**Philippine Copyright 2024**

by the Authors’ Names

and the

Polytechnic University of the Philippines

All rights reserved. Portions of this manuscript may be reproduced with proper referencing and due acknowledgment of the author.

**VILLA SALUD CATERING SERVICES INFORMATION SYSTEM: A COMPREHENSIVE SOLUTION FOR EVENT MANAGEMENT**

A Capstone Project

Presented to the Faculty of the College of Computer and Information Sciences

Polytechnic University of the Philippines

Sta. Mesa, Manila

In Partial Fulfilment of the Requirements for the Degree

Bachelor of Science in Information Technology

.

**Gasta, Marc Oliver L.**

**Rosario, Angelica G.**

**Armedilla, Alliyah Samantha D.**

**Santos, Akisha Gelsey L.**

**January 2024**

**APPROVAL SHEET**

This capstone project **TITLE OF CAPSTONE PROJECT (IN ALL CAPS AND IN BOLD FACE)** prepared and submitted by NAME OF RESEARCHERS (FN MI LN; Alphabetical Order) in partial fulfilment of the requirements for the degree, BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY has been:

Recommended for Approval and Acceptance

Date:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Mr. John Dustin D. Santos, MIT**

Faculty in-Charge

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Mr. John Dustin D. Santos, MIT**

Adviser (omit if same as FIC or none)

Approved by the Capstone Project Defense Panel:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Assoc. Prof. Name, MSIT**

Chair

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Asst. Prof. Name, MIS**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Prof. Name, DIT**

Accepted for the Department of Information Technology:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Asst. Prof. Lydinar D. Dastas, MSCS**

Chairperson

Accepted for the College of Computer and Information Sciences:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Prof. Benilda Eleonor V. Comendador, DIT**

Dean

**ACKNOWLEDGMENTS**

*SAMPLE ONLY. YOU MAY CREATE YOUR OWN*

The researchers would like to express their sincerest gratitude to their advisor, \_\_\_\_\_\_\_ [Advisor Name], for their invaluable guidance and support throughout their master’s program. Their expertise and encouragement helped the researchers to complete this research and write this thesis.

They would also like to thank \_\_\_\_\_\_\_ [Name] and \_\_\_\_\_\_\_ [Name] for serving on their thesis committee and providing helpful feedback and suggestions.

**CERTIFICATION OF ORIGINALITY**

This is to certify that the research work presented in this capstone project, COMPLETE TITLE OF THE CAPSTONE PROJECT for the degree Bachelor of Science in Information Technology at the Polytechnic University of the Philippines embodies the result of original and scholarly work carried out by the undersigned. This capstone project does not contain words or ideas taken from published sources or written works that have been accepted as basis for the award of a degree from any other higher education institution, except where proper referencing and acknowledgement were made.

|  |  |
| --- | --- |
|  | (Wet Signature)  **NAME OF RESEARCHERS**  Researchers  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Date Signed (date, month, year) |

**ABSTRACT**

Title : Title of Capstone Project

Researcher : LN, FN MI

Degree : Bachelor of Science in Information Technology

Institution : Polytechnic University of the Philippines

Year : 2024

Adviser : Name of Adviser

(Note: Abstract should be double-spaced, and not more than 250 words)

Keywords : At least five (5) keywords must be given (To include “Polytechnic University of the Philippines”)

**EXECUTIVE SUMMARY**

SAMPLE ONLY. The project is about scheduling and monitoring truck bodies in production. The main problem stems from late delivery of finished units due to factors that comprises it. The main objective of the study is to develop a system that will improve the current manual process regarding their monitoring and scheduling of the stages of works that is done and delays of the units that must be delivered on time. The plant manager and the admin will manage this system, which has the capability of creating job order/s, assign work order/s, update and monitor stage and status of the current job order. The system will generate reports and display status.

The Truck Body Production Scheduling and Monitoring System consists of 5 users, the plant manager, agent, admin officer, production head, and the quality assurance. The plant manager and the admin officer has the capability of monitoring everything that is happening in the production. They can also add/create/update job orders. The agent is capable only for adding job order. The production head is in charge of updating production stages and statuses, and manage reports. The quality assurance is responsible for inspecting the final product and must ensure that it observes the quality standards.

The project team was able to gather data needed through the help of previews research documents/ projects. The team also conducted client interviews and consultations to adviser and faculty-in-charge for proper guidance in the project development. Moreover, the project team constructed survey questionnaires to be answered by the target users of the project. As a result of that, the team gathered essential response that is valuable in improving the project or in conducting revisions.

Based on the overall result of the survey, the system meets the clients’ needs and give them a useful system that helps their job more productive and more organized. This will give more focus on the innovation of the system. However, there are some things that can be improved for similar projects in the future.

**Table of Contents**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | | | | **Page** | |
| **Title Page** | | | | | | i | |
| **Certification and Approval Sheet** | | | | | | ii | |
| **Acknowledgments** | | | | | | iii | |
| **Certification of Originality** | | | | | | iv | |
| **Abstract** | | | | | | v | |
| **Executive Summary** | | | | | |  | |
| **Table of Contents** | | | | | |  | |
| **List of Tables** | | | | | |  | |
| **List of Figures** | | | | | |  | |
| **CHAPTER 1 – INTRODUCTION** | | | | | |  | |
| **1.1** | | **Project Context** | | | | 1 | |
| **1.2** | | **Technical Background** | | | | 3 | |
| 1.2.1 | | | Equipment/Hardware | | |  | |
| 1.2.2 | | | Software | | |  | |
| 1.2.3 | | | Peopleware/Manpower | | |  | |
| 1.2.4 | | | Network Infrastructure/Architecture | | |  | |
| 1.2.5 | | | Storage, Backup and Recovery Procedure | | |  | |
| 1.2.6 | | | Security Procedures | | |  | |
| 1.2.7 | | | Policies and Procedures | | |  | |
| **1.3** | | **Problem Analysis** | | | |  | |
| 1.3.1 | | | Fishbone Diagram | | |  | |
| 1.3.2 | | | Problem and Solution Statement | | |  | |
| 1.3.3 | | | Problem-Requirements Matrix | | |  | |
| **1.4** | | **Purpose and Description** | | | |  | |
| **1.5** | | **Specific Objectives** | | | |  | |
| **1.6** | | **Scope and Limitations** | | | |  | |
| **CHAPTER 2 – review of related literature, Studies, and systems** | | | | | | | |
|  | Topic 1 | | | |  | |
| **chapter 3 – methodology** | | | | | |  | |
| **3.1** | | **Requirements Analysis** | | | |  | |
| 3.1.1 | | | Requirements – Features Matrix | | |  | |
| 3.1.2 | | | Use Case Diagram | | |  | |
| 3.1.3 | | | Use Case Report | | |  | |
| **3.2** | | **Design Specifications** | | | |  | |
| 3.2.1 | | | Activity Diagram | | |  | |
| 3.2.2 | | | GUI Design | | |  | |
| 3.2.3 | | | Database Schema | | |  | |
| 3.2.4 | | | Data Dictionary | | |  | |
| **3.3** | | **Development Methodology** | | | |  | |
| 3.3.1 | | | Process Model | | |  | |
| 3.3.2 | | | Development Tools | | |  | |
| **3.4** | | **Test Methodology/Procedures** | | | |  | |
| **3.5** | | **System Requirements** | | | |  | |
| **3.6** | | **Quality Plan** | | | |  | |
| **3.7** | | **Evaluation Plan** | | | |  | |
| **CHAPTER 4 – RESULTS AND DISCUSSION** | | | | | |  | |
| **CHAPTER 5 – SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION** | | | | | | | |
| **REFERENCES** | | | | | |  | |
| **APPENDICES** | | | | | |  | |
| Appendix A | | | | Data Gathering Instrument | |  | |
| Appendix B | | | | Client Forms and Reports | |  | |
| Appendix C | | | | Evaluation Tools, Test Documents and Test Results | |  | |
| Appendix D | | | | User’s Manual | |  | |
| Appendix E | | | | Sample Generated Outputs | |  | |
| Appendix F | | | | Certification of Originality Check/Turnitin Results | |  | |
| Appendix G | | | | Certification of Editing | |  | |
| Appendix H | | | | Implementation Report | |  | |
| Appendix I | | | | Capstone Project Revision Matrices | |  | |
| Appendix J | | | | Ethics Clearance and Terminal Report | |  | |
| Appendix K | | | | Biographical Statements | |  | |

**LIST OF TABLES**

|  |  |  |
| --- | --- | --- |
| **Table No.** | **Description** | **Page** |
| 1 | Table Description 1 | 3 |
| 2 | Table Description 2 | 4 |

**LIST OF FIGURES**

|  |  |  |
| --- | --- | --- |
| **Figure No.** | **Description** | **Page** |
| 1 | Figure Description 1 | 3 |
| 2 | Figure Description 2 | 6 |

**Chapter 1**

**INTRODUCTION**

* 1. **PROJECT CONTEXT**

Villa Salud is a popular reception hall, known for hosting various events such as weddings, birthdays, baptisms, and kiddie parties. With its welcoming atmosphere and dedicated staff, Villa Salud is a favorite venue for people celebrating special moments. Residing from a main road in Taguig. Its location is one of its strengths as it is easy to locate and to remember. For more than 20 years, Villa Salud has been offering services to a lot of people. Villa Salud, starting from scratch and in the era of manual transactions and still surviving up to now where modernization rules anywhere, Villa Salud is in need to catch up with the time and the trends happening right now. Villa Salud uses manual processes to handle important tasks like reservations, menu packages, and scheduling. This method is time-consuming and increases the chances of mistakes or miscommunication between staff and clients. For example, double bookings can happen when reservations aren’t properly tracked, causing frustration for customers. Also, managing menu choices manually can lead to delays and confusion, affecting the overall guest experience.

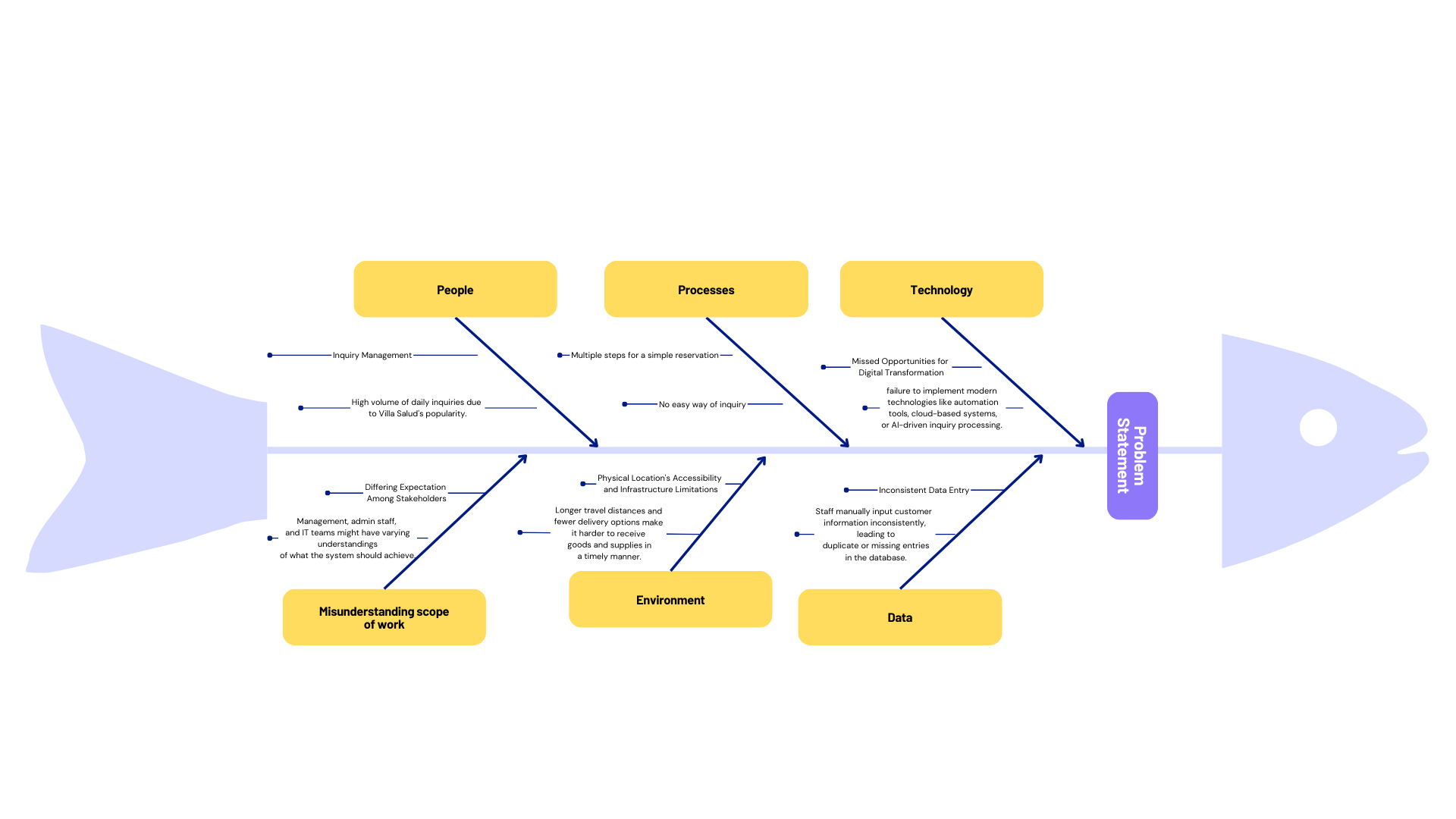
To address these issues, this research proposes creating a Catering Services Information System tailored specifically for Villa Salud. The goal of the system is to improve the management of catering services by automating important tasks. By using this system, Villa Salud can improve its operations, allowing staff to focus on delivering great service. By using a system designed for its specific needs, Villa Salud can improve customer satisfaction with faster responses and more accurate service.

Applying technology to daily lives can make things easier, as it provides more options for easier process and transaction. One of technology’s main purposes is to provide help, automation, make daily living easier and operations faster. Using technology and using it to your advantage will give a great deal and help in the long run. Allowing you to ease off with the processes and make your operations run smoothly. Villa Salud may just be a small-time events place but using a simple and easy system can cause a lot of help for them to compete with bigger and higher known competitors. It can also give an edge to them having a system that people or their target market will appreciate making positive feedback on their business.

**1.2 PROBLEM ANALYSIS**

**1.3.1 Fishbone Diagram**

Figure 1. Fishbone Diagram

****

**1.3 FRAMEWORK**

**1.4.1 Theoretical Framework**

**1.4.2 Conceptual Framework**

**1.4 STATEMENT OF THE PROBLEM**

Villa Salud is a famous event place for Taguigeños, especially for those who live near the place or near the barangay of New Lower. Able to accommodate bridal, baptismal and any other events is a big task to do. Villa Salud, being a famous events place, needed an upgrade to their services.

Problems encountered:

1. Inquiry management. Having the status of Villa Salud and its fame a lot of customers are intrigued and consider Villa Salud as their events place and coordinator. But with all of the inquiries Villa Salud is facing every day, not mentioning the events they handle. It is quite hard for them to reply and give their potential customers the answers they are looking for, resulting in the loss of potential customers.
2. Application of modern systems. A website nowadays is a very good advantage for all business owners. It gives them edges in the way of information, advertisement and efficiency. Villa Salud have tried to do so previously but have had no success in maintaining the previous system. The said system wasn’t able to meet the expectations they are looking for causing them to let go of the system and go back to their old ways.
3. Delay of process. On a normal non busy day of Villa Salud we can say that they can accommodate more than five (5) inquiries and process them within the day, but with a hectic schedule or busy days it will be hard for Villa Salud to do all of it. Without the help of a system, it all can cause a delay for the processing of inquiries and other processes, thus leading to a possible confusion and, worst is loss of customer’s trust.

Ideally with a system, Villa Salud would have an edge to its competitors. Allowing Villa Salud with a boost for their advertisements. The possibility of reaching out to other cities for potential customers. Also allowing them to ease up on other processes. Giving them more time to focus on other important parts of their services. The system will also give a more advanced and newer look and approach to customers. Having a modern but easy to use and navigate system will give them easy ways to inquire leading to a very efficient and successful transaction. Everything starts with a first impression, so having a system that focuses on making it easy for both the admin of Villa Salud and to their customers will lead to positive endings.

**1.5 SCOPE AND LIMITATIONS**

**1.5.1 Scope**

This study aims to develop a information system of catering service that Villa Salud offers. This system specifically aims to provide help in this area: reservation of events; organization of offered packages; automation of checking and scheduling for events; tool and feedback for reporting and summarization. With the system it can help both clients and staff of Villa Salud. On the client's side, it will be much easier for them to check and inquire for their questions and inquiries. For the staff’s side, it provides an easy but powerful tool to use to ease up their jobs, therefore providing more and greater services to the customers.

**1.5.2 Limitations**

This study aims to focus on Villa Salud catering services only. This system will be enough to be developed and studied for the amount of time we researchers have. Limited time and resources, such as money and manpower contribute to the limitations of the development of this system. Tool and knowledge is the other half of the great contributor for the limitation. Lacking knowledge of other programming languages and tools causes limitations for us developers. Data testing is limited, having just enough data provided by the owners and managers to us, which is also a cause of having not enough time.

**1.6 SIGNIFICANCE OF THE STUDY**

This study aims to develop the Villa Salud Catering Services Information System, which will serve or provide benefits to different factors and stakeholders:

Management and staff will be the first one to feel the changes about the system, as they are the first one to and will use the system. This system can reduce errors, miscommunication and misunderstanding. Offering more options to fulfill their duties faster and in a much accurate and reliable way.

Clients benefit from this study as it can make their inquiries or questions be answered or accommodated in a faster and efficient way. They benefit greatly as they are the source and the reason why Villa Salud still continues up to this day and still running their operations despite setbacks and market competitions.

Local businesses can also benefit from this study as it can be used as a guide or format on how to adopt and accept certain changes and transition, accepting and using technology to your advantage.

Future researchers can use this study for future references in making a study or system about catering service information systems or an information system in general. This also provides highlights of the importance of adopting and using technology as a tool to enhance your system and operations.

**CHAPTER 2**

**REVIEW OF RELATED LITERATURE**

#### INTRODUCTION

This section explores studies and resources relevant to developing the Villa Salud Catering Services Information System. The review focuses on automation in event management, catering service technologies, customer satisfaction, and small business digitalization.

1. Event Management Systems

The digital transformation of event management has led to increased efficiency and better client experiences. MDPI (2022) underscores the importance of tools like Work Breakdown Structures (WBS) and Risk Breakdown Structures (RBS) to manage event lifecycles and improve outcomes.

Web-based systems, such as the one developed for Resona Catering Services (BAHANDIAN, 2017), showcase the benefits of integrating inventory tracking and manpower management with event planning. Similarly, Verana (2024) highlights the role of technology in automating event scheduling and logistics.

The use of reservation systems has proven transformative across industries. Fordham Research Commons (2018) discusses how digital reservation systems improve collaborative space management, while Dalisay (2019) examines how multi-platform systems streamline car service reservations—concepts applicable to catering and event venues.

### 2. Catering and Food Service Technologies

Technology continues to reshape the catering industry, driving innovation in both back-end operations and customer-facing services. Akshayaa (2024) explores how digital tools revolutionize pre-event planning and enhance guest experiences, while Better Cater, Inc. (2024) discusses emerging trends like AI-driven resource management.

ScienceDirect (1983) highlights the early adoption of microcomputer systems to streamline catering operations, showing the long-term value of automation. The Open Cybernetics & Systemics Journal (2015) focuses on multimedia catering systems, emphasizing real-time data tracking and relational databases.

Colleges and large-scale institutions have also embraced catering technology. IEEE (2022) examines campus catering systems designed to reduce inefficiencies during peak times, while JETIR (2021) highlights the scalability of online catering management platforms for serving thousands of people.

The Korean Dietetic Association (2005) analyzes website structures for catering services, identifying clarity and user-friendly design as critical components for effective communication with clients. Nurzahirah (2011) complements this by detailing how hotel-based catering systems use technology to manage inventory and raw materials effectively.

### 3. Customer Satisfaction through Technology

Customer satisfaction hinges on seamless experiences powered by technology. Verana (2024) describes how event management platforms enhance trust through real-time updates and transparent communication. Similarly, Khwunnak et al. (2023) report high customer satisfaction with reservation systems that feature user-friendly interfaces and reliable performance.

JETIR (2021) demonstrates how digital catering platforms cater to customer needs by automating processes, reducing delays, and improving service quality. Meanwhile, ThaiJo (2024) emphasizes the role of ICT in increasing loyalty through personalized customer interactions and clear communication.

Dalisay (2019) discusses the benefits of reservation systems in improving client experiences, while Fordham Research Commons (2018) highlights how notifications and real-time updates foster a sense of control and trust in users.

### 4. Small Business Automation

Automation equips small businesses with tools to compete against larger enterprises. Frank Tilleli (2022) highlights how manual processes hinder scalability, while tailored systems empower SMEs to streamline operations and reduce overhead.

BAHANDIAN (2017) provides insights into web-based platforms designed to simplify small business operations, particularly in catering and event planning. The International Journal of Instruction (2022) further illustrates how algorithm-driven systems improve quality monitoring, a concept adaptable to food and service standards in catering.

ResearchGate (2024) demonstrates how ICT interventions in Kenyan e-hotels improve resource allocation and minimize operational errors, presenting a scalable model for SMEs. Similarly, Nurzahirah (2011) discusses how web-based hotel systems enhance inventory management for small operations.  
 Technology for small businesses continues to evolve with cloud-based platforms. A study by Small Business Trends (2023) explores the integration of cloud-based systems to handle inventory, payroll, and customer data, significantly reducing costs and increasing flexibility. These innovations are especially useful for small catering businesses like Villa Salud.

SYNTHESIS   
 The reviewed literature demonstrates how digital solutions transform event management, catering services, and small business operations. Each study contributes insights into how Villa Salud Catering Services can adopt automation and customer-centric technology to enhance efficiency and competitiveness. This research seeks to bridge the gap in existing literature by developing a tailored platform that meets the unique needs of Villa Salud.

**CHAPTER 3**

**METHODOLOGY**

**3.1 REQUIREMENT ANALYSIS**

**3.1.1. Features Matrix**

Table #

|  |  |  |
| --- | --- | --- |
| **Feature** | **Description** | **Requirements** |
| Inquiry Management | Allows admins to see all inquiries made by customers. Allows inquire for a possible reservation or booking | Admin can select inquiries and review them. |
| Admin can send email confirmation |
| Admin can say yes or no to inquiries before pushing as a reservation |
| Admin Dashboard | Enables admins to view booked and available dates and generate reports. | Admin can view an overview of reservation status (e.g., booked, available). |
| Admin can generate reports for specific months or years. |

This table represents all the main features our system has. This explains how system works, what it means and what it’s called. This also shows the requirements needed to meet the feature or the capabilities of the system. It can also show who is involved in the feature.

**3.1.2. Use Case Diagram**

Figure #. Admin Side

****

Figure # shows the use case diagram for the admin side of the system. This shows the interaction of the admin into the system. It shows the capabilities or the abilities of an admin into the system. It also represents the behavior of the admin towards the system.

Figure #. Patron Side

****

Figure # shows the use case diagram for patron (customer). This diagram shows the behavior, interaction and, the capabilities of the patron to the system.

**3.1.3. Use Case Report**

Table #

|  |  |
| --- | --- |
| **Use Case Name** | **Manage Reservations** |
| Actors | Admin |
| Description | The admin can manage customer reservations, including updating the reservation status (confirmed, canceled, rescheduled), and checking available and booked dates. |
| Preconditions | Admin must log in to the system. |
| Main Flow | 1. Admin logs into the system. |
| 2. Admin navigates to the reservation management dashboard. |
| 3. Admin views booked and available dates. |
| 4. Admin updates reservation statuses as needed. |
| Alternative Flow | 1. If the reservation does not exist, the system displays an error message. |

Continuation to Table #

|  |  |
| --- | --- |
| Postconditions | Updated reservation details are reflected in the system. |

Table #

|  |  |
| --- | --- |
| **Use Case Name** | **Handle Inquiries** |
| Actors | Admin |
| Description | The admin can review and answer inquiries from customers. |
| Preconditions | Admin must log in to the system. |
| Main Flow | 1. Admin logs into the system. |
| 2. Admin navigates to the inquiries section. |
| 3. Admin reviews inquiries submitted by patrons. |
| 4. Admin sends responses to the inquiries. |
| Alternative Flow | 1. If there are no inquiries, the system displays a "No Inquiries Available" message. |

Continuation to Table #

|  |  |
| --- | --- |
| Postconditions | Customer inquiries are marked as reviewed/responded to. |

Table #

|  |  |
| --- | --- |
| **Use Case Name** | **Send Email Confirmations** |
| Actors | Admin |
| Description | The admin sends email confirmations for reservations to patrons. |
| Preconditions | Reservation details must be complete. |
| Main Flow | 1. Admin logs into the system. |
| 2. Admin selects a reservation and sends an email confirmation. |
| Postconditions | Customer inquiries are marked as reviewed/responded to. |

Table #

|  |  |
| --- | --- |
| **Use Case Name** | **Book Reservation** |
| Actors | Patron |
| Description | The patron can book a reservation for a specific date, selecting the food package and customizing details. |
| Preconditions | The customer must access the system through the interface. |
| Main Flow | 1. Patron accesses the reservation interface. |
| 2. Patron views available dates for reservations. |
| 3. Patron selects a date, food package, and additional details. |
| 4. Patron submits the booking request. |
| Postconditions | Reservation is successfully saved in the system. |

Table #

|  |  |
| --- | --- |
| **Use Case Name** | **View Reservation Summary** |
| Actors | Patron |
| Description | The patron can view the details of their reservation. |
| Preconditions | A reservation must exist in the system. |
| Main Flow | 1. Patron navigates to the reservation summary section. |
| 2. Patron reviews the details of their reservation. |
| Alterative Flow | If no reservation exists, the system displays a "No Reservation Found" message. |
| Postconditions | Reservation details are displayed. |

Table #

|  |  |
| --- | --- |
| **Use Case Name** | **Cancel/Reschedule Reservation** |
| Actors | Patron |
| Description | The patron can cancel or reschedule their reservation through the system. |
| Preconditions | A reservation must exist in the system. |
| Main Flow | 1. Patron navigates to their reservation. |
| 2. Patron selects the option to cancel or reschedule the reservation. |
|  | 3. System processes the cancellation or rescheduling. |
| Postconditions | Reservation is either canceled or rescheduled, and the system updates its status. |

Table #

|  |  |
| --- | --- |
| **Use Case Name** | **Receive Notifications** |
| Actors | Patron |
| Description | The patron receives email notifications for booking confirmations or updates. |
| Preconditions | Email address must be registered in the system. |
| Main Flow | 1. Patron submits a booking or updates a reservation. |
| 2. System sends an email notification to the patron. |
| Postconditions | Notification is successfully received by the patron. |

**3.2 DESIGN SPECIFICATIONS**

**3.2.1. Activity Diagram**

Patron’s processes. In the following figures, it will show the processes available in patron’s side. This shows systematic approach of the patron to the system. The process will be shown in a flowchart to better present and to easily understand the process.

Figure #. Check Availability.



Figure #. Book a Reservation.



Figure #. Modify Reservation



Figure #. View Reservation Summary



Admin’s processes. The following figure will represent the process for the admin. It will be shown in a flowchart method to easily present the systematic process of the admin in the system.

Figure #. Check Availability



Figure #. Manage Reservations



Figure #. Respond to Inquiries



**3.2.2. GUI Design**

**Figure #. Landing Page**

****

**Figure #. Admin Account Creation**

****

**Figure #. Admin Log in**

****

**Figure #. Inquiry Page**

****

**Figure #. Dates Page**



**Figure #. Patron’s Homepage**



**Figure #. Patron: View Reservation**



Figure #. Creation of Reservation



**Figure #. Initial Inquiry Questions**



**3.2.3. Database Schema**



**3.2.4. Data Dictionary**

Table #. Admin Table

|  |  |  |  |
| --- | --- | --- | --- |
| **ADMIN** | | | |
| Field Name | Data Type | Field Size | Description |
| id | INT |  | Description ID |
| admin\_id | VARCHAR | 255 | Unique admin’s ID |
| email | VARCHAR | 255 | Admin’s email address |
| name | VARCHAR | 255 | Admin’s last name |
| phone\_num | INT |  | Admin’s phone number |
| time\_created | TIMESTAMP |  | Time for when the table has created |
| time\_updated | TIMESTAMP |  | Time for when the table has been updated |

Table #. Patron’s Table

|  |  |  |  |
| --- | --- | --- | --- |
| **PATRON (CUSTOMER)** | | | |
| Field Name | Data Type | Field Size | Description |
| id | INT |  | Description ID |
| patron\_id | VARCHAR | 255 | Unique patron’s ID |

Continuation of Table #.

|  |  |  |  |
| --- | --- | --- | --- |
| Email | VARCHAR | 255 | Patron’s email address |
| name | VARCHAR | 255 | Patron’s last name |
| address | VARCHAR | 255 | Patron’s address |
| phone\_num | INT |  | Patron’s phone number |
| time\_created | TIMESTAMP |  | Time for when the table has created |

Table #. Reservation Table

|  |  |  |  |
| --- | --- | --- | --- |
| **RESERVATION** | | | |
| Field Name | Data Type | Field Size | Description |
| id | INT |  | Description ID |
| reserve\_id | VARCHAR | 255 | Unique reservation’s ID |
| patron’s id | VARCHAR | 255 | Patron’s unique id |
| num\_pax | INT | 255 | Number of persons that will attend |
| food\_package | ENUM |  | What type of food package the customer will avail |

Continuation of Table #.

|  |  |  |  |
| --- | --- | --- | --- |
| time\_created | TIMESTAMP |  | Time for when the table has created |
| time\_updated | TIMESTAMP |  | Time for when the table has been updated |

Table #. Inquiries Table

|  |  |  |  |
| --- | --- | --- | --- |
| **INQUIRIES** | | | |
| Field Name | Data Type | Field Size | Description |
| id | INT |  | Description ID |
| inquiry\_id | VARCHAR | 255 | Unique event’s ID |
| patron\_id | VARCHAR | 255 | Unique patron’s ID |
| reserve\_id | VARCHAR | 255 | Unique reservation’s ID |
| time\_date | VARCHAR | 255 | Time and date of the event |
| place | VARCHAR | 255 | Place of the event |
| theme | VARCHAR | 255 | The theme of the event |
| motif | VARCHAR | 255 | Motif of the event |
| time\_created | TIMESTAMP |  | time for when the table has created |
| time\_updated | TIMESTAMP |  | time for when the table has been updated |

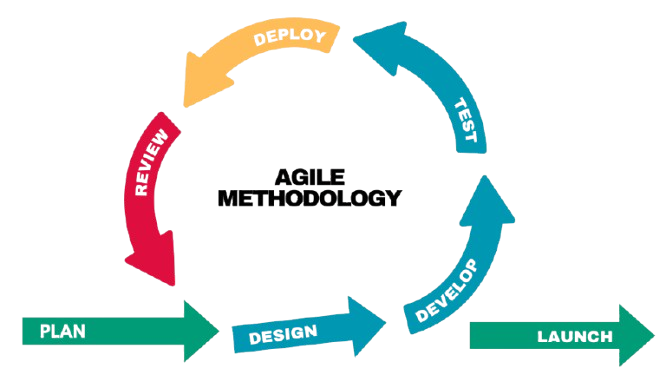
Table #. Payment Table

|  |  |  |  |
| --- | --- | --- | --- |
| **PAYMENT** | | | |
| Field Name | Data Type | Field Size | Description |
| id | INT |  | Description ID |
| pay\_id | VARCHAR | 255 | Unique payment’s ID |
| reserve\_id | VARCHAR | 255 | Unique reservation’s ID |
| patron\_id | VARCHAR | 255 | Unique patron’s ID |
| amount | VARCHAR | 255 | Amount to be paid by the customer |
| date | DATE |  | Date the order payment has been issued |
| time | TIME |  | Time the order payment has been issued |
| payment\_date | DATETIME |  | Date of the possible settlement of date of the customer |
| payment\_type | ENUM |  | What type of payment the customer will do; full or down payment |
| time\_created | TIMESTAMP |  | time for when the table has created |
| time\_updated | TIMESTAMP |  | time for when the table has been updated |

**3.3. DEVELOPMENT TOOLS**

**3.3.1. Process Model**

Figure #. Agile Methodology



We applied the Agile methodology in developing the system because it allows us to adjust to changes in the project requirements more effectively. This approach ensures our efforts are focused and efficient while also making it easier to improve or modify the system’s design when needed. If there are updates or revisions to the design, Agile helps us track the system’s progress more effectively.

By using Agile, we adopted a flexible and collaborative approach to system development. This method allows us to handle changes smoothly, simplify updates to the system’s structure, and monitor its progress closely. With Agile principles, our goal is to create a reliable, high-quality system that automates and replaces manual processes, improving efficiency and overall service quality for Villa Salud.

**Planning**

In Agile methodology, everything begins with the Planning Phase. Here, we focused on gathering all the information needed to develop the system. We clearly defined the project’s scope and limitations, created an initial plan for implementation, and assessed how feasible and credible the project would be. To better understand what the client needed, we also conducted an interview to gather their requirements and ensure those needs would be implemented effectively in the system.

**Design**

In this phase, we created a layout based on the client’s requirements. We designed the interface to be simple and easy to use, aiming to ensure user satisfaction. To achieve this, we used a minimal color scheme, made the design responsive, and prioritized a user-friendly approach. We used Figma to visualize the system, allowing the client to see a preview of the partial outcome and provide feedback for improvements.

**Develop**

In the development stage, the developer is assigned to work on the system’s integrity, design, layout, and functionality. The developer gathers all the necessary information from the client and ensures the system is properly integrated. The features to be implemented in the system include managing event reservations, organizing menu packages, automating scheduling, generating reports, creating announcements. When writing the code, the system's design, specs, and the customer's specific requirements are all carefully considered. By taking these aspects carefully, we will make sure that the end product satisfies the system's expectations and is in line with the planned goals.

**Test**

In the testing phase, the Quality Assurance (QA) team checks how well the system works, how it performs, and its overall design. This includes performing functionality, integrity, and unit testing. In addition to testing the system's responsiveness and design, any faults or errors are found and fixed. Before the system is fully implemented at Villa Salud, the researchers will test it with the client, a small group of users, and employees to make sure it is functional.

**Deploy**

After the testing phase, the system will be deployed and checked by the client. During this deployment stage, the client will use the system and test its functionalities and integrations to ensure everything works as expected.

**Review**

The review stage is when the client evaluates their experience using the system and provides feedback. During this stage, the client can also suggest improvements to the system’s functionalities or requirements to enhance its performance.

**Launch**

The launch stage is when the developers officially launch the system and deploy it for public use. During this stage, the system becomes fully operational and accessible to the intended users. The researchers ensure that everything is in place for the system’s smooth functioning, and it is made available for the public or the target audience to begin using.

**3.3.2. Development Tools**

|  |  |
| --- | --- |
| Programming Languages | JavaScript, PHP |
| Supporting Tools | HTML, CSS, GITHUB |
| Relational Database Management  System | PHP, MySQL |
| Integrated Development Environment | Visual Studio Code, GitHub |
| Server | Google |
| Web Browser | Google Chrome, Microsoft Edge, Safari |