online browsers. The syntax of PHP is similar to that of C. Rasmus Lerdorf invented it in 1995. PHP is widely used in web application development and has emerged as one of the primary languages used by developers to create new applications. Leading social networking sites such as Facebook and reputable organizations such as Harvard University both use PHP, which improves PHP's popularity and legitimacy. However, its area of application has evolved over time, and today PHP coding language is regarded as among the simplest and trendiest programming tools for web development due to its numerous benefits, which are the primary focus of this work. It is regarded as a very effective technology that provides a convenient development process with numerous additional instruments to aid it. In fact, according to the Programming Language Index (PYPL), PHP is the world's fifth most popular coding language [25].

SQL



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

23

Structured query language (SQL) is a programming language used to store and process data in relational databases. A relational database is a tabular database that stores information in tabular form, with rows and columns reflecting different data qualities and the various relationships between the data values. SQL statements can be used to store, update, delete, search, and retrieve data from a database. SQL can also be used to maintain and improve database performance [26]. The Benefits of using SQL; Commonality-The language's commonality is one of the primary advantages of adopting SQL. It is useful in a variety of IT systems and can be combined with a variety of other languages. The language's familiarity can benefit newcomers to the field because they are likely to utilize SQL throughout their careers. SQL's universality also helps to ease of application, which can benefit a company's production and efficiency. SQL may be simply applied by a novice programmer to any IT systems that their firm utilizes. Another advantage of adopting SQL is the language's simplicity. SQL commands are commonly used English terms that can help programmers comprehend what they're asking the language to perform. Furthermore, the language's simplicity can enable new specialists in the industry learn more rapidly. Because of its easy syntax, even experts with little to no coding experience may master the fundamentals of SQL. Speed-SQL has the ability to operate at a high pace. This rapid speed can boost the amount of data retrieval completed by an expert. It can give users with a rapid and effective means to obtain, alter, or store data [25].

E. Setyawati and H. Hariri states that the advancement of internet technology and its applications creates an optimal environment for establishing a scientific research management information system. Numerous studies have explored the impact of web-based management information systems on service development across diverse organizations and countries.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

24

Currently, a web-based management information system proves to be a suitable solution. Employing search and review methods, the investigation commenced with queries on Google Scholar and IEEE, using keywords such as "web-based management system information for services development." The literature review concludes that there is a positive and significant influence of web-based management information systems on services development. Future research endeavors will further assist organizations in assessing the quality of their web-based services, proposing enhancements, and ultimately integrating their websites into upcoming services. It's essential to note that this study encompasses various cases, and its findings specifically pertain to web-based management information systems for services development, applicable to a wide range of organizations and countries [28].

Synthesis

This chapter shows how the researchers gathered and reviewed a wide-range of research-related literature and studies. This section helps to understand the subject for developing the research more thoroughly. The researchers use and provide for the proposed method, a web-based system, using the various resources.

Moreover the research study focus on the web-based for online scheduling and inventory management system. Online scheduling is a technology that allows customers to make appointments over the website. With the used of this, online scheduling may increase customer satisfaction because it allows them to monitor availability and make appointments from any device at any time, without having to wait for office hours. They can make their reservation at any time of day or night by using an internet booking system. Customer are



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

25

significantly more likely to make a reservation in the evening because they will have more time to browse the internet at their leisure than they would while at work. One has the best possibility of dramatically increasing the number of bookings for the customers with a 24-hour online booking system.

In terms of Inventory management, it will help businesses keep track of inventory levels, demands, transactions, and supplies. Maintaining an accurate record of the goods, services, and materials on hand is essential for efficient operations, customer satisfaction, and overall profitability. And by using QR code makes it easier to track the record of the supplies and to provide a unique tagging solution for each item, storing information from the server through a local network.

Overall, the findings from the relevant studies would help to provide solutions for scheduling and inventory management to optimize processes. The researchers are working on creating a web-based system that will be able to easily make an appointment and track the products of the motorshop. The implemented system has an easy-to-use interface that will help in stock management, its ability to enable real-time stock monitoring.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

26

Chapter III

Methodology

This chapter discussed the methodologies that the researchers used to perform the research objectives. The researchers stated the following methodologies: research design, research locale, the population of the study, data gathering tools, data gathering procedures, data analysis plan, and software development methodology. In this chapter, the system development depends on the proposed system.

Research Design

The researchers will develop the system using the mixed-methods research strategy and will be used for this project, which will integrate qualitative and quantitative data gathering and analysis methodologies. RBF customers and employees that have used or interacted with the Online Scheduling and Inventory Management System using QR code for RBF will be included in the study.

Convenience sampling is a quick and straightforward approach to get data. It is a type of sampling that does not rely on chance and is frequently employed in research investigations. This sampling strategy entails selecting subjects who are simple for the researcher to contact. It might be advantageous for businesses to solicit feedback from their stakeholders or customers. By choosing people who have interacted with the company or utilized its products/services, businesses can gather insightful information and feedback. [26].



CITY COLLEGE OF CALAMBA

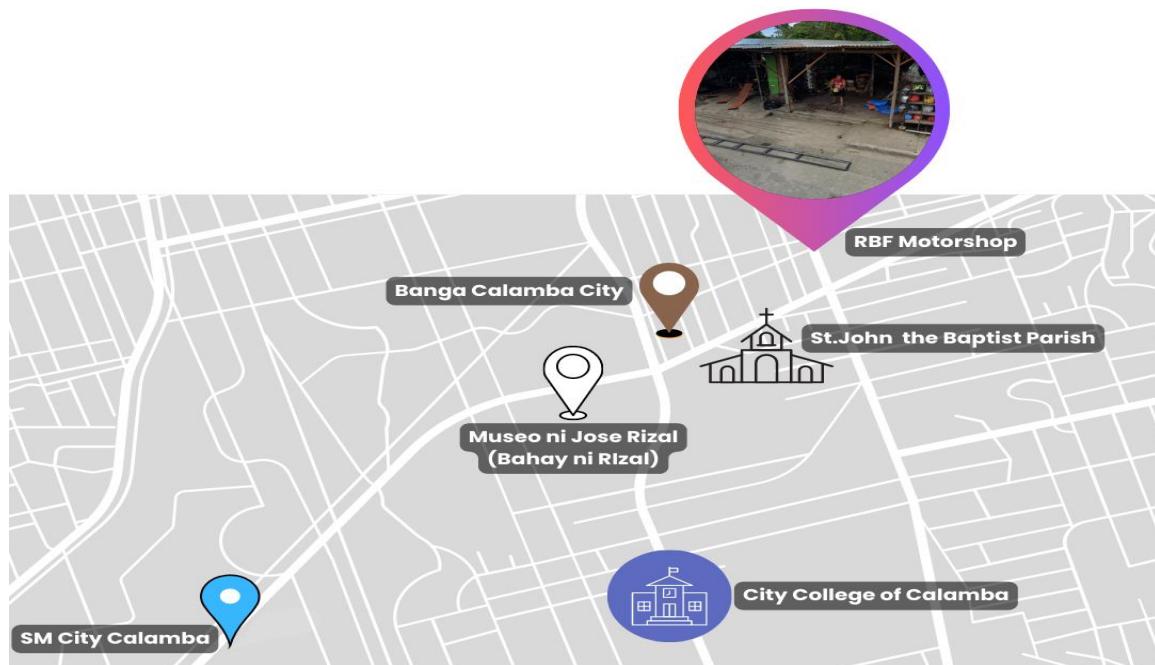
DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

27

Convenience sampling will be used in the study to select individuals who are RBF customers and employees. Customers will be selected based on their prior experience with the Online Scheduling and Inventory Management System using QR code for RBF, while employees will be determined based on their participation in using or implementing the system.

Research Locale

The study was implemented in RBF Motorshop and Accessories situated at M.H.del Pilar St, Calamba, Laguna and Mabuhay City Road Cabuyao, Laguna since the respondents of the Online Scheduling and Inventory Management System were the employees and customers of the shop. The main branch of RBF Motorshop and Accessories was established in the year 2016, it has been operating for more than seven years. The other branch was existed in the year 2022.





CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

28

Figure 3-1. Map of Main Branch of RBF Motorshop and Accessories



Figure 3-2. Map of Main Branch of RBF Motorshop and Accessories

Population of the Study

Respondents	Population
Owner	1
Employee	5
Customer	10
Total	16

Table 3-1. Population of the Study



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

29

The population of the study are the two branches of the motorshop including the owner, employees and customer. We got the customer based on the average of daily customers of the motorshop.

Sampling Method

The researchers used a convenience sampling, Convenience sampling is a type of sampling where the first available primary data source will be used for the research without additional requirements. In other words, this sampling method involves getting participants wherever they are and typically wherever is convenient. In convenience sampling, no inclusion criteria identified prior to the selection of subjects. All subjects are invited to participate. It is a method that relies on data collection from population members who are conveniently available to participate in study. [27].

Data Gathering Tools

The researcher made used of qualitative and quantitative tools in collecting data. To obtain the data and information, the researchers conducted a survey questionnaire and interviews, that will help a lot in developing system.

Survey Questionnaire

The survey questionnaire is the first tool used in data collection. Also the tool used to collect data from the respondents. The researchers make a set of questionnaires in order to get more information that we can used in the study.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

30

Interview

Interviews were used to gather information from a respondent; data is gathered through direct verbal interaction between the interviewer and the respondent. Throughout the data collection procedure, interviews were used. The researchers conducted interviews at the RBF's Motorshop and Accessories to answer the questions provided.

Data Gathering Procedure

The Researcher's decided what design model our research is going to base on. It is imperative to continue following the systematic procedure and start working on data procedure and also have to decide how we are going to collect. In addition, it is important to mention that the researchers going to collect data according on how relevant it can be with the research as well as its effectiveness. The researcher's were aware of all the possible difficulties there may face throughout the data collection process. Next the researcher's job was to find a client for a web-based system thesis and checked with our research adviser if the found client for thesis is qualified. After identifying a potential client for the web-based system thesis, the next step was to conduct an initial interview with the client, this interview serves as an opportunity to understand the client's needs, challenges, and how a web-based system can support and enhance their work processes. During the interview, the researchers gather the important and relevant information about the client's business and their current operations. Next is the researchers prepared an appointment letter detailing the date, time, and location of the next interview. In the letter also included a brief summary of the topics to be discussed, emphasizing the focus on gaining further knowledge about the client's business processes and requirements for the web-based system. Before finalizing the letter, we sought the guidance



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

31

and approval of our thesis advisor for the second interview to formalize the appointment. Next, the researcher gave the appointment letter to the client to ensure that they were well-informed and prepared for the upcoming interview. During the follow-up interview, we made sure to record the client's responses to our questions for documentation that serves as valuable backup and reference material for the researcher.

Data Analysis Plan

PROBLEM STATEMENT	PROCEDURE	SOURCE OF DATA	STATISTICAL ANALYSIS
1. What are existing problems with the current process of RBF motorshop and accessories in terms of: 1.1. Online Scheduling; 1.2. Inventory	Interview, Research	Statements from RBF motor shop, Owner	Qualitative
2. What system can be proposed to help reduce or solve the existing problems with the current process of Online Scheduling and Inventory Management System for RBF motorshop and accessories?	Interview, Survey	Statements from RBF motor shop, Owner	Qualitative
3. To assess the feasibility of the proposed system in terms of: 3.1. Technical; 3.2. Operational; 3.3. Schedule; and 3.4. Cost Benefit.	Survey	Statements from RBF motor shop, Owner	Quantitative



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

32

4. To evaluate the level of usefulness of the system the ISO-25010 in terms of: 4.1. Functionality; 4.2. Efficiency; 4.3. Security; 4.4. Usability; and 4.5. Reliability	Survey	Statements from RBF motor shop, Owner	Quantitative
---	--------	---------------------------------------	--------------

Table 3-2 Data Analysis Plan

This table shows the data analysis plan of the study. It defines the problem, the procedures used in addressing the problem, the sources of data, and the statistical analysis used in analyzing the gathered data. A data analysis plan is on how the researchers managed the gathered data from their questionnaires to find out the result.

Software Development Methodology

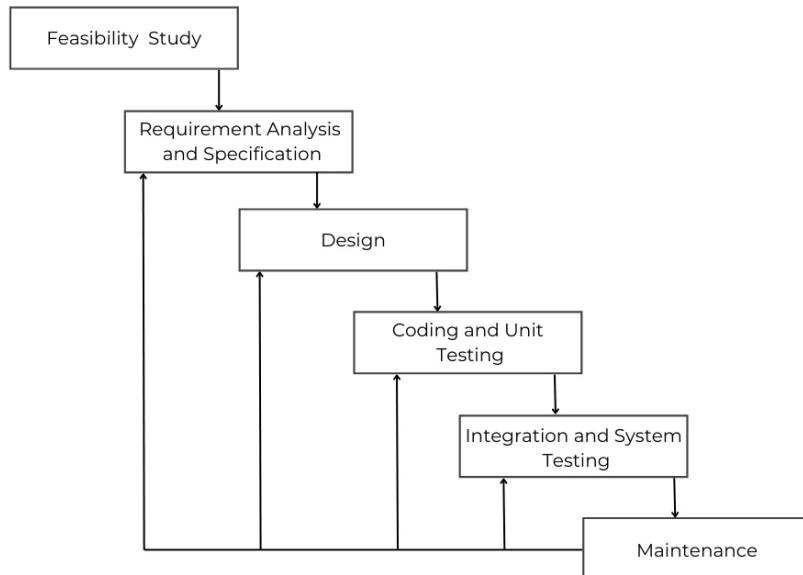


Figure 3-3. Waterfall Model



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

33

The Waterfall model is a sequential software development process that follows a linear and cascading approach. It is called the "Waterfall" model because progress flows steadily from one phase to another, like a waterfall flowing downward.

Phase 1: Requirements

During the requirement gathering phase, the researchers prepared a set of interview questions to gather information from the Owner of RBF Motor Shop. They collected the necessary data to facilitate the software development process and then organized it systematically to initiate the planning phase for system development.

Phase 1.1: Flowchart

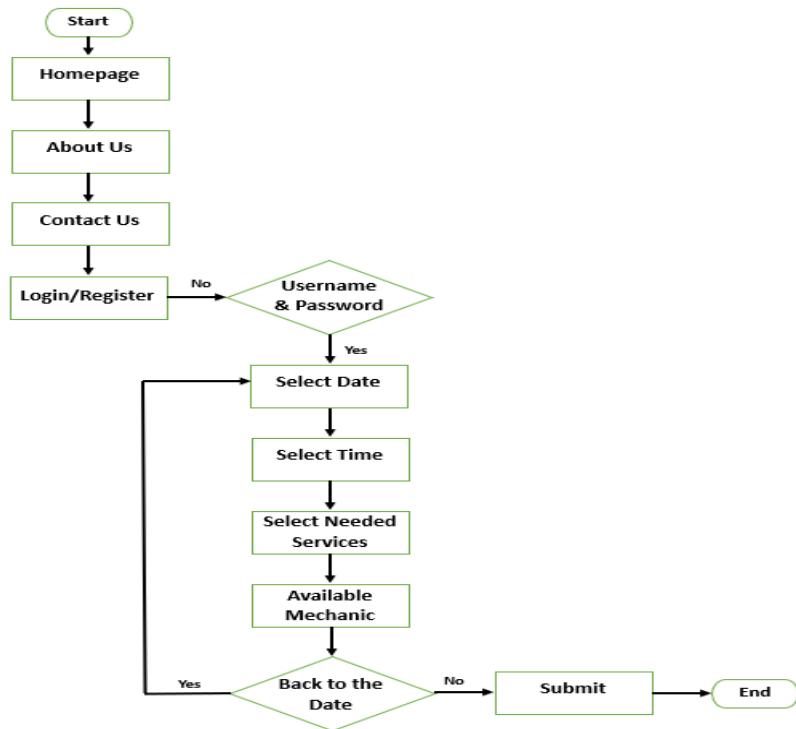


Figure 3-4 Flowchart of Online Scheduling



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

34

Based on the figure, upon starting the web-based system, in the point of view of the user, it will show the homepage of the system. To use the system, the user should register an account to start the system. User can use their name as their username. Upon registering an account, logging in on the account will direct to the online scheduling. User can view or select the date and time, select needed services and available mechanic. Once the appointment is confirmed, if they change their decision to change the date or time, it can reselect the date, time and available mechanic. It will reflect the schedule to the owner/admin.

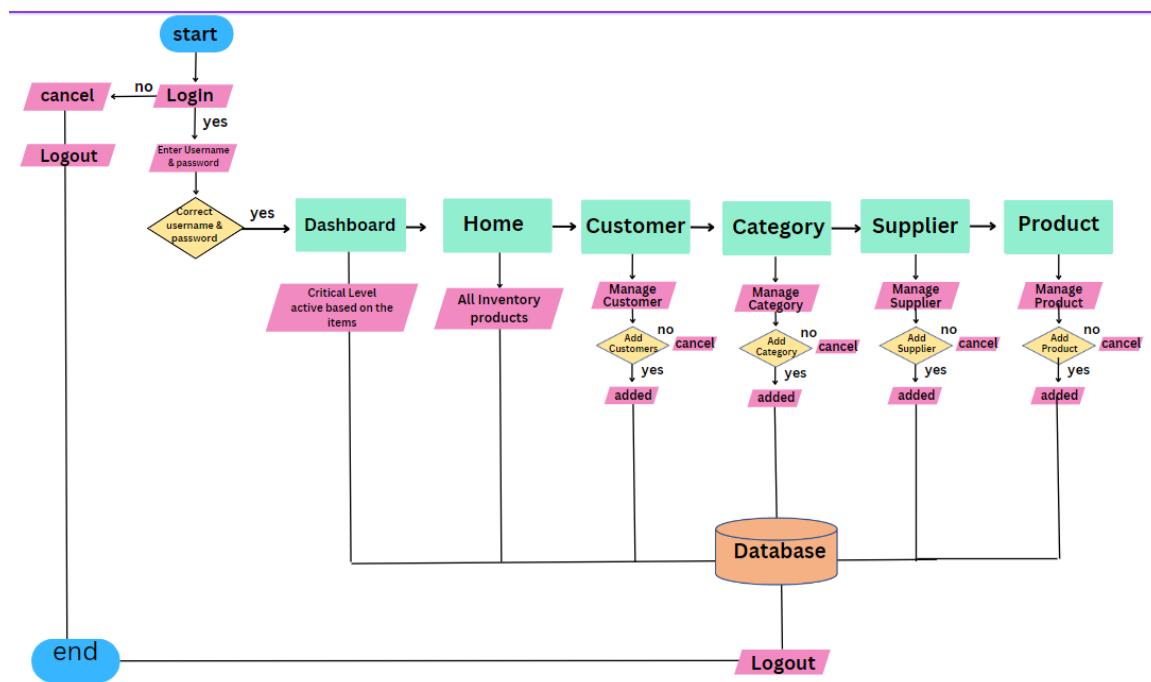


Figure 3-5 Flowchart of Inventory Management System

Based on the figure 3-5 upon starting the system, in the point of view of the users, to use the system, admin and user should register an account to start the system. User can use their name as their username. Upon registering an account, logging on an account will direct to the inventory management system. User can view all parts of the system; first is dashboard,



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

35

homepage and also category. Admin can view all the details about the system that they will configure and Admin can manage users, all categories, manage customer and manage all products in the system. All the parts of this system that will be connected in the database.

Phase 2: Design

When developing the Online Scheduling and Inventory Management System using Qr code for the RBF Motor Shop, the researchers designed a web-based system based to the gathered information from the Owner of RBF Motor Shop. It was discovered that the organization relied on outdated methods such as written records and lacked a proper management system. As the researchers gathered more information from various sources, they started designing the system from scratch. Their objective was to create a user-friendly interface that would streamline data processing and enable effective communication within the organization.

Phase 2.1: Proposed Screen Layout

The researchers have developed a prototype that addresses the needs and requirements of RBF Motorshop and Accessories. It includes features such as a login page, inventory management, user account access settings, system notifications and backup, and analytic reports.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

36

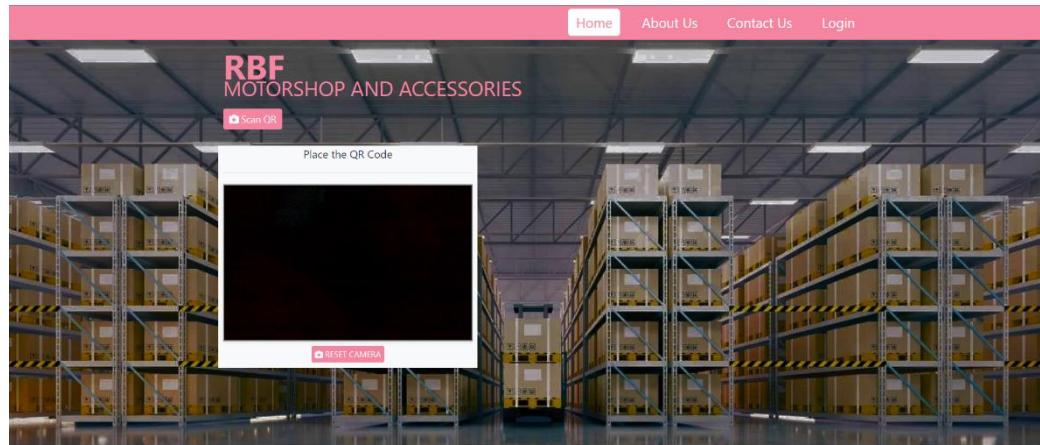


Figure 3-6 Homepage

This is our homepage that contains our qr scanner to scan the qr code that provide our system and also about us, contact us and log in page, this page clients and administrator can view this homepage.

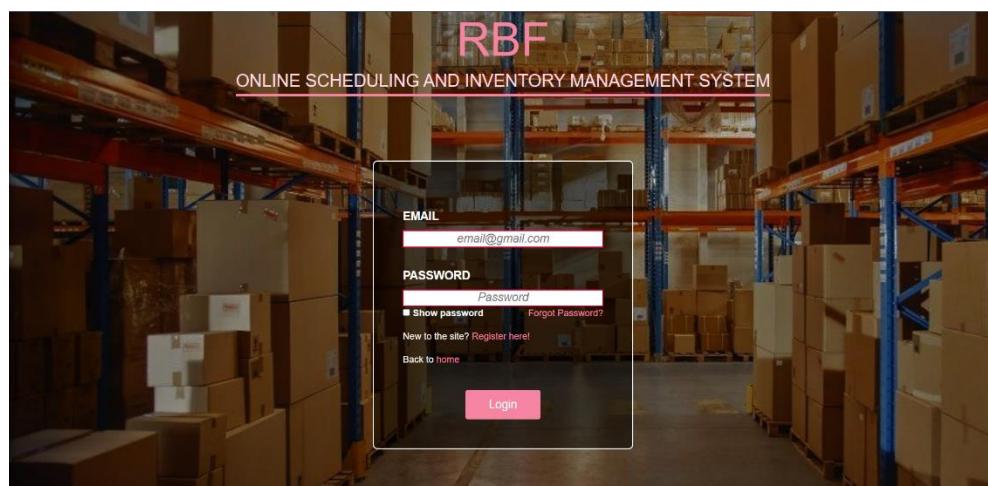


Figure 3-7 Login Page



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

37

In order to access the system, users must first navigate to the login page. On this page, they are prompted to enter their credentials, which are then validated by the system. If the credentials are correct and access is granted, the user is then redirected to the inside of system where they can interact with the system's features and functionalities.

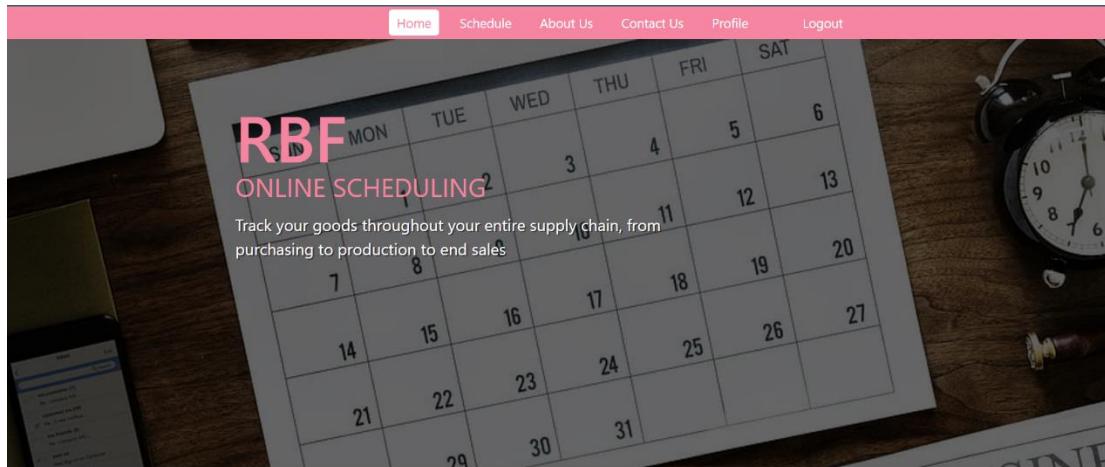


Figure 3-8 Online Scheduling

This section is homepage of our online scheduling system, that you may reserve a schedule through online using the web-based system.

A screenshot of a web-based application titled "Schedule Records". The header includes links for Home, Schedule, About Us, Contact Us, Profile, and Logout. The main content shows a table with one entry. The table has columns: MECHANIC NAME, SERVICES, SCHEDULED DATE-TIME, STATUS, and TOOLS. The entry is: "No Mechanic Assigned" for services "Gasket Cylinder" on "January 24, 2024 - 10:05 AM" with status "Pending". Below the table are buttons for View, Edit, Delete, and Print. At the bottom, it says "Showing 1 to 1 of 1 entries" and has navigation buttons for Previous and Next.

Figure 3-9 Schedule

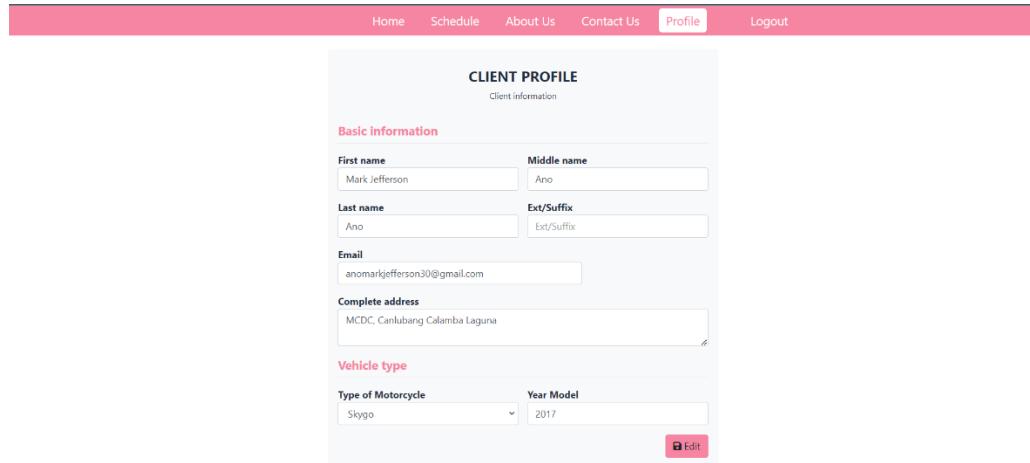


CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

38

This section shows that you will able to set a schedule for consult your motor, and in this page you can able to set a date and time for reservation.



A screenshot of a web-based client profile form. At the top, there is a navigation bar with links: Home, Schedule, About Us, Contact Us, Profile (which is highlighted in red), and Logout. Below the navigation bar is a section titled "CLIENT PROFILE" with a sub-section "Client information". This section contains fields for "First name" (Mark Jefferson), "Middle name" (Ano), "Last name" (Ano), "Ext/Suffix" (Ext/Suffix), "Email" (anomarkjefferson30@gmail.com), and "Complete address" (MCDC, Canlubang Calamba Laguna). Under "Vehicle type", there is a dropdown menu for "Type of Motorcycle" (Skygo) and a field for "Year Model" (2017). A small "Edit" button is located at the bottom right of the form area.

Figure 3-10 Client Profile

This page displays basic information about the client and you will able to edit all basic information and administrator can also view your profile and able to edit your basic information.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

39

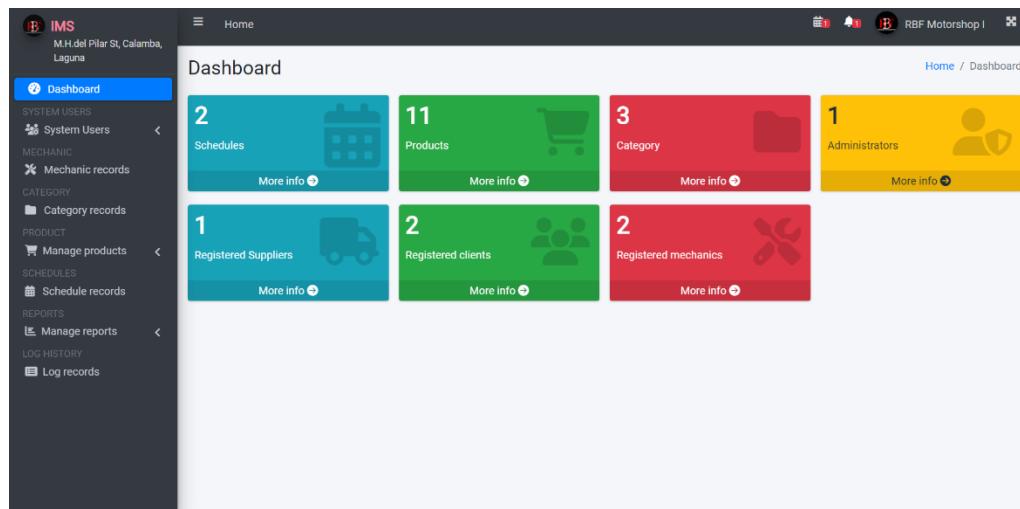


Figure 3-11 Dashboard

In this figure administrator and staff can view the schedules, products, category, administrator, registered suppliers, registered clients, register records and log records on this page and also administrator and staff can manage it.

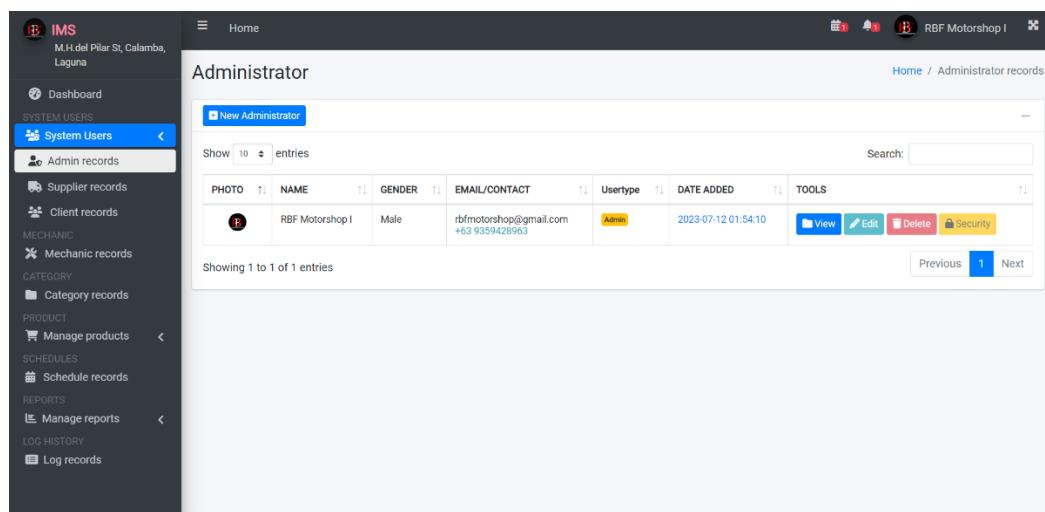


Figure 3-12 Admin Record



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

40

This figure only administrator can view this page and also can manage, it can view all information of staff and able to edit, delete and check the security of each account.

The screenshot shows a web-based application interface for managing supplier records. The left sidebar menu includes options like Dashboard, System Users, Admin records, Supplier records (which is currently selected), Client records, Mechanic records, Category records, Manage products, Schedule records, Reports, and Log history. The main content area is titled 'Supplier' and shows a table with one entry. The table columns are PHOTO, NAME, GENDER, EMAIL/CONTACT, DATE ADDED, and TOOLS. The entry details are: Gilbert Magsaysay (Female), gilbertmagsaysay@gmail.com +63 9097748083, added on 2024-01-16 00:00:00. The TOOLS column contains buttons for View, Edit, Delete, and Security. Navigation buttons at the bottom allow for previous and next entries.

Figure 3-13 Supplier Record

This is all about the account of the supplier of the shop, and administrator and staff can manage this page like add to new supplier and also view all accounts, edit information and delete the account.

The screenshot shows a web-based application interface for managing client records. The left sidebar menu includes options like Dashboard, System Users, Admin records, Supplier records, Client records (which is currently selected), Mechanic records, Category records, Manage products, Schedule records, Reports, and Log history. The main content area is titled 'Client' and shows a 'Basic Information' form on the left and a table of client records on the right. The table columns are NAME, EMAIL, ADDRESS, DATE ADDED, and TOOLS. Two entries are listed: Cess Husena (cesshusena@gmail.com, Banlic Calamba Laguna, January 16, 2024) and Mark Jefferson D'Ano (anomarkjefferson30@gmail.com, MCDC, Caralubang Calamba Laguna, January 16, 2024). The TOOLS column for each entry has 'Edit' and 'Delete' buttons. Navigation buttons at the bottom allow for previous and next entries.

Figure 3-14 Client Record



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

41

This is all the client account of the shop, and administrator and staff can manage this page like add to new client and also view basic information of client, edit information and delete the account of the registered client.

The screenshot shows a web-based application for managing mechanic records. The left sidebar menu includes: Dashboard, SYSTEM USERS, MECHANIC (selected), CATEGORY, PRODUCT, SCHEDULES, REPORTS, LOG HISTORY, and Log records. The main content area has a title 'Mechanic' and a sub-section 'Basic information' containing fields for First name, Middle name, Last name, Ext/Suffix, Email, Contact number, and Complete address. To the right is a table listing two mechanics:

NAME	EMAIL/CONTACT	ADDRESS	STATUS	DATE ADDED	TOOLS
Arvin Capunutan	Arvinctapunutan@gmail.com +63 9097748086	Purok 5, Calamba Laguna	Available	January 16, 2024	Edit Delete Status
Carl Briones	Carlbriones@gmail.com +63 9097748087	Brgy. 5 Calamba Laguna	Available	January 16, 2024	Edit Delete Status

Showing 1 to 2 of 2 entries

Figure 3-15 Mechanic Record

This figure shows the mechanic accounts, administrator and staff will able to edit the information including the mechanic records

The screenshot shows a web-based application for managing category records. The left sidebar menu includes: Dashboard, SYSTEM USERS, MECHANIC, CATEGORY (selected), PRODUCT, SCHEDULES, REPORTS, LOG HISTORY, and Log records. The main content area has a title 'Category' and a sub-section 'New Category' containing a single button. To the right is a table listing three categories:

Category name	Category description	Tools
Helmet	For safety gears	Edit Delete
Motor Oil	Its used to change oil	Edit Delete
Motor Parts	To support the motor and to maintain a safety	Edit Delete

Showing 1 to 3 of 3 entries

Figure 3-16 Category



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

42

This figure shows all the records of category, in this page administrator and staff can access this page and view the category name and its description and also able to edit all records.

The screenshot shows a web-based inventory management system. The left sidebar has a dark theme with white text and icons. It includes sections for SYSTEM USERS, MECHANIC, CATEGORY, and PRODUCT. Under PRODUCT, 'Manage products' is selected, which further branches into 'Product records' and 'Archived products'. The main content area is titled 'Product' and shows a table of product records. The table columns are QR CODE, PRODUCT ID, CATEGORY, PRODUCT NAME, STOCK, DATE ADDED, and TOOLS. Each row contains a QR code icon, a unique product ID, the category it belongs to (e.g., Helmet, Motor Oil), the product name (e.g., EVO Helmet, Gear Oil), the current stock level, the date it was added, and a set of three buttons labeled 'View', 'Archive', and 'Delete'. There are 11 entries listed, with entries 1 through 10 visible and entry 11 partially visible. Navigation buttons at the bottom allow for 'Previous', 'Next', and page number selection (1, 2).

QR CODE	PRODUCT ID	CATEGORY	PRODUCT NAME	STOCK	DATE ADDED	TOOLS
	00000001	Helmet	EVO Helmet	33	January 23, 2024	
	00000002	Motor Oil	Gear Oil	247	January 16, 2024	
	00000003	Motor Oil	ZIC X7 Motor Oil	257	January 16, 2024	
	00000004	Motor Parts	Spark Plug	237	January 16, 2024	
	00000005	Motor Parts	Headlight Bulb	10	January 16, 2024	
	00000006	Helmet	Helmet_	256	January 16, 2024	
	00000007	Motor Parts	Cylinder	237	January 16, 2024	
	00000008	Motor Parts	Winker	58	January 16, 2024	
	00000009	Motor Parts	Piston	344	January 16, 2024	
	00000010	Motor Parts	Belt Drive	333	January 16, 2024	

Figure 3-17 Products

This section administration can add new products to the system, update existing product information, and delete old or outdated product data. The inventory system feature is a powerful tool that allows users to manage their product data and information.

The screenshot shows the same inventory management system, but the main content area is titled 'Archived product'. This page lists three entries that have been moved from the active product list. The table structure is identical to the 'Product' list, with columns for QR CODE, PRODUCT ID, CATEGORY, PRODUCT NAME, STOCK, DATE ADDED, and TOOLS. The entries are: 00000001 (Helmet, EVO Helmet, 33, January 23, 2024), 00000002 (Motor Oil, Gear Oil, 247, January 16, 2024), and 00000003 (Motor Oil, ZIC X7 Motor Oil, 257, January 16, 2024). Each entry has a set of three buttons: 'View', 'Unarchive', and 'Delete'. Navigation buttons at the bottom allow for 'Previous', 'Next', and page number selection (1, 2).

QR CODE	PRODUCT ID	CATEGORY	PRODUCT NAME	STOCK	DATE ADDED	TOOLS
	00000001	Helmet	EVO Helmet	33	January 23, 2024	
	00000002	Motor Oil	Gear Oil	247	January 16, 2024	
	00000003	Motor Oil	ZIC X7 Motor Oil	257	January 16, 2024	

Figure 3-18 Archive Products



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

43

This section administrator can easily access all the product and transport to the archived, and it able to print out all the records in this page.

The screenshot shows the 'Schedule' section of the IMS system. On the left, a sidebar menu includes 'Dashboard', 'SYSTEM USERS', 'MECHANIC', 'CATEGORY', 'PRODUCT', 'SCHEDULES', 'Schedule records' (which is highlighted in blue), 'REPORTS', 'Manage reports', and 'LOG HISTORY'. The main content area displays a table titled 'Schedule' with two entries:

CLIENT NAME	MECHANIC NAME	SERVICES	SCHEDULED DATE-TIME	STATUS	TOOLS
Cess Husena	No Mechanic Available	Spark Plug	January 31, 2024 - 08:00 AM	Denied	View Assign Approve Deny Delete
Mark Jefferson D Ano	No Mechanic Available	Gasket Cylinder	January 24, 2024 - 10:05 AM	Pending	View Assign Approve Deny Delete

Below the table, a message says 'Showing 1 to 2 of 2 entries'. To the right, there is a calendar for January 2024 with specific days highlighted in green and yellow, corresponding to the scheduled tasks.

Figure 3-19 Schedule Records

This page shows all the schedule in a branch and only admin and staff can access this page, and to edit all records of scheduling.

The screenshot shows the 'Log history records' section of the IMS system. The sidebar menu is identical to Figure 3-19. The main content area displays a table titled 'Log history records' with 10 entries:

#	SYSTEM USER	USERTYPE	DATE AND TIME LOGGED IN	DATE AND TIME LOGGED OUT
1	RBF Motorshop I	Admin	January 23, 2024 10:59 PM	On-going session
2	Super admin	Superadmin	January 23, 2024 10:54 PM	January 23, 2024 10:58 AM
3	Super admin	Superadmin	January 23, 2024 10:45 PM	On-going session
4	RBF Motorshop I	Admin	January 23, 2024 10:33 PM	January 23, 2024 10:54 AM
5	Super admin	Superadmin	January 23, 2024 05:18 AM	January 23, 2024 05:21 AM
6	RBF Motorshop I	Admin	January 22, 2024 01:18 PM	On-going session
7	RBF Motorshop I	Admin	January 19, 2024 06:44 PM	On-going session
8	RBF Motorshop I	Admin	January 18, 2024 04:10 PM	January 18, 2024 04:13 AM
9	Super admin	Superadmin	January 18, 2024 04:09 PM	January 18, 2024 04:10 AM
10	RBF Motorshop I	Admin	January 18, 2024 04:08 PM	On-going session

Below the table, a message says 'Showing 1 to 10 of 89 entries'. At the bottom right, there is a navigation bar with links for 'Previous', page numbers (1, 2, 3, 4, 5, ..., 9, Next), and a search bar.

Figure 3-20 Log History



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

44

In this page administrator and staff can view all the records of log history to aware the all the login in that day and you can view the time of log in and logout session.

Phase 3: Development

This study aims to investigate various aspects of the system, encompassing its design, usability, members' experience, and features. The primary objectives of this research are to create a user-friendly system that enhances the members' experience, improves organizational efficiency, and facilitates communication for the organization. The programming languages employed by the developer include PHP, HTML, CSS, and MySQL. PHP is often combined with HTML and CSS to format HTML components, since the scripting language works well with CSS. Moreover, the system is being developed using the MySQL component of the XAMPP program. To evaluate the effectiveness of the system, the research team plans to develop a prototype and conduct user testing. They will also gather member feedback and make necessary modifications to the system based on the findings.

Phase 4: Testing

During the Testing phase, the researchers will ensure that the system is fully functional and meets the specified standards. They will devise a comprehensive testing strategy that incorporates both automated and manual testing techniques to thoroughly examine every aspect of the system. This may involve conducting unit tests to verify the proper functioning of the individual components, conduct integration tests to ensure smooth interaction between different parts of the system, and acceptance tests to validate that the system fulfills end users' requirements. Any identified flaws will be addressed and necessary adjustments will be made



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

45

to ensure the system's complete functionality and compliance with relevant criteria. Once testing is completed and all issues are resolved, the system will be prepared for deployment in the production environment.

Phase 5: Deployment

In the deployment phase, the researchers ensure that the system is ready for implementation in a real-world scenario. This involves tasks such as preparing production servers, configuring the production database, and installing any necessary monitoring and alerting systems. The development team collaborates with the operations team to create a deployment strategy that outlines the specific steps for transferring the system from the development environment to the production environment. Before being deployed to the production environment, the system may undergo testing in a staging environment to ensure that it functions properly. Once the deployment strategy is established and all requirements are met, the development team deploys the system to the production environment and confirms its complete functionality.

Phase 6: Maintenance

In the maintenance phase, the researchers are responsible for resolving any identified bugs or defects in the software that are discovered after its deployment. These issues can be reported by users or detected through monitoring and testing procedures. The development team investigates and resolves the bugs to ensure that the software operates according to its intended functionality.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

46

Chapter IV

RESULTS AND DISCUSSION

This chapter covered how the researchers obtained the results after evaluating the system's performance and achieved all the objectives of the study. The data from the survey that the researchers conducted was also covered in this chapter, along with how the data were interpreted.

1. To identify the existing problems with the current process of RBF Motorshop and Accessories in terms of online scheduling and inventory;

This objective was addressed by exploring different aspects related to online scheduling and inventory management in the context of the RBF motorshop. Through an interview with the Admin of RBF motorshop, the researchers identified the challenges faced by the client when using manual processes for scheduling and managing inventory in RBF motorshop.

According to K. Wong [12] emphasized that the study aimed to help the staff/employees of TH Garment Center make their work faster by using the system where they can monitor the remaining products in the records where they can see in the database. Enhance work efficiency by utilizing a system that enables real-time monitoring of inventory levels and product records within the database. This system will offer valuable benefits to the company, such as improved transaction processes leading to increased profits.

The researchers assisted the owner of RBF motorshop in achieving operational efficiency through the implementation of a web-based system. This system involves the



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

47

maintenance of a database for products and the facilitation of online scheduling. The online scheduling and inventory management system are upheld by the storage, organization, and analysis of data, effectively eliminating the need for manual processes.

This analysis served as a valuable tool for the researchers, allowing them to gain a comprehensive understanding of the difficulties that RBF motorshop encounters in maintaining efficient online scheduling and inventory management. Through a detailed examination of various facets, such as workflow processes, technological limitations, and user experiences. This expanded understanding lays the groundwork for developing targeted solutions and improvements to enhance the overall effectiveness and productivity of the online scheduling and inventory management systems at RBF motorshop.

2. To proposed a Web-based Online Scheduling and Inventory Management

System can be proposed to help reduce or solve the existing problems with the current process of for RBF Motorshop and Accessories.

The objective was to proposed of a web-based system for online scheduling and inventory management, with the goal of mitigating the challenges associated with the current processes at RBF motorshop, can be addressed through the insights gained from various studies. Specifically, the implementation of online scheduling and inventory management system is crucial in achieving this objective.

Based on Linnworks [15] The Inventory management enables tracking the purchase, storage, and sale of products at each stage, ensuring product availability and reducing production costs. It assists firms in keeping track of their inventory levels, allowing them to



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

48

make informed decisions about how much to create and when. Inventory management approaches include just-in-time inventory management, which reduces storage costs by ensuring that adequate products are available at the appropriate moment.

Furthermore, as stated by [11] Online scheduling is a tool that allows customers to arrange appointments through the website. The job will then be added to the calendar automatically. On the surface, it appears easy, but the advantages of an online appointment system are extensive. More work bookings result from an easier scheduling process.

3. To assess the feasibility of the proposed system in terms of;

Assess the current process to determine if it can support the proposed system.

Evaluate the compatibility of software components, scalability and security measures.

3.1. Technical

The existing technology infrastructure of RBF motorshop is found to be capable of supporting the implementation of the web-based system. The servers, network, and hardware meet the requirements for hosting and running the application. The necessary software components, such as web servers, database management systems, and development frameworks, have been identified and are compatible with RBF motorshop existing systems. The software stack is well-suited for the requirements of the scheduling and inventory management system.

In terms of hardware, the servers are equipped to handle the computational demands of the web-based system. The network infrastructure exhibits the necessary bandwidth and connectivity to ensure smooth communication and data transfer. The hardware components



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

49

collectively provide the foundation required for the successful deployment and operation of the proposed system. The identification of essential software components, encompassing web servers, database management systems, and development frameworks, has been undertaken with precision. Importantly, these components have been assessed for compatibility with RBF motorshop's and ensuring a seamless integration process.

3.2. Schedule

The researchers used a Gantt Chart for the system project scheduling. The table shows how much time and months was spent on developing the system. It helps the researchers to see how they're doing. And this chart is very useful to manage the project, it keeps to track the progress and make changes if needed to finish the project on time.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

50

YEAR 2023	APRIL				MAY				JUNE				JULY				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
	WEEK	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
I. REQUIREMENTS																																				
DATA GATHERING																																				
DEFINING PROJECT SCOPE																																				
RESEARCHING THE CURRENT PROBLEM																																				
FINALIZING REQUIREMENTS																																				
II. DESIGN																																				
DEVELOPMENT OF SYSTEM DESIGN																																				
PROTOTYPE (INPUT, PROCESS, OUTPUT)																																				
SYSTEM FLOW																																				
III. DEVELOPMENT																																				
PROGRAM APPLICATION AND DEVELOPMENT																																				
CODING																																				
IV. TESTING																																				
SYSTEM TESTING																																				
USER TESTING																																				
IMPLEMENTATION OF THE SYSTEM																																				
VI. MAINTENANCE																																				
SYSTEM FLOW																																				

3.3. Financial/ Cost- Benefit;

	2023	2024	2025	2026	2027	TOTAL
BENEFITS						
Enhance efficiency		15,000	15,000	15,000	15,000	60,000
Improve customer satisfaction		50,000	50,000	50,000	50,000	200,000
Reduced Inventory Cost	0	25,000	26,500	28,090	29,775	109,365
Reduced Material Cost	0	30,000	31,200	32,448	33,746	127,394
TOTAL BENEFITS	0	55,000	57,700	60,538	63,521	496,759
DEVELOPMENT COST						
Development Labor	15000	0	0	0	0	15000
Web Hosting	1415	0	0	0	0	1415
Web Domain	2580	0	0	0	0	2580
Internet	15000	0	0	0	0	15000
TOTAL DEVELOPMENT COST	33995	0	0	0	0	33995
OPERATIONAL COST						
Web Hosting	0	1415	1415	1415	1415	5660
Web Domain	0	2580	2580	2580	2580	10320
Internet	0	15000	18000	18000	18000	69000
Development Labor	0	15,000	15,600	16,224	16,873	63,697
Total Operational Cost	0	33995	37595	38219	38867.96	148676.96
Total Cost	33995	33995	37595	38219	38867.96	182671.96
Total Benefits- Total Cost[Net Benefits]	-33,995	21,005	20,105	22,319	24,653	314,087
CUMULATIVE NET CASH FLOW	-36995	-15,990	4,115	26,434	51,087	
RETURN OF INVESTMENT	27.967					
BREAK EVEN POINT	3.7203					



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

51

The cost benefit illustrates the amount and computation of the benefits and expenses that can be obtained once the system is implemented. It presents the benefits of the system that it is capable of reducing the inventory and material cost of the client. The inventory and material cost that are indicated in the benefits were based on the usual budget of the client.

The cost of development labor for the system is 15,000 pesos based on the average cost from Glassdoor. The personal computer are not included in the development costs because RBF motorshop already have them.

The operational costs are the ongoing expenses of the system. Each cost will be implemented annually once the system is deployed. The web domain of the Web-Based Online scheduling and inventory system, which costs 2580 per year, while web hosting costs 1415 per year on the same website. The Internet costs are based on Converge ICT Solution, which costs 15,000 per year for 200 mbps. System maintenance costs will be effective annually once the system is implemented by the company.

The net benefits were obtained by subtracting to the total benefits to total cost each year. The Cumulative Net Cash Flow is the sum of the previous year cash flow, and showing how many the debt or available cash you will have at a certain year, month, or day. As a result, the total benefit would be 314,087 pesos and the cumulative net cash flow would be 51,087 for working the developed system for five years. Lastly, the researchers concluded that the system is feasible for RBF motorshop, where it could help the client save money by reducing expenses.

- 4. To evaluate the level of effectiveness of the loan management system using the ISO 25010 quality model.**



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

52

After developing the Online Scheduling and Inventory Management System, the researchers conducted a survey questionnaire to the target respondents which was needed in order to evaluate and assess whether the system resolved the existing problems and challenges. The survey questionnaire data were collated, computed, and thoroughly evaluated. The instrument used by the researchers to create the questionnaires was known as the researcher-made questionnaire, because the indicators relevant to the features that will determine the system's efficiency were created by the researchers themselves.

The table below showed the evaluation of the Online Scheduling and Inventory Management System based on the data collected from the respondents.

Functional Suitability

Table 4.1 Evaluation of System in terms of Functional Suitability (Admin)

Functional Suitability	5	4	3	2	1	Total	WMS	Interpretation
FS1	1	0	0	0	0	1	5	Excellent
FS2	1	0	0	0	0	1	5	Excellent
FS3	1	0	0	0	0	1	5	Excellent
FS4	1	0	0	0	0	1	5	Excellent
FS5	1	0	0	0	0	1	5	Excellent
FS6	1	0	0	0	0	1	5	Excellent
FS7	1	0	0	0	0	1	5	Excellent
FS8	1	0	0	0	0	1	5	Excellent
OVERALL							5	Excellent

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4-1 shows the Functional Suitability of the system as evaluated by the admin. As shown in the table, the admin evaluated the system as Excellent. As a result, the overall weighted mean score is 5 and it is interpreted as Excellent.

The admin evaluated the system in terms of FS1, FS2, FS3, FS4, FS5 and FS6 as Excellent. It ensures that manual approaches to inventory management can be cumbersome,



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

53

so a computerized system would make the process more efficient and effective. A computerized inventory system that uses the association rule method can help create transactions, update stock items, keep records, generate reports for decision-making, and make stores more effective [13]. And The technology helps small businesses compete with larger companies especially in the economic marketplace. Small and mid-sized businesses have come to rely on the use of computers and on computerization for business transactions, in particular inventory management system [14].

In total, the Functional Suitability of the system is interpreted as Excellent with an average of 5. Therefore, it can be interpreted that the system is functioning well in providing an easy way to manage the overall needs of the admin.

Table 4.2 Evaluation of System in terms of Functional Suitability (Employee)

Functional Suitability	5	4	3	2	1	Total	WMS	Interpretation
FS1	4	1	0	0	0	5	4.8	Excellent
FS2	2	3	0	0	0	5	4.4	Very Satisfactory
FS3	2	3	0	0	0	5	4.4	Very Satisfactory
FS4	2	2	1	0	0	5	4.2	Very Satisfactory
FS5	2	3	0	0	0	5	4.4	Very Satisfactory
FS6	1	4	0	0	0	5	4.2	Very Satisfactory
FS7	0	5	0	0	0	5	4	Very Satisfactory
FS8	1	4	0	0	0	5	4.2	Very Satisfactory
OVERALL						4.33		Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.2 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Functional Suitability. 4 responded “Excellent” with a percentage of 80 and 1 responded “Very Satisfactory” with a percentage of 20 on the FS1. This resulted in a weighted mean score of 4.8 and was interpreted as



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

54

“Excellent”. This indicated that all respondents agreed that the system was easily to set an appointment.

In response to the FS2, 2 responded “Excellent” with a percentage of 40, 3 responded “Very Satisfactory” with a percentage of 60. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system allowed the end-user/s to add, edit and update the schedule.

In response to the FS3, 2 responded “Excellent” with a percentage of 40, while 3 responded “Very Satisfactory” with a percentage of 60. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system allowed the end-users to log in and log out easily.

In response to the FS4, 2 responded “Excellent” with a percentage of 40, 2 responded “Very Satisfactory” with a percentage of 40, and 1 responded “Satisfactory” with a percentage of 20. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system helped the end-user/s to generate manage the weekly, monthly and yearly inventory reports easily.

In response to the FS5, 2 responded “Excellent” with a percentage of 40, while 3 responded “Very Satisfactory” with a percentage of 60. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system allowed the end-user/s to add, edit, and update the inventory products and stocks.

In response to the FS6, 1 responded “Excellent” with a percentage of 20, while 4 responded “Very Satisfactory” with a percentage of 80. This resulted in a weighted mean score



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

55

of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system allowed the end-user to use a QR code.

In response to the FS7, 5 responded “Very Satisfactory” with a percentage of 100. This resulted in a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system sends alert when products in the inventory reaches the critical number of stocks.

In response to the FS8, 1 responded “Excellent” with a percentage of 20, while 4 responded “Very Satisfactory” with a percentage of 80. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system QR code when scanned will be directed to the inventory product. With the overall WMS of 4.33, verbally interpreted as “Very Satisfactory”

Table 4.3 Evaluation of System in terms of Functional Suitability (Customer)

Functional Suitability	5	4	3	2	1	Total	WMS	Interpretation
FS1	7	2	1	0	0	10	4.4	Very Satisfactory
FS2	6	4	0	0	0	10	4.6	Excellent
FS3	6	4	0	0	0	10	4.6	Excellent
FS4	3	5	2	0	0	10	4.1	Very Satisfactory
FS5	5	3	2	0	0	10	4.3	Very Satisfactory
FS6	3	3	4	0	0	10	3.9	Satisfactory
FS7	8	2	0	0	0	10	4.8	Excellent
FS8	2	7	1	0	0	10	4.1	Very Satisfactory
OVERALL							4.35	Excellent

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.3 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Functional Suitability. 7 responded “Excellent” with a percentage of 70 and 2 responded “Very Satisfactory” with a percentage of 20 and 1 responded in “Satisfactory” with the percentage of 10 on the FS1. This resulted in a



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

56

weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that all respondents agreed that the system was easily to set an appointment.

In response to the FS2, 6 responded “Excellent” with a percentage of 60, 4 responded “Very Satisfactory” with a percentage of 40. This resulted in a weighted mean score of 4.6 and was interpreted as “Excellent”. This indicated that the system allowed the end-user/s to add, edit and update the schedule.

In response to the FS3, 6 responded “Excellent” with a percentage of 60, while 4 responded “Very Satisfactory” with a percentage of 40. This resulted in a weighted mean score of 4.6 and was interpreted as “Excellent”. This indicated that the system allowed the end-users to log in and log out easily.

In response to the FS4, 3 responded “Excellent” with a percentage of 30, 5 responded “Very Satisfactory” with a percentage of 50, and 2 responded “Satisfactory” with a percentage of 20. This resulted in a weighted mean score of 4.1 and was interpreted as “Very Satisfactory”. This indicated that the system helped the end-user/s to generate manage the weekly, monthly and yearly inventory reports easily.

In response to the FS5, 5 responded “Excellent” with a percentage of 50, 3 responded “Very Satisfactory” with a percentage of 30 and 2 responded “Satisfactory” with a percentage of 20. This resulted in a weighted mean score of 4.3 and was interpreted as “Very Satisfactory”. This indicated that the system allowed the end-user/s to add, edit, and update the inventory products and stocks.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

57

In response to the FS6, 3 responded “Excellent” with a percentage of 30, 3 responded “Very Satisfactory” with a percentage of 30 and 4 responded “Satisfactory” with a percentage of 40. This resulted in a weighted mean score of 3.9 and was interpreted as “Satisfactory”. This indicated that the system allowed the end-user to use a QR code.

In response to the FS7, 8 responded “Excellent” with a percentage of 80, and 2 responded “Very Satisfactory” with a percentage of 20. This resulted in a weighted mean score of 4.8 and was interpreted as “Excellent”. This indicated that the system sends alert when products in the inventory reaches the critical number of stocks.

Performance Efficiency

Table 4.4 Evaluation of System in terms of Performance Efficiency (Admin)

Performance Efficiency	5	4	3	2	1	Total	WMS	Interpretation
PE1	1	0	0	0	0	1	5	Excellent
PE2	0	1	0	0	0	1	4	Very Satisfactory
PE3	0	1	0	0	0	1	4	Very Satisfactory
PE4	1	0	0	0	0	1	5	Excellent
PE5	1	0	0	0	0	1	5	Excellent
OVERALL							4.6	Excellent

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4-4 shows the Performance Efficiency of the system as evaluated by the admin. As shown in the table, the admin evaluated the system as Excellent. As a result, the overall weighted mean score is 4.6 and it is interpreted as Excellent.

In terms of PE 2 and PE 3, the admin evaluated the system as Very Satisfactory in terms of its notifying the appointment scheduled if it approved or not. And helping the user to find the needed information quickly through its search bar and navigation buttons.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

58

The admin evaluated the system in terms of PE 1, PE 4, and PE 5 as Excellent in that the system provides efficiency in accessing the scheduling and inventory. Therefore, it can be interpreted that the system is performing well in providing an easy way to manage the overall needs of the admin.

Table 4.5 Evaluation of System in terms of Performance Efficiency (Employee)

Performance Efficiency	5	4	3	2	1	Total	WMS	Interpretation
PE1	3	2	0	0	0	5	4.6	Excellent
PE2	4	1	0	0	0	5	4.8	Excellent
PE3	2	3	0	0	0	5	4.4	Very Satisfactory
PE4	1	4	0	0	0	5	4.2	Very Satisfactory
PE5	1	4	0	0	0	5	4.1	Very Satisfactory
OVERALL							4.42	Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.5 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Performance Efficiency. 3 responded “Excellent” with a percentage of 60, while 2 responded “Very Satisfactory” with a percentage of 40 on the PE1. This resulted in a weighted mean score of 4.6 and was interpreted as “Excellent”. This indicated that the system responsive and reacts to end-user input quickly.

In response to the PE2, 4 responded “Excellent” with a percentage of 80, while 1 responded “Very Satisfactory” with a percentage of 20. This resulted in a weighted mean score of 4.8 and was interpreted as “Excellent”. This indicated that the system immediately notifies the user about the status of the appointment if approved, declined, or pending.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

59

In response to the PE3, 2 responded “Excellent” with a percentage of 40, while 3 responded “Very Satisfactory” with a percentage of 60. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system helps the user to find the needed information quickly through its search bar and navigation buttons.

In response to the PE4, 1 responded “Excellent” with a percentage of 20, while 4 responded “Very Satisfactory” with a percentage of 80. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system quickly responds to the tasks that the user selects.

In response to the PE5, 1 responded “Excellent” with a percentage of 80, while 4 responded “Very Satisfactory” with a percentage of 80. This resulted in a weighted mean score of 4.1 and was interpreted as “Very Satisfactory”. This indicated that the system can be accessed at any time. With the overall WMS of 4.42, verbally interpreted as “Very Satisfactory”.

Table 4.6 Evaluation of System in terms of Performance Efficiency (Customer)

Performance Efficiency	5	4	3	2	1	Total	WMS	Interpretation
PE1	7	3	0	0	0	10	4.2	Very Satisfactory
PE2	2	8	0	0	0	10	4.2	Very Satisfactory
PE3	4	2	4	0	0	10	4	Very Satisfactory
PE4	5	5	0	0	0	10	4.5	Excellent
PE5	7	3	0	0	0	10	4.7	Excellent
OVERALL							4.32	Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.6 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Performance Efficiency. 7 responded “Excellent” with a percentage of 70, and 3 responded “Very Satisfactory” with a percentage



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

60

of 30 on the PE1. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system responsive and reacts to end-user input quickly.

In response to the PE2, 2 responded “Excellent” with a percentage of 20, while 8 responded “Very Satisfactory” with a percentage of 80. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system immediately notifies the user about the status of the appointment if approved, declined, or pending.

In response to the PE3, 4 responded “Excellent” with a percentage of 40, 2 responded “Very Satisfactory” with a percentage of 20, and 4 responded “Satisfactory” with a percentage of 40. This resulted in a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system helps the user to find the needed information quickly through its search bar and navigation buttons.

In response to the PE4, 5 responded “Excellent” with a percentage of 50, and 5 responded “Very Satisfactory” with a percentage of 50. This resulted in a weighted mean score of 4.5 and was interpreted as “Excellent”. This indicated that the system quickly responds to the tasks that the user selects.

In response to the PE5, 7 responded “Excellent” with a percentage of 70, and 3 responded “Very Satisfactory” with a percentage of 30. This resulted in a weighted mean score of 4.7 and was interpreted as “Excellent”. This indicated that the system can be accessed at any time. With the overall WMS of 4.32, verbally interpreted as “Very Satisfactory”.

Security

Table 4.7 Evaluation of System in terms of Security (Admin)



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

61

Security	5	4	3	2	1	Total	WMS	Interpretation
S1	1	0	0	0	0	1	5	Excellent
S2	1	0	0	0	0	1	5	Excellent
S3	0	1	0	0	0	1	4	Very Satisfactory
OVERALL							4.6	Excellent

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4-7 shows the Security of the system as evaluated by the admin. As shown in the table, the admin evaluated the system as Excellent in terms of Security. As a result, the overall weighted mean score is 4.6 and it is interpreted as Excellent.

The admin evaluated the system in terms of S 1, and S 2 as Excellent it indicates that the data are accessible only to those authorized to have an access using a login authentication and can implements strong authentication to protect user accounts and prevent unauthorized access.

In terms of S 3, the admin evaluated the system as Very Satisfactory in terms of the longer password to provide stronger security.

Overall, the system's security is assessed as Excellent, averaging a score of 4.6. This rating implies that the administrator's evaluation is also Excellent, indicating that unauthorized alteration of the system's security is not possible.

Table 4.8 Evaluation of System in terms of Security (Employee)

Security	5	4	3	2	1	Total	WMS	Interpretation
S1	3	1	1	0	0	5	4.4	Very Satisfactory
S2	1	4		0	0	5	4.2	Very Satisfactory
S3	1	3	1	0	0	5	4	Very Satisfactory
OVERALL							4.2	Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

62

Table 4.8 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Security. 3 responded “Excellent” with a percentage of 60, 1 responded “Very Satisfactory” with a percentage of 20, and 1 responded “Satisfactory” with a percentage 20 on the S1. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system ensures that data are accessible only to those authorized to have access using a login authentication process.

In response to the S2, 1 responded “Excellent” with a percentage of 20, while 4 responded “Very Satisfactory” with a percentage of 80. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system implements strong authentication to protect user accounts and prevent unauthorized access.

In response to the S3, 1 responded “Excellent” with a percentage of 20, 3 responded “Very Satisfactory” with a percentage of 60 and 1 responded “Satisfactory” with a percentage of 20. This resulted in a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system required longer passwords to provide stronger security. With the overall WMS of 4.2, verbally interpreted as “Satisfactory”.

Table 4.9 Evaluation of System in terms of Security (Customer)

Security	5	4	3	2	1	Total	WMS	Interpretation
S1	4	4	2	0	0	10	4.2	Very Satisfactory
S2	3	4	3	0	0	10	4	Very Satisfactory
S3	1	5	4	0	0	10	3.7	Satisfactory
OVERALL							3.97	Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

63

Table 4.9 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Security. 4 responded “Excellent” with a percentage of 40, 4 responded “Very Satisfactory” with a percentage of 40, and 2 responded “Satisfactory” with a percentage 20 on the S1. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system ensures that data are accessible only to those authorized to have access using a login authentication process.

In response to the S2, 3 responded “Excellent” with a percentage of 30, 4 responded “Very Satisfactory” with a percentage of 40, and 3 responded “Satisfactory” with a percentage of 30. This resulted in a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system implements strong authentication to protect user accounts and prevent unauthorized access.

In response to the S3, 1 responded “Excellent” with a percentage of 10, 5 responded “Very Satisfactory” with a percentage of 50 and 4 responded “Satisfactory” with a percentage of 40. This resulted in a weighted mean score of 3.7 and was interpreted as “Satisfactory”. This indicated that the system required longer passwords to provide stronger security. With the overall WMS of 3.97, verbally interpreted as “Satisfactory”.

Usability

Table 4.10 Evaluation of System in terms of Usability (Admin)

Usability	5	4	3	2	1	Total	WMS	Interpretation
U1	1	0	0	0	0	1	5	Excellent
U2	1	0	0	0	0	1	5	Excellent
U3	1	0	0	0	0	1	5	Excellent
U4	1	0	0	0	0	1	5	Excellent
U5	1	0	0	0	0	1	5	Excellent
OVERALL							5	Excellent



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

64

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4-10 shows the Usability of the system as evaluated by the admin. As shown in the table, the admin evaluated the system as Excellent in terms of Usability. As a result, the overall weighted mean score is 5 and it is interpreted as Excellent.

The admin rated the system as Excellent in terms of U 1, U 2, U 3, U 4, and 5 because the system had easy-to-understand processes and functions. The advancement of internet technology and its applications creates an optimal environment for establishing a scientific research management information system. Numerous studies have explored the impact of web-based management information systems on service development across diverse organizations and countries [28].

Table 4.11 Evaluation of System in terms of Usability (Employee)

Usability	5	4	3	2	1	Total	WMS	Interpretation
U1	2	3	0	0	0	5	4.4	Very Satisfactory
U2	2	3	0	0	0	5	4.4	Very Satisfactory
U3	1	4	0	0	0	5	4.2	Very Satisfactory
U4	3	2	0	0	0	5	4.6	Excellent
U5	0	5	0	0	0	5	4	Very Satisfactory
OVERALL							4.32	Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.11 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Usability. 2 responded "Excellent" with a percentage of 40, while 3 responded "Very Satisfactory" with a percentage of 60 on the U1.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

65

This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system has easy to-understand processes and functions.

In response to the U2, 2 responded “Excellent” with a percentage of 40, while 3 responded “Very Satisfactory” with a percentage of 60. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system has buttons, search bar, and menu that make easier to navigate.

In response to the U3, 1 responded “Excellent” with a percentage of 20, and 4 responded “Very Satisfactory” with a percentage of 80. This resulted in a weighted mean score of 4.2 and was interpreted as “Very Satisfactory”. This indicated that the system has user-friendly features, reports, and interface.

In response to the U4, 3 responded “Excellent” with a percentage of 60, while 2 responded “Very Satisfactory” with a percentage of 40. This resulted in a weighted mean score of 4.6 and was interpreted as “Excellent”. This indicated that the system has text and images that can be easily read.

In response to the U5, 5 responded “Excellent” with a percentage of 100. This resulted in a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system has straightforward and easy-to-read instructions. With the overall WMS of 4.32, verbally interpreted as “Very Satisfactory”.

Table 4.12 Evaluation of System in terms of Usability (Customer)



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

66

Usability	5	4	3	2	1	Total	WMS	Interpretation
U1	6	3	1	0	0	10	4.4	Very Satisfactory
U2	3	7	0	0	0	10	4.3	Very Satisfactory
U3	3	4	4	0	0	10	4.3	Very Satisfactory
U4	2	6	2	0	0	10	4	Very Satisfactory
U5	2	6	2	0	0	10	4	Very Satisfactory
OVERALL							4.2	Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.12 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Usability. 6 responded “Excellent” with a percentage of 60, 3 responded “Very Satisfactory” with a percentage of 30 and 1 responded “Satisfactory” with a percentage of 10 on the U1. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system has easy-to-understand processes and functions.

In response to the U2, 3 responded “Excellent” with a percentage of 30, and 7 responded “Very Satisfactory” with a percentage of 70. This resulted in a weighted mean score of 4.3 and was interpreted as “Very Satisfactory”. This indicated that the system has buttons, search bar, and menu that make easier to navigate.

In response to the U3, 3 responded “Excellent” with a percentage of 30, 4 responded “Very Satisfactory” with a percentage of 40 and 4 responded “Satisfactory” with a percentage of 40. This resulted in a weighted mean score of 4.3 and was interpreted as “Very Satisfactory”. This indicated that the system has user-friendly features, reports, and interface.

In response to the U4, 2 responded “Excellent” with a percentage of 20, 6 responded “Very Satisfactory” with a percentage of 60 and 2 responded “Satisfactory”. This resulted in



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

67

a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system has text and images that can be easily read.

In response to the U5, 2 responded “Excellent” with a percentage of 20, 6 responded “Very Satisfactory” with a percentage of 60 and 2 responded “Satisfactory” with a percentage of 20. This resulted in a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system has straightforward and easy-to-read instructions. With the overall WMS of 4.2, verbally interpreted as “Very Satisfactory”.

Reliability

Table 4.13 Evaluation of System in terms of Reliability (Admin)

Reliability	5	4	3	2	1	Total	WMS	Interpretation
R1	1	0	0	0	0	1	5	Excellent
R2	1	0	0	0	0	1	5	Excellent
R3	0	1	0	0	0	1	4	Very Satisfactory
R4	1	0	0	0	0	1	5	Excellent
R5	0	1	0	0	0	1	4	Very Satisfactory
OVERALL							4.6	Excellent

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4-13 shows the Reliability of the system as evaluated by the admin. As shown in the table, the admin evaluated the system as Very Satisfactory in terms of Reliability. As a result, the overall weighted mean score is 5 and it is interpreted as Excellent.

In terms of R 1, R 2, and R 4, the admin assesses the system as Excellent. It indicated that the system helps the user to manage the total of products weekly, monthly and yearly. The system detects the invalid input and can save and update consistently.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

68

In terms of R 3, and R 5, the admin assessed the system as Very Satisfactory. This indicated that scheduled appointment are accurately recorded and consistently demonstrate reliability regarding uptime, data accuracy and overall system performance.

Table 4.14 Evaluation of System in terms of Reliability (Employee)

Reliability	5	4	3	2	1	Total	WMS	Interpretation
R1	3	2	0	0	0	5	4.6	Excellent
R2	5	0	0	0	0	5	5	Excellent
R3	2	3	0	0	0	5	4.4	Very Satisfactory
R4	0	5	0	0	0	5	4	Very Satisfactory
R5	2	3	0	0	0	5	4.4	Very Satisfactory
OVERALL							4.48	Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.5 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Reliability. 3 responded “Excellent” with a percentage of 60, and 2 responded “Very Satisfactory” with a percentage of 40 on the R1. This resulted in a weighted mean score of 4.6 and was interpreted as “Excellent”. This indicated that the system helps the user/s to manage the total of products weekly, monthly, and yearly.

In response to the R2, 5 responded “Excellent” with a percentage of 100. This resulted in a weighted mean score of 5 and was interpreted as “Excellent”. This indicated that the system detects invalid input from the users and displays a notice.

In response to the R3, 2 responded “Excellent” with a percentage of 40, and 3 responded “Very Satisfactory” with a percentage of 60. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system ensures that scheduled appointments are accurately recorded and available when needed.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

69

In response to the R4, 5 responded “Very Satisfactory” with a percentage of 100. This resulted in a weighted mean score of 4 and was interpreted as “Very Satisfactory”. This indicated that the system record can save and update consistently.

In response to the R5, 2 responded “Excellent” with a percentage of 20, and 3 responded “Very Satisfactory” with a percentage of 60. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system consistently demonstrates reliability regarding uptime, data accuracy, and overall system performance. With the overall WMS of 4.48, verbally interpreted as “Satisfactory”.

Table 4.15 Evaluation of System in terms of Reliability (Customer)

Reliability	5	4	3	2	1	Total	WMS	Interpretation
R1	6	4	0	0	0	10	4.6	Excellent
R2	5	5	0	0	0	10	4.5	Excellent
R3	6	3	1	0	0	10	4.4	Very Satisfactory
R4	3	6	1	0	0	10	4.2	Very Satisfactory
R5	2	5	3	0	0	10	3.9	Satisfactory
OVERALL							4.32	Very Satisfactory

Legend: (5.00-4.21) Excellent (3.41-4.20) Very Satisfactory (2.61-3.40) Satisfactory (1.81-2.60) Fair (1.00-1.80) Poor

Table 4.5 shows the software evaluation results which included all the respondents in the RBF Motorshop and Accessories in terms of Reliability. 6 responded “Excellent” with a percentage of 60, while 4 responded “Very Satisfactory” with a percentage of 40 on the R1. This resulted in a weighted mean score of 4.6 and was interpreted as “Excellent”. This indicated that the system helps the user/s to manage the total of products weekly, monthly, and yearly.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

70

In response to the R2, 5 responded “Excellent” with a percentage of 50, while 5 responded “Very Satisfactory” with a percentage of 50. This resulted in a weighted mean score of 4.5 and was interpreted as “Excellent”. This indicated that the system detects invalid input from the users and displays a notice.

In response to the R3, 6 responded “Excellent” with a percentage of 60, 3 responded “Very Satisfactory” with a percentage of 30, and 1 responded “Satisfactory” with a percentage of 10. This resulted in a weighted mean score of 4.4 and was interpreted as “Very Satisfactory”. This indicated that the system ensures that scheduled appointments are accurately recorded and available when needed.

In response to the R4, 3 responded “Excellent” with a percentage of 30, 6 responded “Very Satisfactory” with a percentage of 60 and 1 responded on “Satisfactory” with the percentage of 10. This resulted in a weighted mean score of 4.2 and was interpreted as “Excellent”. This indicated that the system record can save and update consistently

In response to the R5, 2 responded “Excellent” with a percentage of 20, 5 responded “Very Satisfactory” with a percentage of 50, and 3 responded “Satisfactory” with a percentage of 30. This resulted in a weighted mean score of 3.9 and was interpreted as “Satisfactory”. This indicated that the system consistently demonstrates reliability regarding uptime, data accuracy, and overall system performance. With the overall WMS of 4.32, verbally interpreted as “Very Satisfactory”.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

71

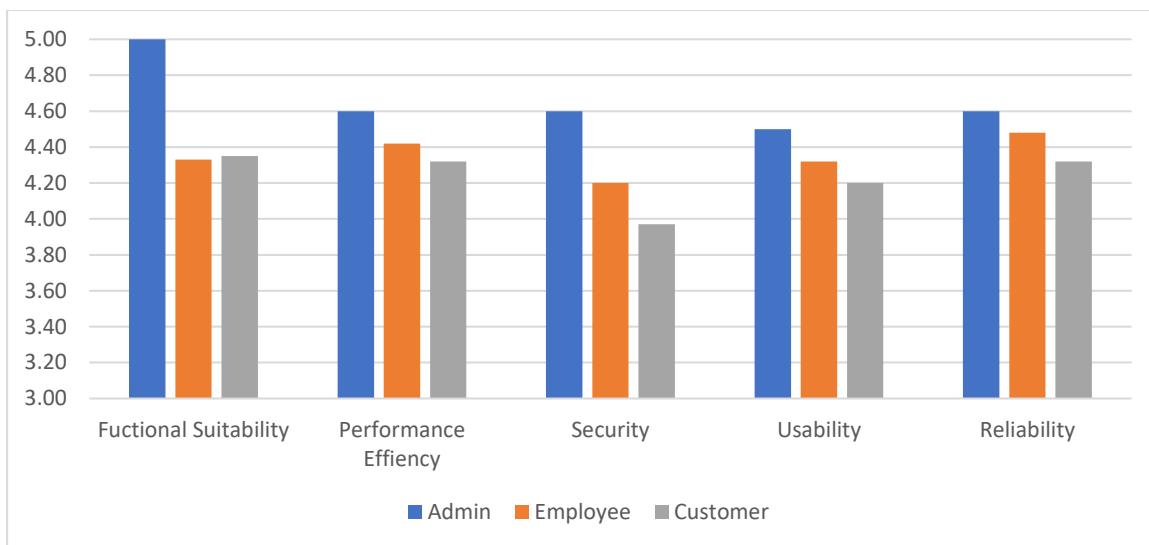


Figure 4-1. Summary of Results

Figure 4-1 shows the results of the survey that the researchers conducted after collecting the data from applicants, indicating varying ratings across different characteristics. In terms of Functional Suitability, the highest score of 5.00 was obtained by the Admin, followed by 4.33 for the Employee, and 4.35 for the Staff, marking the lowest rating. Performance Efficiency showcased the Admin with the top score of 4.60, followed by Employee at 4.42, and Customer at 4.32, representing the lowest among them. Security received the highest rating, an average of 4.6 from the Admin, followed by 4.20 for Employee, and 3.97 for Customer, marking the lowest score. Usability reflected the Admin with the highest score of 5.00, closely trailed by Employee at 4.32, and Customer at 4.20, representing the lowest among the three categories. Regarding Reliability, Admin obtained the highest rating of 4.60, followed by Employee at 4.48, and Admin at 4.32, being the lowest in this category. These results highlighted that the system satisfactorily fulfills user expectations and needs, as evidenced by positive feedback in different evaluation aspects.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

72

Chapter V

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

This chapter summarized the results from Chapter 4 and brought the study to a close. It contained recommendations and conclusions in line with the study's goals. The research's summary of findings provided insights and reflections that were represented in the conclusions. While the recommendations offered insightful suggestions meant to improve the results of subsequent research in the future. The overall goal of this chapter was to provide a thorough presentation of all identified findings and results from the research investigation.

Summary of Findings

The summary of findings contained every outcome from the questionnaires, interviews, and discussions held for the previous chapter. This section provided a summary of the key findings that were used in the next section.

One of the objectives of the study was to identify the problems of RBF Motorshop and Accessories in terms of scheduling and inventory. The researchers identified the challenges faced by the client in handling the services and inventory by conducting interviews and survey with the RBF Motorshop and Accessories. To understand the complexities of different types of scheduling and inventory, the researchers explored insights from Osbourne [7], Benefits of an Online Scheduling [10], Wong [12], and Oladele [13]. This investigation aimed to comprehend the problem of RBF Motorshop and Accessories might confront in organizing the scheduling and managing the inventory.

Another objective of the study was to proposed a Web-based scheduling and inventory that will reduce human intervention and possible data loss. According to the findings,



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

73

implementing an online Scheduling and Inventory Management System is crucial to meeting this goal. As emphasized by Collective [9], Benefits of Using an Online Appointment System [11], Buhia [14], and Inventory management benefits [15], the developed system represent a sophisticated Web-based system. Through harnessing the capabilities of an online scheduling and inventory management system, organization markedly reduce manual intervention, data loss, and leading to more precise and efficient records of inventory products.

In order to evaluate the worthiness of the Online Scheduling and Inventory Management system as an investment, it is crucial to assess its functional suitability, performance efficiency, security, usability, and reliability. The post-survey results included five categories that were important in determining user satisfaction and system effectiveness. Based on the evaluation, all five criteria—functional suitability, performance efficiency, security, usability, and reliability—received a "Excellent" rating. on interpretations derived from the post-survey responses. This consistent "Excellent" rating across all criteria indicates that system users were completely satisfied and satisfied with its offerings, as validated by the researchers.

Conclusion

1. Based on the collected data, the researchers concluded that the system had successfully met all of the study's objectives. Concerning the first objective, the researchers successfully identified the issues the client faced in their inventory.
2. The transition from a manual to a Web-based system. The inventory process was made easier. It aided in scheduling and inventory, reducing the need for human intervention, reducing data redundancy and potential data loss. Cooperatives can significantly reduce manual



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

74

intervention by utilizing the system's capabilities more accurate and efficient records of scheduling and inventory products.

3. The system demonstrated the feasibility of the study further by performing a comprehensive cost-benefit analysis.

4. Meeting the evaluation criteria, which include functional suitability, performance efficiency, security, usability, and reliability. These accomplishments were evident in the survey results and subsequent findings presentation.

Recommendation

This section acts as an initial step for translating concepts into tangible initiatives, expediting development, and fostering a culture of ongoing improvement and progress within the field of study. While acknowledging the established success and efficiency of the system, the researchers have outlined various recommendations for both the beneficiaries and prospective researchers. Based on the findings, the researchers suggest the following recommendations aim to improve and enhance the existing study.

Firstly, following the evaluation of the system by IT experts and receiving positive feedback from end-users, the researchers highly recommend parallel implementation. Secondly, upon the system's deployment, the company/business should hire technical personnel for continuous maintenance of the information system. Thirdly, it is advisable for the cooperative to allocate a budget for both the implementation and ongoing maintenance of the system. Finally, the researchers suggest conducting additional studies with the goal of improving and integrating supplementary features into the system for its continuous enhancement. For the future researchers and developers they can include the function of the beginning balance and ending balance in inventory in able to monitor the stock. In the



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS

Bachelor of Science in Information Technology

75

inventory reports, the previous stock should be known, as well as the added quantity, and the total count should also be determined.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

76

REFERENCE

- [1]“ASOS Company.” Khaoscontrol. https://www.khaoscontrol.com/business-tips/inventory-errors-that-cost-these-7-businesses-millions/?utm_referrer=https%3A%2F%2Fwww.google.com%2F&nab=0 (accessed June 19, 2023).
- [2]J. Korn. “Airbnb rolls out ‘anti-party technology’ to help enforce its global ban” Edition. <https://edition.cnn.com/2022/08/17/tech/airbnb-anti-party-technology/index.html> (accessed June 19, 2023).
- [3]“LTO 'notes' concerns over slow IT processes, sets second dialogue with provider.” Philstar. <https://www.philstar.com/headlines/2022/08/11/2201986/lto-notes-concerns-over-slow-it-processes-sets-second-dialogue-provider> (accessed June 19, 2023).
- [4]“Mercury Drug Corporation” Studocu. <https://www.studocu.com/ph/document/the-national-teachers-college/accountancy/strama-mercury-drug-pdf/36196339> (accessed June 19, 2023).
- [5]“Inventory management benefits.” Linnworks. <https://www.linnworks.com/blog/inventory-management-benefits> (accessed June 05, 2023).
- [6]Johnston, “Review of Related Literature and Related Studies,” Mar. 3,2021.[Online]. Available: <https://www.scribd.com/document/496750168/Review-of-Related-Literature-and-Related-Studies> [Accessed May 17. 2023].
- [7]S. Osbourne. “Online Appointment Scheduling: What Is It and How Does it Work?” <https://www.qudini.com/what-is-online-appointment-scheduling/> (Accessed May 15, 2023).
- [8]n.a., “What is online scheduling.” Newsdailyindia. <https://newsdailyindia.com/what-is-online-scheduling/> (Accessed May 16).
- [9]K, Collective, “21 Wonderful Benefits of Online Appointment Scheduling for Small Business.” Karenapp.
- [10]N.A , “Benefits of an online booking system.” Systembookings. <https://www.systembookings.com/benefits-online-booking-system/> (Accessed May 15,2023).
- [11]n.a., “7 Benefits of Using an Online Appointment System.” Commusoft. <https://www.commusoft.co.uk/blog/online-appointment-system-benefits/#:~:text=An%20online%20appointment%20system%20takes,fewer%20scheduling%20errors%20and%20miscommunication>. (Accessed May 16).
- [12]K. Wong, “Developing A Point-of-Sale Inventory Management System for Lord’s Grace Genera,l” Studocu. <https://www.studocu.com/ph/document/polytechnic-university-of-the-philippines/system-analysis-and-design/local-study/23304836> (Accessed May 16, 2023).



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

77

- [13]T. O. Oladele, R. O. Ogundokun. A. A. Adegun, E. A. Adeniyi, and A. T Ajanaku. "Development of an inventory management system using association rule," *Indonesian Journal of Electrical Engineering and Computer Science*, vol 21., no. 3, pp. 1868-1876, Jan. 2021, DOI: 10.11591 /ijeecs.v21.i3.
- [14]L.J. Buhia, "Computer-Based Inventory And Monitoring System: Installing Efficiency In A University Machine Shop," *Philippine E-Journals*, vol. 4, no.1, June 30, 2018.
- [15]N.,a, "Inventory management benefits." Linnworks.
<https://www.linnworks.com/blog/inventory-management-benefits> (Accessed May 16).
- [16]R. Kumar, "Inventory Management System" 2020. [Online]. Available: http://103.47.12.35/bitstream/handle/1/1650/1713203027_Raj_Kumar_FinalProjectReport%20-%20Raj%20kumar%20pachouri.pdf?sequence=1&isAllowed=y (Accessed May 16).
- [17]C. A. Magallanes, M. N. Ortiz, M. N. Seville, S. Luke, G Tejada, E. M. Tuliao, N. G. Eroy, et al. "ANALYSIS AND DESIGN OF A SALES AND INVENTORY MANAGEMENT INFORMATION SYSTEM FOR A MOTORCYCLE PARTS AND ACCESSORIES STORE." *International Journal of Scientific Research and Engineering Development*, vol. 4. June 2021.
- [18]R.I.Rizqi, N.A. Rohma, and K. Nimkerdphol, "Inventory Management System Using QR Code on Android: A Case Study in Computer Engineering Department.", *Journal of Electrical Engineering and Computer Sciences*, vol. 3, no.1, June 2018.
- [19]W. Muchaendepi, C. Mbohwa, T. Hamandishe, and J. Kanyepe. "Inventory management and performance of SMEs in the manufacturing sector of Harare." Science direct.
<https://www.sciencedirect.com/science/article/pii/S2351978919305335> (Accesssed May 15,2023).
- [20]"Inventory management benefits." Linnworks.
<https://www.linnworks.com/blog/inventory-management-benefits> (accessed June 05, 2023).
- [21]Espino, "Computerized Sales and Inventory system for Ronmon Trading," Academia.
https://www.academia.edu/4635675/CHAPTER_II_new [Accessed May 17, 2023].
- [22]J. Song, G. Houtum and J. Mieghem, "Capacity and Inventory Management: Review, Trends, and Projections," *Manufacturing & Service Operations Management*, vol. 22, no. 1, pp. 36-46. July 2019.
<https://pubsonline.informs.org/doi/epdf/10.1287/msom.2019.0798>
- [23]P. Khobragade, R. Selokar, R. Maraskolhe, and M. Talmale, "Research paper on inventory management system." *International Research Journal of Engineering and Technology (IRJET)*, vol. 5, April 2018.
- [24] R.Sheldon. "PHP (Hypertext Preprocessor)." Techtarget.
<https://www.techtarget.com/whatis/definition/PHP-Hypertext-Preprocessor> (Accessed June 17,2023).



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

78

- [25] “Advantages and Disadvantages of PHP.” Geeksforgeeks.
<https://www.geeksforgeeks.org/advantages-and-disadvantages-of-php/> (Accessed June 17,2023).
- [26] “What Is SQL (Structured Query Language)?” Amazon.
<https://aws.amazon.com/what-is/sql/> (Accessed June 17,2023).
- [25] “10 Uses of SQL (With Definition, Benefits and Examples).” Indeed.
<https://www.indeed.com/career-advice/career-development/sql-uses> (Accessed June 17,2023).
- [26] “Convenience Sampling: Definition, Advantages, and Examples” Questionpro.
<https://www.questionpro.com/blog/convenience-sampling/> (accessed June 17, 2023).
- [27] “Convenience sampling” Research-methodology . <https://research-methodology.net/sampling-in-primary-data-collection/convenience-sampling/> (accessed June 22, 2023).
- [28] Setyawati E. and Hariri H., “Web-Based Management Information System for Services Development” *International Journal of Current Science Research and Review*, vol.4 no.3, March 2021.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS

Bachelor of Science in Information Technology

79

APPENDICES



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

80

APPENDIX A:

Letter/s



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

81

Letter for Client

May 8, 2023

Ramon F. Fameronag
Owner
RBF Motor Shop and Accessories

Dear Mr. Fameronag,

Good day!

The undersigned bachelor's degree candidates whose names are listed subsequently are presently enrolled in Capstone Project 1 which requires developing a system and writing a research output that covers Chapter 1 to Chapter 3 as partial fulfillment for the degree of Information Technology.

In connection to this, we would like your office to serve as our client in our study entitled "**ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF.**" this Second Semester AY. 2022-2023. We are requesting your permission to allow us to administer questionnaires and conduct interviews among the staff in your center under study. Rest assured that all information we will gather will remain confidential and be used solely for research purposes. We are looking forward to your favorable response to this academic endeavor.

We humbly ask for you to affix your signature under CONFORME certifying your acceptance of this appointment.

Thank you very much.

Respectfully Yours,

[Signature]
Ano, Mark Jefferson

[Signature]
Brito, Richard B.

[Signature]
Husena, Princess O.

Noted by:

[Signature]
Jesse Ann M. Salvador, MM-ITM
Capstone Project 1 - Adviser

Recommending Approval:

[Signature]
Jacqueline A. Dela Torre, MM-ITM
Capstone Project 1 - Facilitator

Approved by:

[Signature]
Adou H. Fernando, MM-ITM
Director, Department of Computing and Informatics

CONFORME

[Signature]
Ramon F. Fameronag
Owner, RBF Motor Shop and Accessories



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

82

Appointment Letter

May 20, 2023
Ramon F. Fameronag
Owner
RBF Motor Shop and Accessories

Dear Mr. Fameronag,
Good day!

I hope this message finds you well. The undersigned bachelor's degree candidates are currently enrolled in Capstone Project 1 which requires developing a system and writing a research output that covers Chapter 1 to Chapter 3 as partial fulfillment for the degree of Information Technology.

We would like to set an appointment for an interview with you and your staff on **May 22, 2023 (Monday) at 3:00 PM** at your convenience. The purpose of the meeting is to discuss the project details and conduct the necessary interviews and questionnaires for our project entitled "**ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF**" this Second Semester, AY. 2022-2023. We hope that this schedule works for you and your team. Rest assured that all information we will gather will remain confidential and be used solely for research purposes. The researchers adhere to the existing Privacy Act of 2012.

We kindly ask for your confirmation of the said appointment. Thank you very much for your time and consideration.

Respectfully Yours,

Año, Mark Jefferson

Bron, Richard

Huseña, Princess

Noted by:

Jesse Ann M. Salvador, MM-ITM

Capstone Project 1 - Adviser

CONFORME:

Ramon F. Fameronag
Owner
RBF Motor Shop and Accessories



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

83

Endorsement Letter

Research Form 5 – Oral Defense Endorsement Form

Group No.: 41

Department: Department of Computing and Informatics
Degree Program: Bachelor of Science in Information Technology
Student: Año, Mark Jefferson
Researchers: Bron, Richard B.
Huseña, Princess O.

Research Working Title: Online Scheduling and Inventory Management System using QR code for RBF

Adviser: Jesse Ann M. Salvador, MM-ITM

This thesis attached hereto entitled "Online Scheduling and Inventory Management System using QR code for RBF" is hereby endorsed for oral defense. Our signatures below attest to the acceptability of the manuscript for oral defense and compliance of all pertinent requirements and obligations of the student researchers.


Jesse Ann M. Salvador, MM-ITM

Adviser

Date

Jacqueline A. Dela Torre, MM-ITM
Research Facilitator

Date

For research facilitators use only

Date of Oral Defense : July 6, 2023
Time : 2:00-3:00 pm
Venue : City College of Calamba



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

84

Research Form 5 – Final Defense Endorsement Form

Group No.: 36

Department: Computing and Informatics
Degree Program: Bachelor of Science in Information and Technology
Student: Año, Mark Jefferson D.
Researchers: Bron, Richard B.
Huseña, Princess O.

Research Working Title: Online Scheduling and Inventory Management System using QR Code for RBF Motorshop and Accessories

Adviser: Jesse Ann M. Salvador, MM-ITM

This thesis attached here to entitled "Online Scheduling and Inventory Management System using QR Code for RBF Motorshop and Accessories" is hereby endorsed for final defense. Our signatures below attest to the acceptability of the manuscript for final defense and compliance of all pertinent requirements and obligations of the student researchers.


JESSE ANN M. SALVADOR, MM-ITM
Adviser

_____ Date

JACQUELINE A. DELA TORRE, MM-ITM
Research Facilitator

_____ Date

For research facilitators use only

Date of Oral Defense : *January 18, 2024*
Time : *2:00 – 3:00 pm*
Venue : *City College of Calamba*



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

85

APPENDIX B:

Transcript of Interview



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

86

Transcript of Interview

Ano po name ng shop?

-RBF motorshop and accessories

Kailan po naestablished at gaano na katagal ang shop?

-Noong 2016 at halos pitong taon na nakatayo itong shop sa plaza itong sa M.H.del Pilar St. At yung isa ko namang shop ay kakabukas ko lang last year sa may Mabuhay, isang taon at isang buwan mahigit na rin iyon.

Sino sino po ang mga team nyo? Employee. May organizational chart po ba kayo?

-mga employado ko ay tatlong mekaniko at isang katiwala. Ang mga employado ko naman ay mga malalapit na kamag-anak. About sa organizational chart ay wala kaming ganon.

May existing system po ba kayo?

-wala kaming ganon

May nagiging problema po ba sa shop?

-minsan yung sa piyesa minsan pag may bumili ng piyesa ay gusto mura pero hahanapin ay matibay, pero syempre pag mura pag hina kaya nga may mga klase yan laloy nabili ay china.

Sa pag iinventory po, paano po kayo nag iinventory paano po ang process nyo?

-sa pag iinventory, walang checklist, tumitingen lang ako sa resibo. may resibo akong ano, bago pag kokonti na ang stock doon ko nalang titignan sa mga nakadisplay. Bumabase lang ako sa resibo tsaka nasanay na kasi ako. Sa akin kasi pag may nawalang products jan kahit ang daming



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

87

products jan Madali kong mattrace nasanay na akong ganon. Wala kame nung nakarecord lahat ng products.

Nauubusan po ba kayo ng stocks?

-oo naman, nauubsan din. May time na ganon.

Gaano po kadalas maubusan ng stocks?

-Madalang naman yun kasi sa gantong Negosyo kasi kailangan advance ka lagi, alam mong kakaunti dapat may order kana.

Ano-ano mga product na binebenta?

-madami, iba't ibang product at accessories ng pangangailangan ng motor at motorista. Katulad ng mga gulong, hand graft, r sealant,oil,upuan, helmet, kadena yan madami ibang klase niyan.

Saan po kinukuha ang mga supply? Dinedekiver or pick up?

-meron akong pinipick up sa Caloocan at may nagdedeliver. Karamihan sa Caloocan lahat kinukuha.

Sino po ang inyong target market?

-target market, mga motorista,

May nakukuha po ba kayong feedback from customer about sa service and products niyo? Positive or negative?



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

88

-oo, hindi naman mawawala yon. Karamihan positive, mga nagustuhan nila yung gawa ng mga mekaniko kaya bumabalik sila rito, binibigay yung pag maganda ang service edi magiging ano mo nayon.

Magkano po nabebenta daily, monthly, at yearly?

-sa daily ay minimum ng 10 000, sa monthly naman ay 300 000, at ang yearly ay 365 000.

Ilan po ang nagpapagawa daily, monthly, at yearly?

-sa daily mga 10, sa monthly ay umaabot ng 310 at sa yearly ay mga 3,720. About sa labor naman ay sa mekaniko lahat.

Nakakaranas po ba kayo ng overloading ng customer?

-oo every Sunday at holiday, tsaka pag paparating na ang ber months.

Suggestion po para sa system na gagawin?

-e kayo na ang bahala basta okay at madali gamitin.



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

89

APPENDIX C:

Research Instrument



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

90

Survey Questionnaire

December 4, 2023

To the Respondent,

We, fourth-year students of City College of Calamba are conducting research and capstone entitled Online Scheduling and Inventory Management System using QR Code for RBF Motorshop and Accessories as part of the requirements of the degree Bachelor of Science in Information Technology. It aims to improve its current business processes using technology and innovation.

In line with this, we are inviting you to be part of the software evaluation process by answering the questionnaire attached to this letter. Your feedback will be a great help to us with the recommendations for improvement of the system. Rest assured that all the data gathered will be treated with utmost confidentiality and used for academic purposes only.

Thank you for your support and cooperation.

Respectfully yours,

Año, Mark Jefferson D.

Bron, Richard B.

Huseña, Princess O.

Noted by:

Jesse Ann M. Salvador, MM-ITM
Research Adviser

SOFTWARE EVALUATION FORM

Name (Optional): _____
Designation: Owner Staff Customer

Direction: After operating the capabilities of the system, evaluate the system features of the proposed system. Please rate the level by putting a check mark (✓) on the rows column that corresponds to the assessment. Use the scale below:

Scale: (5) Excellent (4) Very Satisfactory (3) Satisfactory (2) Fair (1) Poor

Software Quality Model adapted from ISO/IEC 25010					
A. Functional Suitability	5	4	3	2	1
1. The system allows the end-users to set an appointment easily.					
2. The system allows the end-user/s to add, edit, and update the schedule.					
3. The system allows the end-users to log in and log out easily.					
4. The system helps the end-user/s to generate and manage the weekly, monthly, and yearly inventory reports easily.					
5. The system allows the end-user/s to add, edit, and update the inventory products and stocks.					
6. The system allows the end-user to use a QR code.					



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

91

7. The system sends an alert when products in the inventory reach the critical number of stocks.					
8. The system QR code when scanned will be directed to the inventory product.					

B. Performance Efficiency	5	4	3	2	1
1. The system is responsive and reacts to end-user input quickly.					
2. The system immediately notifies the user about the status of the appointment if approved, declined, or pending.					
3. The system helps the user to find the needed information quickly through its search bar and navigation buttons.					
4. The system quickly responds to the tasks that the user selects.					
5. The system can be accessed at any time.					

C. Security	5	4	3	2	1
1. The system ensures that data are accessible only to those authorized to have access using a login authentication process.					
2. The system implements strong authentication to protect user accounts and prevent unauthorized access.					
3. The system required longer passwords to provide stronger security.					

D. Usability	5	4	3	2	1
1. The system has easy-to-understand processes and functions.					
2. The system has buttons, search bar, and menu that make easier to navigate.					
3. The system has user-friendly features, reports, and interface.					
4. The system has text and images that can be easily read.					
5. The system has straightforward and easy-to-read instructions.					

E. Reliability	5	4	3	2	1
1. The system helps the user/s to manage the total of products weekly, monthly, and yearly.					
2. The system detects invalid input from the users and displays a notice.					
3. The system ensures that scheduled appointments are accurately recorded and available when needed.					
4. The system record can save and update consistently.					
5. The system consistently demonstrates reliability regarding uptime, data accuracy, and overall system performance.					

Feedback, comments, and suggestions:



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

92

APPENDIX D:

Validation Forms



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

93

Instrument Validation

November 11, 2023

Jayvee Ryan F. Banal
IT Professor, City College of Calamba

Dear Mr. Banal:

Good day!

The undersigned bachelor's degree candidates whose names are listed subsequently are presently enrolled in Capstone Project I which requires developing a system and writing a research output that covers Chapter 1 to Chapter 5 as partial fulfillment for the degree of Information Technology.

In connection to this, we would like to invite you to serve as validator of our software evaluation and proposed system, in our study entitled "**ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF MOTORSHOP AND ACCESSORIES**", this First Semester AY. 2023-2024. Your feedback and suggestions will play a vital role in shaping the direction of our Capstone Project. Also, we would be truly honored to have you on board, and we are looking forward to your favorable response to this academic endeavor.

We humbly ask for you to affix your signature under CONFORME certifying your acceptance of this request.

Thank you very much.

Respectfully Yours,

Año, Mark Jefferson D.
Año, Mark Jefferson D.

Bron, Richard B.

Husena, Princess O.
Husena, Princess O.

Noted by:

Jessie Ann M. Salvador
Jessie Ann M. Salvador, MM-ITM
Research Adviser

CONFORME:

Jayvee Ryan F. Banal
Jayvee Ryan F. Banal
IT Professor, City College of Calamba



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

94

November 11, 2023

Mico B. Matanguihan
Optum Global Solutions PH

Dear Mr. Matanguihan:

Good day!

The undersigned bachelor's degree candidates whose names are listed subsequently are presently enrolled in Capstone Project I which requires developing a system and writing a research output that covers Chapter 1 to Chapter 5 as partial fulfillment for the degree of Information Technology.

In connection to this, we would like to invite you to serve as validator of our software evaluation and proposed system, in our study entitled "**ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF MOTORSHOP AND ACCESSORIES**", this First Semester AY. 2023-2024. Your feedback and suggestions will play a vital role in shaping the direction of our Capstone Project. Also, we would be truly honored to have you on board, and we are looking forward to your favorable response to this academic endeavor.

We humbly ask for you to affix your signature under CONFORME certifying your acceptance of this request.

Thank you very much.

Respectfully Yours,

Año, Mark Jefferson D.

Bron, Richard B.

Huerna, Princess O.

Noted by:

Jeff Ann M. Salvador, MM-ITM
Research Adviser

CONFORME:

Mico B. Matanguhan
Optum Global Solutions PH



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

95

November 11, 2023

Michael John F. Mirabueno
Weserv Systems International, Inc

Dear Mr. Mirabueno:

Good day!

The undersigned bachelor's degree candidates whose names are listed subsequently are presently enrolled in Capstone Project I which requires developing a system and writing a research output that covers Chapter 1 to Chapter 5 as partial fulfillment for the degree of Information Technology.

In connection to this, we would like to invite you to serve as validator of our software evaluation and proposed system, in our study entitled "**ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF MOTORSHOP AND ACCESSORIES**", this First Semester AY. 2023-2024. Your feedback and suggestions will play a vital role in shaping the direction of our Capstone Project. Also, we would be truly honored to have you on board, and we are looking forward to your favorable response to this academic endeavor.

We humbly ask for you to affix your signature under CONFORME certifying your acceptance of this request.

Thank you very much.

Respectfully Yours,

[Signature]
Año, Mark Jefferson D.

Bron, Richard B.

[Signature]
Hugena, Princess O.

Noted by:

[Signature]
Jesse Ann M. Salvador, MM-ITM
Research Adviser

CONFORME

[Signature]
Michael John F. Mirabueno
Weserv Systems International, Inc



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

96

Permission for Pilot Testing

November 30, 2023

Ramon F. Fameronag
Owner
RBF Motor Shop and Accessories

Dear Mr. Fameronag,

Good day!

The undersigned bachelor's degree candidates whose names are listed subsequently are presently enrolled in Capstone Project 2 which requires developing a system and writing a research output that covers Chapter 1 to Chapter 5 as partial fulfillment for the degree of Information Technology.

In connection to this, we would like to invite you and your one sales staff to serve as pilot testers of our software evaluation and proposed system, in our study entitled "**ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF**", this First Semester A.Y. 2023-2024. Their feedback and suggestions will play a vital role in shaping the direction of our Capstone Project. Also, we would be truly honored to have you and your staff on board, and we are looking forward to your favorable response to this academic endeavor.

We humbly ask for you to affix your signature under CONFORME certifying your acceptance of this request.

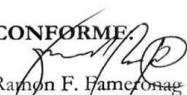
Thank you very much.

Respectfully Yours,

Año, Mark Jefferson
Bron, Richard
Huseña, Princess

Noted by:

Jesse Ann M. Salvador, MM-ITM
Research Adviser

CONFORME:

Ramon F. Fameronag
Owner
RBF Motor Shop and Accessories



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS Bachelor of Science in Information Technology

97

January 8, 2024

Ramon F. Fameronag
Owner
RBF Motor Shop and Accessories

Dear Mr. Fameronag,

Good day!

The undersigned bachelor's degree candidates whose names are listed subsequently are presently enrolled in Capstone Project 2 which requires developing a system and writing a research output that covers Chapter 1 to Chapter 5 as partial fulfillment for the degree of Information Technology.

In connection to this, we would like to invite you and your one sales staff to serve as pilot testers of our software evaluation and proposed system, in our study entitled "**ONLINE SCHEDULING AND INVENTORY MANAGEMENT SYSTEM USING QR CODE FOR RBF**", this First Semester A.Y. 2023-2024. Their feedback and suggestions will play a vital role in shaping the direction of our Capstone Project. Also, we would be truly honored to have you and your staff on board, and we are looking forward to your favorable response to this academic endeavor.

We humbly ask for you to affix your signature under CONFORME certifying your acceptance of this request.

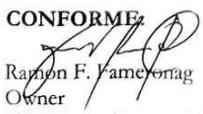
Thank you very much.

Respectfully Yours,

Año, Mark Jefferson
Bron, Richard
Huseña, Princess

Noted by:

Jesse Ann M. Salvador, MM-JTM
Research Adviser

CONFORME

Ramon F. Fameronag
Owner
RBF Motor Shop and Accessories



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

98

APPENDIX E:

Proof/ Documentation



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS

Bachelor of Science in Information Technology

99

System Validation





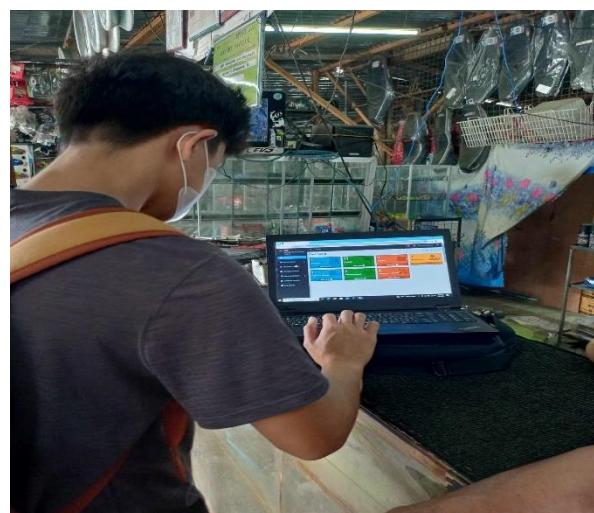
CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS

Bachelor of Science in Information Technology

100

System Client Testing





CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

101

APPENDIX F:

CURRICULUM VITAE



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

102

Name: **Mark Jefferson D. Año**

Contact Number: 09078401552

E-mail address: mdano@ccc.edu.ph

Address: MCDC, Canlubang, Calamba Laguna



PERSONAL DATA:

Date of Birth : July 16, 2002
Place of Birth : Brgy. Habagatan Talim Binangonan Rizal
Sex : Male
Height : 5'8
Civil Status : Single
Nationality : Filipino
Religion : Catholic

EDUCATIONAL BACKGROUND:

Tertiary

City College of Calamba
Calamba, Laguna
Present

Secondary

Junior High Talim Point National High School
Binangonan, Rizal
2018

Primary

Talim Elementary School
Binangonan, Rizal
2014



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

103

Name: Richard B.Bron

Contact Number: 09633953685

E-mail address: richardbbron@ccc.edu.ph

Address: 110 Uwisan Calamba City, Laguna



PERSONAL DATA:

Date of Birth : November 20, 2000
Place of Birth : Uwisan Calamba, Laguna
Sex : Male
Height : 5'7
Civil Status : Single
Nationality : Filipino
Religion : Catholic

EDUCATIONAL BACKGROUND:

Tertiary

City College of Calamba
Calamba, Laguna
Present

Secondary

Senior High Looc Integrated School
Brgy. Looc Calamba City
2019

Primary

Uwisan Elementary School
Uwisan Calamba City, Laguna
2013



CITY COLLEGE OF CALAMBA

DEPARTMENT OF COMPUTING AND INFORMATICS
Bachelor of Science in Information Technology

104

Name: **Princess O. Huseña**

Contact Number: 09096638082

E-mail address: pohusena@ccc.edu.ph

Address: Purok 7 Brgy. Banlic Calamba City, Laguna



PERSONAL DATA:

Date of Birth : November 5, 2000
Place of Birth : San Pablo, Laguna
Sex : Female
Height : 5'3
Civil Status : Single
Nationality : Filipino
Religion : Catholic

EDUCATIONAL BACKGROUND:

Tertiary

City College of Calamba
Calamba, Laguna
Present

Secondary

Senior High Looc Integrated School
Brgy. Looc Calamba City
2019

Primary

Calamba Elementary School
Brgy. 5 Mabini Street, Calamba City, Laguna
2013