A DESKTOP-BASED BARANGAY RESIDENT INFORMATION SYSTEM FOR BIGO BARANGAY HALL

A Capstone Project

Presented to the Faculty of the

Information and Communications Technology Program

STI College Lucena

In Partial Fulfilment

of the Requirements for the Degree

Bachelor of Science in Information Technology

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ENDORSEMENT FORM FOR ORAL DEFENSE

TITLE OF RESEARCH: A Desktop-Based Barangay Resident Information System for Bigo Barangay Hall

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for the degree Bachelor of Science in Information Technology

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# APPROVAL SHEET

This capstone project titled: A Desktop-Base Barangay Resident Information System for Bigo Barangay Hall prepared and submitted by Kent Norman M. Suizo, Jayvee D. Camacho and Josiah Daniel S. Manalo, in partial fulfillment of the requirements for the degree of Bachelor of Science in Information Technology, has been examined and is recommended for acceptance and approval.

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in partial fulfillment of the requirements for the degree of

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# Acknowledgements

We would like to acknowledge and give warmest thanks to Mr. Steven Mario P. Yan our capstone project coordinator, capstone project adviser, for being an excellent professor, mentor, and cheerleader. We would not have been able to complete this project without your feedback, recommendations, advice, and provision that benefited through the success of this study.

We would also like to thank to Glenda M. Luna, the Captain of Barangay Bigo, Pagbilao Quezon for allowing the researchers to conduct the study in their barangay.

To our parents and guardians, for showing their unconditional love and unending support financially and spiritually.

We would also like to thank our friends who supported us and offered deep insight into the study. Excitement and willingness to provide feedback made the completion of this research an enjoyable experience.

Finally, we would like to thank God, for letting us through all the difficulties. We have experienced your guidance day by day. The many prayers we have prayed and had answered, the blessings we have received, and the many tears shed during this course were all a part of your plan for us. We have faith that our future will be bright and full of opportunities and joy. The journey in doing this project and completing our degree has been a great learning experience and one we take pride in accomplishing.

# Abstract

Title of research**: A Desktop-Base Barangay Resident Information System for Bigo Barangay Hall**

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Degree: Bachelor of Science in Information Technology

Date of Completion: <Month year of graduation>

Key words: <key words of your research>

The use of resident information system is essential in today's high-tech world. The system was created to make it easier for LGU’s and other institutions to run their daily operations. A secretary at Brgy. Bigo is aware that they require an information management system that can fulfill their needs and replace their paper-based manual process. This will improve their management. The computer's various advantages and contributions, especially in the management of individuals' information, and other activities, shall allow LGU’s to improve and update their basic operations. To improve administration, officials in brgy. Bigo is aware of the need for an information management system to meet their needs and replace the paper-based manual method. In order to meet the needs of the barangay, the researchers design a resident information system. After development, the developers shall apply accessibility testing to ensure that the system was usable on computers. Then the researchers will test all the functionalities using functional testing. After passing all of the tests, the system will be handed to the barangay hall.

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# Introduction

## Project Context

Nowadays, computer technologies became an integral part of living. People across the globe are using technology to make different task simpler and easy to do. Open of the most significant contributions of technology is in the government sector. Different government units have significant benefited from thru de of computer technologies, especially barangay units. With the incline of modern-day computing and technology, most establishments may adapt and embrace these changes as it improves their work, lives, and provide more accurate and reliable results in the end. Meanwhile, these great changes are already here, some establishments are yet to adopt these changes and having some difficulties in adapting to modern-day tech. The census was the official count of population and home in certain areas. It provides the LGU with information on the demographic, social and economic characteristics of the population. Broadly defined, demography was the study of the characteristics of populations. It provides a mathematical description of how those characteristics change over time. Demographics could include any statistical factors that influence population growth or decline, but several parameters are particularly important: population size, density, age structure, fecundity (birth rates), mortality (death rates), and sex ratio.

According to Carpio (2020) The Barangay Management System or e - barangay was a web - based management system which shall reinvent barangay management from a traditional and centrally dependent unit towards a more inclusive and citizens-oriented scheme. It essentially aims to streamline existing administrative processes in terms of requesting documents, filing complaints and generating apt and accurate local statistics. They have also highlighted the necessity to transform governance— to move away from the traditional, top-down approaches towards more decentralized and participatory systems. Common in the new public sector reforms is the use of Information and Communication Technology (ICT) in improving government procedures and processes and the linkage between government, citizens, and other groups in governance to promote a more active and participatory political deliberation and decision making—a strategy known as e-governance. Growing evidence over the past decades demonstrates the emergence of a global field of inquiry at the intersection of government, society, and information and communication technologies. This field is characterized by terms such as Digital. Government, e-government, e-governance, or information society. At the initial stage, the term was a little more than a general recognition of the confluence of information technology developments and the application and use of these technologies by government entities.

**Background of The Problem**

Barangay Bigo is a small village in the municipality of Pagbilao, it has a total population 1500 individuals aging from 0-80 years old according to its secretary. The way they gather the data for the census is through surveying of their kagawads and by house to house visiting. Each kagawad has a sitio to visit and Barangay Bigo has a total of seven sitio’s. After gathering information of the kagawads the data shall now proceed to the barangay. Secretary then shall proceed to store the data in a cabinet file. The data shall be manually counted and tallied by the secretary. In every six months, the barangay conducts their census, and it consumes so much paper and time. At times to update the data the secretary just reuses existing paper to update their tally. Conventionally, the barangay uses manual approaches in doing their everyday activities and transaction. They use the pen and paper approach in recording and face-to-face in doing transactions. It is highly prone to human errors and inefficient in providing satisfying service to the residents. There is an intensified need to improve the conducting a transaction in the barangay and its residents.

**Overview of The Current State of Technology to be used**

Barangay Bigo Hall has only used a paper, pen labor-intensive manual form of data storage up until now, which is difficult for personnel to maintain. They have been giving their constituents services via an outmoded manual technique. The most effective way to resolve the concerns mentioned above is the employment of a system that shall help their information management and data storing. Also adding an interface that shall automatically tallies the data and present it in a graphical format giving the LGO a visual representation of the information.

In developing the system, the developers would used

## Purpose and Description of the Project

The purpose of implementing a desktop-based Barangay Resident Information System for Bigo Barangay Hall, Pagbilao Quezon, was to enhance the way of management and keeping all the resident’s records. Desktop-Base Barangay Resident Information System for Bigo Brgy Hall consists of personal attributes. These were person’s name, sex, date of birth, residence address, citizenship, date of birth, place of birth, civil status, occupation, and contact number. The gathering of information or census was carried out on a "de jure" basis, that was the people were counted according to where they usually lived rather than where they were found at the time of the census. This study aimed to develop a system that would organize the personal information from the residence of Barangay and convert it into an automated system that shall generate statistical records such as total population of the Barangay Bigo, employed and unemployed citizens, and out of school youth, managing, and keeping all the resident’s personal information records in Barangay. Desktop-Base Barangay Resident Information System for Bigo Brgy Hall was a local system that could be accessed by two types of end user. The secretary was assigned to encode and edit/updated the residence’s information and the other barangay officials for the viewing and search of data within the system.

In this study, the researchers would explain the creation and planning for a Desktop-Base Resident Information system for Bigo Barangay Hall (DBRIS), how the system was developed and implemented.

This study will be beneficial to the following:

* Barangay Inhabitants

The system would be beneficial to the citizen who lives in barangay in terms of monitoring and securing their record in database and enable the Barangay Inhabitants to efficiently maintain comprehensive and up-to-date resident records, streamline record-keeping processes, and access to important resident information. It will contribute to more effective barangay management and better service.

* Barangay Officials

The individuals who managed the files and information of the barangay would bring easy access to the data they need. Tasks such as data entry, retrieval and updating could be performed more efficiently, saving time and effort. This would also eliminate tons of papers they usually keep and allow the system to store it in such a manner that can be easily accessed.

* Researchers

The researchers experienced in conducting the study would further improve their knowledge and skills in developing programs. Conducting the study enhanced researchers’ expertise, strengthening program development skills. The experienced gained cultivates cultivates knowledge, propelling the abilities forward.

* Future Researchers The study would serve as their reference in developing updates for the system. The outcome of the study will serve beneficial to the present researcher or the future researchers for their cross-reference that will give them a background or an overview. This study may be one of the bases where a new theory in learning will arise.

## Objectives of the Study

The general objective of the study was to develop an inventory resident management information system for Bigo Barangay Hall in Pagbilao Quezon. It aimed to develop citizen information that would lessen the possible errors in searching the information of citizen of barangay Bigo. The objective of the study was to create an efficient system that aided in the management and organization of information pertaining to residents within a barangay. This system would streamline the process of storing and retrieving resident data, enabling easy access to essential information such as personal details, addresses, and contact information. By implementing this system, the barangay can enhance its administrative functions, improve record-keeping practices, and facilitate effective communication with residents. The system would contribute to the overall efficiency and effectiveness of the barangay administration, ensuring that resident information is accurately maintained and readily available whenever required.

Specific Objectives

The specific objectives of the study are as follows:

* + To develop a system that help in managing organizing the barangay resident information.

The objective was to create a comprehensive system that facilitates the efficient management and organization of resident information within a barangay. This system would streamline the process of collecting, storing, and accessing data, ultimately enhancing the overall management and administration of the system.

* + To develop the system that will cover records like certificate, permits, blotter or another barangay issuance.

The objective was to create a comprehensive system that manages various barangay-related documents, such as certificates, permits and the blotter. This system would handle the storage retrieval, and processing of these records, streamlining and administrative processes and ensuring efficient issuance of necessary documents within the barangay.

* + To incorporate summarization of records and reports

This system could generate statistical records such as total population of the Barangay, employed and unemployed, and out of school youth.

* + To keep resident information updated.

The objective was to ensure that the details of residents were constantly maintained and accurate. This included regularly verifying and refreshing their personal information, such as addresses, contact numbers, and any other relevant data, to ensure an up-to-date record for administrative purposes. It could ensure that the data is reliable.

* + To develop a user-friendly interface.

The stuff/personnel would be able to easily update resident information by using convenient and user-friendly interfaces, reducing the need for manual paperwork or time-consuming procedures. Users could save time and effort by using the system.

## Scope and Limitations of the Study

The study covered Barangay Information System that focused on the whole statistic or overall census of Barangay Bigo. This system would tabulate the profile of each member of the barangay, it would help the barangay to identify the increasing and decreasing number of residents. The system would provide efficient, reliable, fast, accurate information to provide good quality service to secure the file of the barangay resident and ensure the services and information were given at right time to satisfy the needs of the client, also, to provide user efficient working environment and generates more output. Desktop-Based resident information system provides friendly user interface resulting in knowledge each usability features of the system.

* Log In

The Barangay information system incorporated a secure log-in feature to ensure authorized access. Users provided their unique credentials, such as username and password, to gain entry. This feature helped protect data and maintain the system integrity, promoting efficient management of barangay resident information and services.

Desktop-Base Barangay Resident Information System for Bigo Brgy Hall was a local system that could be accessed by two types of end user. The barangay captain, secretary or staff/personnel that was assigned to encode and edit/update the residence’s information and the other barangay officials for the viewing and search of data within the system.

* + Administrator or Superuser:

The barangay Captain shall be the highest level of access and control over the system. Administrators had the full permission to control and configure every part of the system, including making changes to system setting, managing user accounts, and performing important task.

* + Power user:

Power user would be the Secretary and the Treasurer as they have almost the same level in position in the officers. Have elevated privileges that allowed them to perform certain administration functions, such as managing the resident’s data by adding new info, deleting, updating and archiving residents’ data, and carry out complex task.

* + Standard User:

Standard users would be the barangay Kagawads had basic access privileges within a system. They could perform regular tasks and use the system they may have limited access to system.

* + Guest User:

Guest users were given to someone just in case the secretary is not available it had restricted access to a system. They were typically and have limited permissions, allowing them to perform only a subset of tasks. Guest accounts are often used to provide temporary or limited access to individuals.

* Dashboard

The barangay information system included a dashboard feature, providing a concise overview of key data and statistics. By the use charted the data can be represented graphically helping the users have a visual representation of the data that the system had gathered. offered real-time updates on the population and demographic total of residents in barangay Bigo. This also included other records like number of meetings, cases of arrangements, and blotters.

* Residents Data
  + Add

The add button features allowed users to input new data or record into the system, enabling the inclusion of additional information. It also included adding additional new information to the system like records of blotters, meetings, and other certificates.

* + Edit

The edit feature in the barangay information system allowed authorized users to modify and updated existing data, ensuring accurate and up-to-date data information.

* + Delete

The delete features in a barangay information system allowed authorized to remove outdated or relevant data, ensuring data integrity and efficient data management.

* + Search

Quick search allowed users to find records like resident information and meeting, certificates, and blotter by entering a keyword in the search bar.

* + Archive

it is a function that stored the data that is still relevant to the brgy. Like records of past inhabitants of the brgy, or like past brgy documents.

This study limited to the following:

* The system is limited to the Barangay officials who were only authorized to maintain and update the records.

The system allowed only authorized barangay officials to maintain and update resident records, restricting access to ensure data integrity and privacy.

* Can only record residences household information.

The system could solely capture and store information specific to household residing within a residing within a particular residence. It is limited to recording details related to the resident living in the house and did not encompass broader data beyond household-related information.

* The system was limited for barangay Bigo Hall used only.

The system was limited to barangay Bigo Hall only and couldn’t be used outside of the area it covered. Its scope and features are only applicable to that specific local community, which limited its use and accessibility to other locations.

* Only records like certificates, permits, and other barangay issuances will be covered by the system.

The system would handle official documents such as certificates, permits, and other administrative papers provided by the barangay. It would not extend its coverage to include any other forms of records like barangay health records, barangay payment records, barangay project or event records.

* The system was designed and developed to be used offline.

The system was intentionally created and built to operate without requiring an internet connection or online connectivity. Its design and development focused on ensuring that it can function autonomously, independent of internet access, providing users with offline capabilities and reliable performance.

# review of related literature/systems

## Review of Related Literature

According to Lacasandile, Abisado, and Labanan (2020), the need to automate Barangay Information Profiling System (BIPS) intends to contribute to the utilization of aggregate data from the resident of each household in every barangay and encode it to the system that was initially developed in accordance with the recommendations from the perspective of the users. Automated BIPS intends to provide a technology that transforms paper-based data and complex government in the Philippines into compelling visuals in the form of a dashboard that meets the demand for providing an at-a-glance view of public information in the areas of Labor and Employment, Family Income and Expenditures, Demography by (Population) and (Age), Water and Sanitation, and Type of Housing and Education. The collected data can be converted into something measurable and can provide interactive charts, graphs, and statistics that enable decision-makers, the public and other stakeholders to view and evaluate the situation of their community and take part and help to contribute towards a common goal.

According to Olipas, Luciano, and Cochanco (2019), Barangay plays a significant role in the overall development of a municipality, a province, or a country. Barangay is an administrative unit in the Philippines consisting of 50 to 100 families. Thus, it is imperative to come up with development projects that would benefit the members of the community. Today's technological advancement calls for a more innovative and progressive approach to handling different processes and activities at the barangay level. The integration of different technological innovations and products has been proven beneficial and advantageous in managing communities.

## Related Studies and/or Systems

Local Studies

Barangay Management Information System (BMIS) for Cities and

Municipalities in the Philippines

According to Imus, Magleo, Soriano, & Olalia, (2018). Computers, specifically, serve as a general service tools and weapon in the field of information retrieval and operations. Computer-based information retrieval operates through the use of software that can offer information services for an institution or organization. It is powerful and convenient builder for simultaneous growth in society and industries. An information service provides a way to electronically access, retrieve, and transmit that information. The idea was to introduce management information system to help solve the problem. This paper provides an efficient and effective way to record and manage information that is needed of every barangay. The Barangay Management Information System is a program which contains features that records and manages information and at the same time can send documents from barangay hall to the city hall.

Barangay Constituents Information and Services Management System

According Villones(2021) to As the global environment ages, the emerging trend for Information Technology has risen above the development initiatives' surface. The Barangay currently used a manual process in issuing Barangay Certificates, Business Permit, Summon Letter, etc. This caused a lengthy procedure in accessing the records and files, which sometimes cause record redundancy. The study's objective was to design and develop a Barangay Constituents Information and Services Management System to improve record retrieval in the Barangay.

Information church management system utilizes QR technology for one in Christ international church inc. Lucban, Quezon

According to Monje, I., Pardo, I., and Ressurreccion, J. (2022) In today’s technology world, church management software is important. This program was created to assist churches and other religious groups in managing their operations.

Because of the computer’s multiple benefits and contributions, churches were able to improve and modernize their normal operations, particularly in the management of members’ information, finances, and church activities. The leadership of One in Christ International Church Inc. Lucban recognizes the necessity to have an information management system to meet their needs and replace the paper-based manual system in order to improve their administration.

Foreign Studies

Designing Temporary Resident Information Systems: Case Study of a Village in Bali

According to Permana, P. a. G., & Dewanti, P. (2019) Temporary Resident data processing is the main activity carried out by the village administration on an ongoing basis. The current system still often finds difficulties when conducting data collection, searching population data, and making Temporary Resident reports. Manual registration process also causes damage and loss of data due to storage media only in the form of physical documents. This conventional system caused the activities of Temporary Resident data collection in the village to be less effective and efficient. This research aims to produce a faster, more effective and efficient, Temporary Resident data's information system in the village. The method used in developing this system is a System Development Life Cycle with the Waterfall process model, while observation and interviews were used for the data collection. The Temporary Resident Information System is expected to help facilitate Residents in registering so that village administrators will produce a faster, more effective, and efficient work. The results of this study are to facilitate the village in the process of managing Temporary Resident data, search, and report periodically on population numbers and print Temporary Resident identity cards.

Related System

Towards Digitization through e-Barangay “A Web-based Barangay Information System”

According to Bren Castro Bondoc (2019) Web-based Barangay Information System named “e-Barangay” for barangay Mangga, San Isidro, Nueva Ecija. The researcher employed the developmental method of research in the design and development a Web-based Barangay Information System. The e-Barangay was developed using System Development Life Cycle (SDLC) methodology and assessed by IT experts, and local officials of barangay Mangga. The level of acceptance of the developed system was evaluated based on international standard for the evaluation of software also known as the ISO 9126. The system adheres to the standard set by ISO 9126 and garnered a mean rating of 4.24 from IT expertss which translates as “excellent”. Also, a mean rating of 4.23 which translates to “excellent” was gathered from the responses of the local officials from barangay Communal. The e-Barangay was deemed acceptable since respondents were pleased with the system's features and felt that it was functional and easy to use. The system would be beneficial to barangay Mangga in streamlining their administrative processes and managing document request. Also, by implementing the e-Barangay system, it can serve as a database for local statistics of the barangay.

## Synthesis

The studies mentioned highlight the importance of automating the Barangay Information Profiling System (BIPS) and integrating technological innovations in managing communities at the barangay level in the Philippines.

Lacasandile, Abisado, and Labanan (2020) emphasize the need to automate BIPS to utilize aggregate data from residents in each household and encode it into a system that provides visual representations and a dashboard. This automated system aims to offer an at-a-glance view of the information in various areas such as labor and employment, family income and expenditures, demography, water and sanitation, and education. By presenting data into graphical formats and providing interactive charts and statistics, the LGO’s can evaluate immediately and contribute to their community's development.

Olipas, Luciano, and Cochanco (2019) stress the significant role of the barangay in overall development and the importance of implementing development projects for community members. They advocate for integrating technological innovations and products at the barangay level to improve processes and activities, benefiting the community.

Imus, Magleo, Soriano, and Olalia (2018) highlight the power of computers and information retrieval software in offering efficient and effective ways to record and manage information at the barangay level. They propose the Barangay Management Information System, which features information recording, management, and document transmission from the barangay hall to the city hall. This system aims to improve information management and retrieval within the barangay.

Villones(2021) In line with the previous studies, the objective of the study is to design and develop a Barangay Constituents Information and Services Management System. This system aims to enhance record retrieval in the barangay by replacing the manual process of issuing barangay certificates, business permits, summon letters, and other documents. By implementing this barangay information system, aims to improve efficiency, reduce lengthy procedures, minimize record redundancy, and facilitate record access and retrieval in the barangay.

In summary, these studies collectively emphasize the importance of automating and integrating technology in the Barangay Information System and overall community management at the barangay level in the Philippines. The proposed systems aim to enhance data managements, provide visual representations, improve information storring management and retrieval, and streamline administrative processes for the benefit of GO’s and the community.

According to Permana, P. a. G., & Dewanti, P. (2019) The current Temporary Resident data processing system in a village faces challenges in data collection, search, and reporting. The manual registration process also causes data damage. This research aims to develop a faster, more efficient Temporary Resident data information system using a System Development Life Cycle with the Waterfall process model, using observation and interviews for data collection. The system aims to facilitate registration, search, report, and print Temporary Resident identity cards.

Bren Castro Bondoc (2019) developed a Web-based Barangay Information System, "e-Barangay," for barangay Mangga in San Isidro, Nueva Ecija. The system, developed using SDLC methodology, was assessed by IT experts and local officials. The system met ISO 9126 standards and received a mean rating of "excellent" from IT experts and 4.23 from local officials. The system aims to streamline administrative processes and serve as a local statistics database.

## TECHNICAL BACKGROUND

## Overview of Current Technologies to be Used in the System

Currently, Barangay Bigo had only used a labor-intensive manual formed of data storage up until then, which was difficult for personnel to maintained. They had been gave their constituents services via an outmoded manual technique.

Database Management System (DBMS)

DBMS, commonly referred to as database management system software, utilized for stored. Users could created their owned databases used a DBMS to met their business requirements by modifying and controlling data in a database environment, such as format, named of fields, and recorded and filed structures.

SQL

It was the programming language would use to connect the system into the database system. The researcher would use this to have a communication between C# and SQL Database Management System to call the data stored in it.

Graphics Design

Graphics software created, edits, and managed two-dimensional images. Web graphics, logos, headings, backgrounds, digital photos, or other kinds of digital images. The researcher would use adobe Photoshop as the tool for created the logos and layout of the interface of the system.

RDBMS

Relational Database (RDBMS) typed of database that stored and provided access to data pointed that related to one to another. Relational databases were based on the relational model, an intuitive, straightforward way of representing data in tables. All modern database management systems liked SQL, MS SQL server, IBM DB2, ORACLE, My-SQL and Microsoft access are Based on RDBMS.

OOP

## Object-oriented programming (OOP) was a programming paradigm that organizes code into objected, which was instance of classes. It provided a way to structure and design software system by focusing on objected that encapsulate data and behavior. The researcher would used C# as Object-oriented programming language, which promotes code organization, reusability, and modularity, it allowed researcher to created classes, objects, and encapsulate data and behavior, made it easier to managed and maintained complex applications.

## Calendar of Activities

**Team Meating**

The researchers would conduct a met for brainstorming ideas and researched topics. After went up with the idea, the researchers then then proceeded to the thesis coordinator to seek approval of the idea.

**Clients Interview**

After the topic had approved the researchers then then seek clients and interviewed them for their current problems.

**Research**

After gained information about the current situations of the barangay Bigo, the researchers then proceed in conducting researched on solutions and similar technologies that had existed that could helped the barangay’s problem.

**Documentation**

The researcher would document their studied and carefully examined it for any potential revisions.

**Review and Revisions**

The researchers would review and revise the documents until no further changed had been made. This would ensured that the documents was accurate, completed, and aligned with the project requirements.

**User Interface Design**

In this parted, the researchers would design the user interface of the system.

**Database Design**

In this parted, the researchers would design the database architecture of the system. It would define the structure of the database, included table, fields, and relationships within the system.

**System Development**

The researchers would have then proceed to developed the desktop-based barangay resident information system by wrote code used appropriate languages and technologies.

**Database Development**

The researchers would proceed in developed the database for the system. This included the designing and implementing necessary tables and fields to stored and organize resident information effectively.

**Unit Testing**

The researcher would performed a series of tested until the supposed functionality achieved. The functionalities would have tested individually to ensured the efficiency of each module.

**Integration Testing**

The researchers would tested the integration of the database to the desktop-based barangay resident information system for Barangay Bigo. This was to verify the seamless interaction of the database and the system.

**Review and Finalizing**

In this phase, the researchers would conduct the final test run of the program and debugging, addressing any identified issues.

**Deployment**

This final phase, the researchers would deployed the system to the client and perform the installation process.

The Gantt chart present the summary of activities. Listed are the activities and opposite them are their duration or periods of execution.

**Gantt Chart of Activities**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| MONTH | MARCH | | | | APRIL | | | | MAY | | | | JUNE | | | | JULY | | | | AUGUST | | | | SEPTEMBER | | | | OCTOBER | | | | NOVEMBER | | | | DECEMBER | | | |
| ACTIVITY |
| Team Meating |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Client’s Interview |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Research |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Documentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Review and Revision |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UI Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Database Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| System Development |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Database Development |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Unit Test |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Integration Testing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Review and finalizing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Onsite Installation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Legend all… Jayvee D. Camacho …

Kent Norman M. Suizo …

Josiah Daniel S. Manalo …

## Resources

Hardware

Desktop Computer

It would be used in the developing system and its implementation. The computer has the following specifications for the computer and used to develop and implement the system.

This are the specification of the desktop computer:

* Processor: Intel Pentium
* RAM Capacity: 2GB or higher
* Hard Disk: 60GB of free storage or higher
* Monitor: 19” wide LCD Monitor or any available monitor is fine

Laptop Computer

It is also would used in developing the system and its implementation. The laptop has the following specifications on its requirements for the laptop used to develop and implement the system.

This are the specification of the desktop computer:

* Processor: Intel Dual Core T4200
* RAM: Capacity: 3GB
* Hard Disk: 60GB of free storage or higher
* Screen Resolution: 14” HD 1366 x 768-pixel resolution

Software

* Microsoft Visual Studio 2022

This programming software was installed on the computer that the proponents would be used to develop the system. It provides comprehensive and integrated development environment for writing debugging, and testing software applications. The proponents would use this to develop and code the system.

* MySQL 2022

This database system was installed for the system to store data. This helped the system data to be organized as it is stored in the database safely. With MySQL, the proponents could efficiently store, retrieve, and managed the information. The proponents would also use this to design and implement the database for the desktop-based information system.

* Adobe Photoshop CS6

The researcher would use a photoshop to edit images, logos and some graphics that could be needed in order to design the interface of the software application. This software will help the proponents to make the system interface user-friendly.

* Microsoft Word 2020

Microsoft Word is a word processor develop by Microsoft. It was first released on October 25, 1983, under the name multi-Tool word for xenic system. The researcher will use Microsoft Word for writing and formatting the documentation.

* Microsoft Power Point 2020

It is set out to create a presentation program that would provide an easy way to make and present slides. The researcher will use it to prepare report and presentation by helping user refine material to salient points and content.

# <METHODOLOGY, RESULTS, AND DISCUSSION>

## Requirements Analysis

The researchers choose to go with Iterative methodology. Iterative model is a type of SDLC that is used to develop a system in a series of iterations. This type of methodology will be beneficial for the researchers as it allows for the development of Desktop-Based Barangay Resident Information System for Bigo Brgy Hall to be done in a systematic and organized manner. The iterative model methodology will perform the following phases: planning, design, development, testing, review, and deployment for Desktop-Based Barangay Resident Information System for Bigo Barangay Hall will be develop in a series of iterations. Each iteration is designed to improve upon the previous iteration.

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Description automatically generated

*Figure 1 Iterative Methodology Diagram*

## Requirements Documentation

This part establishes the basis for the agreement between customer/client and the developers/programmers on what the software product is to do. Under this, all software features are enumerated in detail by providing a storyboard showing how the software would look like if the same was already designed and coded.

## Design of Software, System, Product, and/or Processes

**Planning**

In this phase, the researchers are task to brainstorm ideas and propose a research topic. Then, next step is then to find a client and interview it to gain insight into what does the client’s demands for the desktop-based barangay resident information system for Bigo Barangay Hall and for the researchers to plan what technologies will be used.

**Design**

After acquiring the information on the clients, the researchers will then now proceed to design the user interface of the desktop-based barangay resident information system for Bigo Barangay Hall. Keeping it simple yet understandable by the client so that further changes can be made according to the client’s request. In this phase, the researcher will also design the database of the desktop-based barangay resident information system for Bigo Barangay Hall.

**Development**

The researchers will now then proceed to build the actual Desktop-Based Barangay Resident Information System for Bigo Barangay Hall based on the previous phases. The researchers will also integrate the database to the system until it has met the client’s expectations and leave further changes upon the researchers test assessment.

## Development and Testing (where applicable)

On this part, the proponents shall discuss and test the software development standards.

## Description of Prototype (where applicable)

This part includes the system requirements; the preliminary design; and how the system is being evaluated and tested.

## Implementation Plan (where needed)

The Implementation Plan describes how the information system will be deployed, installed, and transitioned into an operational system. The plan contains an overview of the system, a brief description of the major tasks involved in the implementation, the overall resources needed to support the implementation effort (such as hardware, software, facilities, materials, and personnel), and any site-specific implementation requirements.

## Implementation Results (where applicable)

This part consists of the outputs during the implementation phase. These may include the generated outcomes as the ground for improving the project/system.

# Conclusions and Recommendations

Conclusions

The proponents conclude that the system is fully operational and dynamic, as of the sum data gathered. This condition is on the premise that it has addressed the necessary automation requirement of the firm after the thorough system study.

Recommendations

As the proponents had made an information system for the barangay, the system shall have maintenance for every 6 months to maintain and update its functions and also for the security of its databases.

# References

John Kevin, Elmer D Mary Angelica February2018 International journal of computer application 180(19):33-36 https://www.researchegate.net/publication.323222248\_Barangay\_Management\_Information\_System\_BMIS\_forCites\_and\_municipalities\_in\_the\_Philippines

Mark John Lado July 26, 2017 Computer information systemsystem in barangay ponlcion danao city, cebu - capstone projecy https://www.slideshare.net/MarkJohnPerezLado/computerized-information-system-in-baranagay-poblacion-danao-city-cebu

Olipas, C. N., Luciano, R., & Cochanco, A. (2019). WEB-BON: THE DESIGN AND DEVELOPMENT OF A WEB-BASED BARANGAY INFORMATION AND RECORD MANAGEMENT SYSTEM. ResearchGAte. <https://www.researchgate.net/publication/366877340_WEB-BON_THE_DESIGN_AND_DEVELOPMENT_OF_A_WEB-BASED_BARANGAY_INFORMATION_AND_RECORD_MANAGEMENT_SYSTEM>

Permana, P. a. G., & Dewanti, P. (2019). Designing Temporary Resident Information Systems: Case Study of a Village in Bali. IEEE Access. <https://doi.org/10.1109/icoris.2019.8874930>

Bondoc, B. C. . (2019). Towards Digitization through e-Barangay “A Web-based Barangay Information System”. International Journal of Humanities and Education Development (IJHED), 1(2), 88–91. <https://doi.org/10.22161/jhed.1.2.5>

Example:

Berndt, T. J. (2002). Friendship quality and social development. Current Directions in Psychological Science, 11, 7-10

Two Authors: List by their last names and initials. Use the ampersand (&) instead of "and."

Example:  
Wegener, D. T., & Petty, R. E. (1994). Mood management across affective states: The hedonic contingency hypothesis. Journal of Personality & Social Psychology, 66, 1034-1048.

Three to Six Authors: List by last names and initials; commas separate author names, while the last author name is preceded again by ampersand.

Example:

Kernis, M. H., Cornell, D. P., Sun, C. R., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. Journal of Personality and Social Psychology, 65, 1190-1204.

More Than Six Authors: If there are more than six authors, list the first six as above and then "et al.," which stands for "and others." Remember not to place a period after "et" in "et al."

Example:

Harris, M., Karper, E., Stacks, G., Hoffman, D., DeNiro, R., Cruz, P., et al. (2001). Writing labs and the Hollywood connection. Journal of Film and Writing, 44(3), 213-245. Organization as Author: Name of Organization. (year)

Example:

American Psychological Association. (2003).

Unknown Author:

Example:

Merriam-Webster's collegiate dictionary (10th ed.).(1993). Springfield, MA: Merriam-Webster.

NOTE: When your essay includes parenthetical citations of sources with no author named, use a shortened version of the source's title instead of an author's name. Use quotation marks and italics as appropriate. For example, parenthetical citations of the two sources above would appear as follows: (Merriam-Webster's, 1993) and ("New Drug," 1993).

Two or More Works by the Same Author: Use the author's name for all entries and list the entries by the year (earliest comes first).

Example:

Berndt, T.J. (1981).; Berndt, T.J. (1999).

When an author appears both as a sole author and, in another citation, as the first author of a group, list the one-author entries first.

Example:

Berndt, T. J. (1999). Friends' influence on students' adjustment to school. Educational Psychologist, 34, 15-28. Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. Child Development, 66, 1312-1329.

References that have the same first author and different second and/or third authors are arranged alphabetically by the last name of the second author, or the last name of the third if the first and second authors are the same.

Example:

Wegener, D. T., Kerr, N. L., Fleming, M. A., & Petty, R. E. (2000). Flexible corrections of juror judgments: Implications for jury instructions. Psychology, Public Policy, & Law, 6, 629-654.

Wegener, D. T., Petty, R. E., & Klein, D. J. (1994). Effects of mood on high elaboration attitude change: The mediating role of likelihood judgments. European Journal of Social Psychology, 24, 25-43.

Two or More Works by the Same Author in the Same Year: If you are using more than one reference by the same author (or the same group of authors listed in the same order) published in the same year, organize them in the reference list alphabetically by the title of the article or chapter. Then assign letter suffixes to the year. Refer to these sources in your essay as they appear in your reference list, e.g.: "Berdnt (1981a) makes similar claims..."

Example:

Berndt, T. J. (1981a). Age changes and changes over time in prosocial intentions and behavior between friends. Developmental Psychology, 17, 408-416.

Berndt, T. J. (1981b). Effects of friendship on prosocial intentions and behavior. Child Development, 52, 636-643.

Article in Journal Paginated by Volume: Journals that are paginated by volume begin with page one in issue one, and continue numbering issue two where issue one ended, etc.

Example:

Harlow, H. F. (1983). Fundamentals for preparing psychology journal articles. Journal of Comparative and Physiological Psychology, 55, 893-896.

Article in Journal Paginated by Issue: Journals paginated by issue begin with page one every issue; therefore, the issue number gets indicated in parentheses after the volume. The parentheses and issue number are not italicized or underlined.

Example:

Scruton, R. (1996). The eclipse of listening. The New Criterion, 15(30), 5-13.

Article in a Magazine

Example:

Henry, W. A., III. (1990, April 9). Making the grade in today's schools. Time, 135, 28-31.

Article in a Newspaper: Unlike other periodicals, p. or pp. precedes page numbers for a newspaper reference in APA style. Single pages take p., e.g., p. B2; multiple pages take pp., e.g., pp. B2, B4 or pp. C1, C3-C4.

Example:

Schultz, S. (2005, December 28). Calls made to strengthen state energy policies. The Country Today, pp. 1A, 2A.

Note: Because of issues with HTML coding, the listings below using brackets contain spaces that are not to be used with your listings. Use a space as normal before the brackets, but do not include a space following the bracket.

A Translation

Example:

Laplace, P. S. (1951). A philosophical essay on probabilities. (F. W. Truscott & F. L. Emory, Trans.). New York: Dover. (Original work published 1814).

Note: When you cite a republished work, like the one above, work in your text, it should appear with both dates: Laplace (1814/1951).

Edition Other Than the First

Example:

Helfer, M. E., Keme, R. S., & Drugman, R. D. (1997). The battered child (5th ed.). Chicago: University of Chicago Press.

Article or Chapter in an Edited Book: When you list the pages of the chapter or essay in parentheses after the book title, use "pp." before the numbers: (pp. 1-21). This abbreviation, however, does not appear before the page numbers in periodical references, except for newspapers.

Example:

O'Neil, J. M., & Egan, J. (1992). Men's and women's gender role journeys: Metaphor for healing, transition, and transformation. In B. R. Wainrib (Ed.), Gender issues across the life cycle (pp. 107-123). New York: Springer.

Government Document

Example:

National Institute of Mental Health. (1990). Clinical training in serious mental illness (DHHS Publication No. ADM 90-1679). Washington, DC: U.S. Government Printing Office.

Report From a Private Organization

Example:

American Psychiatric Association. (2000). Practice guidelines for the treatment of patients with eating disorders (2nd ed.). Washington, D.C.: Author.

Conference Proceedings

Example:

Schnase, J.L., & Cunnius, E.L. (Eds.). (1995). Proceedings from CSCL '95: The First International Conference on Computer Support for Collaborative Learning. Mahwah, NJ: Erlbaum.

Electronic Sources- Article From an Online Periodical: Online articles follow the same guidelines for printed articles. Include all information the online host makes available, including an issue number in parentheses.

Example:

Bernstein, M. (2002). 10 tips on writing the living Web. A List Apart: For People Who Make Websites, 149. Retrieved from <http://www.alistapart.com/articles/writeliving>

Newspaper Article

Example:

Parker-Pope, T. (2008, May 6). Psychiatry handbook linked to drug industry. The New York Times. Retrieved from <http://www.nytimes.com>

Online Lecture Notes and Presentation Slides: When citing online lecture notes, be sure to provide the file format in brackets after the lecture title (e.g. PowerPoint slides, Word document).

Example:

Roberts, K. F. (1998). Federal regulations of chemicals in the environment [PowerPoint slides]. Retrieved from <http://siri.uvm.edu/ppt/40hrenv/index.html>

Appendices

Appendix A. reSOURCE PERSONS

Appendix B. relevant source code

APPENDIX C. EVALUATION TOOL/TEST DOCUMENTS

APPENDIX D. SAMPLE INPUT/OUTPUT/REPORTS

APPENDIX E. USER’S GUIDE

APPENDIX F. PERSONAL TECHNICAL VITAE

Curriculum Vitae of

<GIVEN NAME MI. FAMILY NAME>

<complete address>

<email address>

contact number either cellular phone or landline or both

EDUCATIONAL BACKGROUND

|  |  |  |
| --- | --- | --- |
| Level | Inclusive Dates | Name of school/ Institution |
| Tertiary | month year |  |
| Vocational/Technical | month year |  |
| High School | month year |  |
| Elementary | month year |  |

PROFESSIONAL OR VOLUNTEER EXPERIENCE

|  |  |  |
| --- | --- | --- |
| Inclusive Dates | Nature of Experience/  Job Title | Name and Address of Company or Organization |
| month year |  |  |
| month year |  |  |
| month year |  |  |
| month year |  |  |

Listed in reverse chronological order (most recent first).

AFFILIATIONS

|  |  |  |
| --- | --- | --- |
| Inclusive Dates | Name of Organization | Position |
| month year |  |  |
| month year |  |  |
| month year |  |  |
| month year |  |  |

Listed in reverse chronological order (most recent first).

SKILLS

|  |  |  |
| --- | --- | --- |
| SKILLS | Level of Competency | Date Acquired |
|  |  | month year |
|  |  | month year |
|  |  | month year |

TRAININGS, SEMINARS, OR WORKSHOPS ATTENDED

|  |  |
| --- | --- |
| Inclusive Dates | Title of Training, Seminar, or Workshop |
| month year |  |
| month year |  |
| month year |  |
| month year |  |

Listed in reverse chronological order (most recent first).