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**SCHOOL OF ACCOUNTANCY, MANAGEMENT, COMPUTING and INFORMATION STUDIES**  
**Department of Information Technology**  
**IT Project II**



BAOS: Barangay Automated Office System

An IT Project Proposal Presented to  
SLU-SVP Barangay

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## **ABSTRACT**

With the ongoing effort of establishing an e-Government in the country, the group developed a system for the Barangay officials of SLU SVP Barangay. The Barangay Automation Office System (BAOS) is a system that is designed to make the jobs digitalized for barangay or village government officials through the improvement of their information management. The barangay office's activities, like the maintenance of records and documents, record households, records of items being borrowed, issuing barangay clearance, issuing business permits, issuing certificates for first-time job seekers, and other administrative duties within the area, are intended to be digitalized and simplified by the system. Barangay officials can easily access and update information, keep track of their tasks, issue certificates easier, keep track of payments, and communicate important reminders with other officials thanks to the Barangay Automation Office System (BAOS). The system aims to aid the barangay in its day to day operations and it intends to provide timely and accurate delivery of services to the community. The system would be a web application developed in an iterative waterfall approach using Node.js as a server environment. The group used models such as: Use Cases, Data Flow Diagrams, Relational Schema, System Architecture and Site Maps in order to describe the intended design of the system.

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## I. INTRODUCTION

This chapter describes the current Information Technology ecosystem surrounding the proponent of the project. Here, the necessary background information is provided in order to give a better view of the situation of the proponent describing their needs and the probable solutions to be offered by the project.

### 1.1 Context of the Study

As the world progresses further into a digitized society, Information Technology has seen a recent rise in prevalence with its increasing relevance in data processing. Information Technology has become a cornerstone of innovation by streamlining processes both in the public and private sectors making it more of a requirement for individuals today as computers play a vital role in information management (Carpio, 2020). Organizations have benefited greatly from emerging Information Technologies where it is known to improve a company's data management, data sharing, planning, and service delivery and decision support— all of which are central to an organization's business operations (Lacasandile et al., 2020). Amidst a big data boom, the Philippines has the potential to take advantage of Information Technology to transform its government to better handle its current mode of operations. Taking this into consideration, the National IT Industry Promotion Agency (NIPA) took the initiative to launch the Philippine e-Government Master Plan also referred to as the EGMP 2013-2016 (NIPA, 2012). The plan aimed for the improvement of the country's success in economic development and to also increase citizen engagement through Information and Communication Technologies(ICT). The plan assessed the different ICT related issues of the government and the different policies and infrastructures in place to serve as the basis and priority of the plan.

In the current year, the country's technological landscape has changed somewhat especially in the field of e-governance. One major change is the establishment of the Department of Information and Communications Technology (DICT) in 2015, which is also the department that developed the successor to the previous EGMP referred to as the EGMP 2022 (DICT, 2020). The plan was created in order to assess the developments made in the duration of the previous EGMP and to adapt new objectives in response to the changing ecosystem of e-governance in the country. The current EGMP has four major objectives:

- Optimize Government Operations (G2G)

Enablement of knowledge, information, and resource sharing between government departments through database building.

- Engage Citizens (G2C)

Ensure that the delivery of digital public services directly to clients are fast, cost-efficient, and accessible.

- Transform Services (G2B)

Facilitate business transactions through streamlined processing of licenses, permits, and fees.

- Empower Government Employees(G2E)

Enhance the capacity and capability of the government workforce to improve internal efficiency and public service delivery.

With the G2E objective in mind, Information Technology implementation in the barangay level is a much needed venture in taking a step forward in IT utilization in the country as it also assists in the development of the G2G and G2B objectives. According to Carpio, as the smallest political unit in the country, barangays serve as the primary implementer of development programs, projects and policies. It is through the duties of barangays that the country's public delivery service is what it is today. Additionally, Carpio describes that barangays have more engagement with the public compared to other government departments. Thus, the empowerment of individual barangay could eventually lead to a stronger, more resilient and more prosperous society.

In relation to the achievement of G2E through the empowerment of the barangay level, an office automation system can be implemented. An office automation system according to Natsir (2022) is the collection of hardware, software and processes that enable the automation of information processing and communication tasks in an organization. With this type of system being integrated on a barangay level, it would be possible to empower the barangay officials in improving their delivery of service by streamlining their core business processes.

Taking the above into consideration, when the group was informed by the barangay officials of SLU SVP Barangay that they were in need of a database system in their office, the group offered the barangay office to develop the system for them as part of the group's IT Project curriculum.

## 1.2 Background

The SLU SVP Barangay Office is a Local Government Unit (LGU) in charge of the area under the SLU SVP Housing Project in Bakakeng alternatively called Bakakeng

Old Site. The local government unit is responsible for various administrative duties within its area of jurisdiction. Of the various duties that the Local Government Unit conducts, its core responsibilities lie in processing barangay certificates, collecting garbage collection fees, resident tracking, generating reports of collections and deposits, and as well as handling disputes among barangay residents.

### **1.2.1 Core Business Processes**

#### **1.2.1.1 Scheduling**

The Barangay has a set schedule on a daily basis. At present, the barangay's process involves the office writing down their schedule of events for the week on a blackboard found in the middle of their office. This allows the officials and anyone who is entering the office to check the events that are ongoing or scheduled on a daily basis. For general events, the client simply writes down the schedule of the activity on the designated blackboard. Examples of events that the officials write on the blackboard are barangay councils and choir practices. However, for more important schedules they also include the details of the event in a logbook. An example of these events would be meetings with private companies.

#### **1.2.1.2 Processing Barangay Certificates**

Issuing Barangay Clearances and Certificates encompasses a majority of the daily tasks of the barangay office mainly officiated by the Office Secretary. Figure 1 describes the flow of how a barangay certificate is issued to a resident. The barangay office issues six types of certificates:

- Certificate of Residency (see Appendix 1 and 2)

A certificate granted to a resident in the barangay to certify that the client is a verified member of the community. There are two types of residents: "Bonafide Resident" and "Renter". A resident must have lived in the barangay for at least six (6) months to be eligible for the certificate. A special phrase is appended to the document when issuing this certificate for the purpose of opening a bank account and NBI application.

- Certificate of Good Moral (see Appendix 3)

A certificate granted to residents to certify that they have not been apprehended for violating any form of law. This certificate is usually granted to job applicants and will not be eligible for the certificate if the client has an existing criminal record.

- Certificate for First Time Job Seekers (see Appendices 4-6)

A special form of certificate of Good Moral, the client must be a proven first time job seeker to be eligible for the certificate.

- Low Source of Income (see Appendix 7)

A certificate granted to residents that are proven to have a low source of income either by resident eyewitness or by the DSWD.

- Business Clearance (see Appendix 8 and 9)

A certificate granted to businesses in the barangay, this allows for businesses to conduct their business operations within the jurisdiction of the local government unit. There are two types of clearances issued by the barangay: clearance for new businesses and renewal of business clearances.

- Certificate for Internet Transfer (see Appendix 10)

A certificate granted to a resident certifying that the client is a current resident of the barangay and will be transferring their internet connection from their old residence to be given to the client's internet service provider.

The secretary keeps a copy of the issued certificate and stores it in the file storage of the office. According to the client, they are required to keep these documents for at least five(5) years in case there is a need to revisit the certificates upon the request of a resident. These compiled documents are also included in the secretary's end of year evaluations and reports.

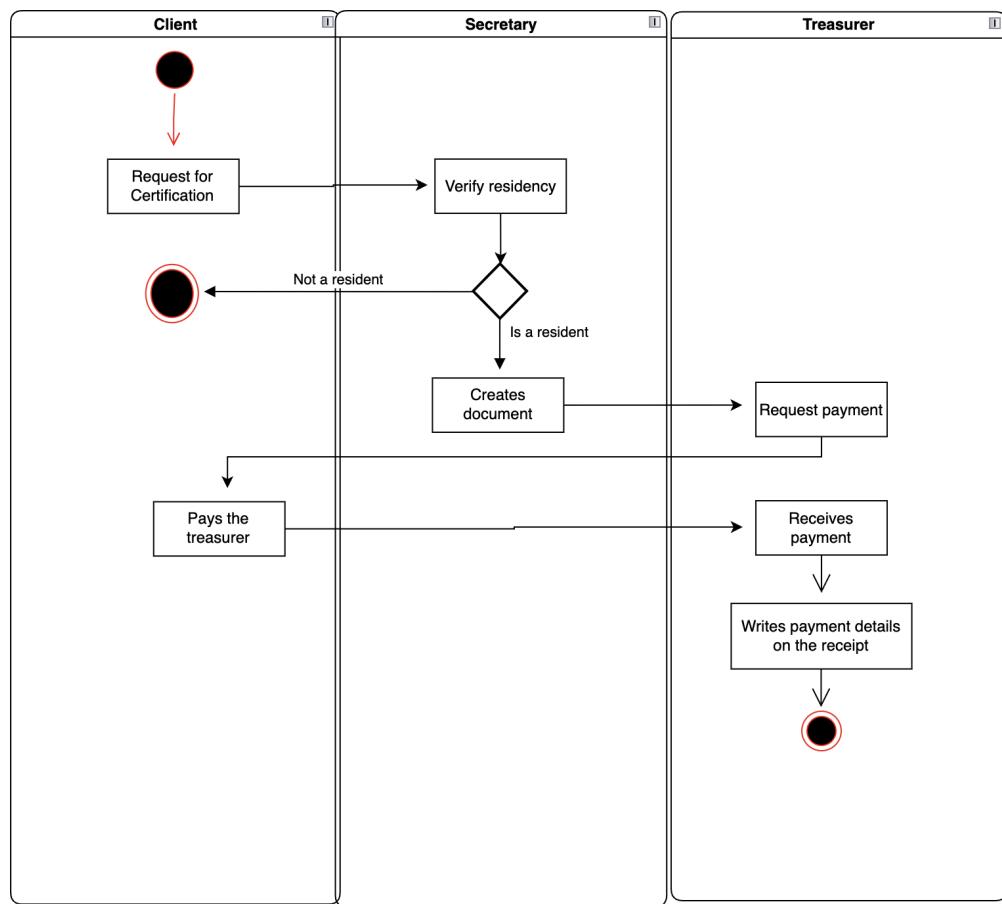


Figure 1: Activity Flow Diagram for the client's current method of processing barangay clearances

### **1.2.1.3 Garbage Fee Collection**

Garbage Collection around the SLU SVP barangay is scheduled every Friday. Each day of scheduled collection, every household is required to pay a 20 Php fee. Consequently, if households in the SLU SVP barangay are unable to pay until the following schedule for collection, the household would incur a 2 Php penalty. However, households have the opportunity to be able to pay the fees in advance according to the Treasurer.

### **1.2.1.4 Inventory and Borrowing System**

The barangay's inventory list was previously tracked by the secretary through a printed list of the items and labeled under categories namely IT Equipment, Sports Equipment, Disaster Response and Rescue Equipment, PPE Equipment, Office Equipment, and other Machines and Equipment. The barangay's IT equipment includes various technological tools and devices used in information technology environments, such as computers, laptops, and peripherals like printers. The barangay's sports equipment includes playground facilities such as swing sets, seesaw sets, slide sets, and monkey bars. Disaster response and rescue equipment are specialized tools and resources used by emergency services and response teams during natural disasters, accidents, or other crises. The barangay has a generator listed in its inventory under this category. Office equipment comprises the tools and devices used in a typical office environment to facilitate daily operations. The barangay's list of this equipment includes typewriters, tying tables, a dry seal, filing cabinets, office tables, and various books. Finally, the other machines and equipment are diverse machinery and equipment used across various industries and applications. The barangay's inventory includes CCTV cameras with a TV and ladders.

Several items in the inventory can be borrowed by the residents in the barangay but there are protocols and procedures to ensure accountability and responsible borrowing of items of the barangay. In order to facilitate clear communication between borrower and lender, there is a structured process that involves recording of the details of the borrower like name, contact number, and address. This recording of details also includes item details such as item name, item description, and item condition. Details of the lender or the official who approved the lending will also be recorded with their name. Borrow date and expected date or return will be documented because a critical element in this process is the accurate documentation of the dates to avoid disruption in the flow of the borrowing system. In the event of a borrower's failure to return an item, the barangay follows a well-structured protocol. This begins with a polite telephone reminder,

emphasizing the importance of adhering to the borrowing agreement. If the borrower remains unresponsive, a physical visit to their residence is initiated, demonstrating the barangay's commitment to maintaining the integrity of its lending system and promoting responsible borrowing practices. After an item is returned the condition is checked if the item is in the same condition when it was borrowed it will be recorded back in the inventory system. However if the item is returned damaged but repairable the barangay will charge the borrower the fee for the repair, then the barangay will request their supplier to repair the damages to the item. If the item is damaged beyond repair the borrower is required to return the damaged item to be recorded ,then the borrower will pay the full price of the item for the barangay to replace it.

#### **1.2.1.5 Report of Collections and Deposits (RCD)**

An RCD is a document created by the Treasurer which details a list of all the collections and deposits that they have conducted for each day per month. The document is a report required from the LGU for auditing which is submitted periodically to the Commission Of Audit. From what was described by the office secretary, there are separate RCD documents generated for Barangay Certificates(see Appendices 14-26) and Garbage Collection Fees (see Appendix 27-29). An RCD document typically consists of the following details:

- Name of Barangay Treasurer
- Barangay
- Date of the report
- RCD No. {xxxx(Year)-xx(Month)-xxx(Serial Number)}
- Date of Official Receipt (OR)
- Serial number of the OR issued by the Treasurer/Accountable Officer including the canceled ones in chronological and numerical sequence
- The name of the individual/entity who gave the amount
- Type of collection as indicated on the face of the OR
- Amount of collection received
- The name of the bank and its branch where the amount was deposited
- Reference documents used as basis in the remittance/deposit of the collections like the RCD number/validated deposit slip.
- Amount of deposits/remittances

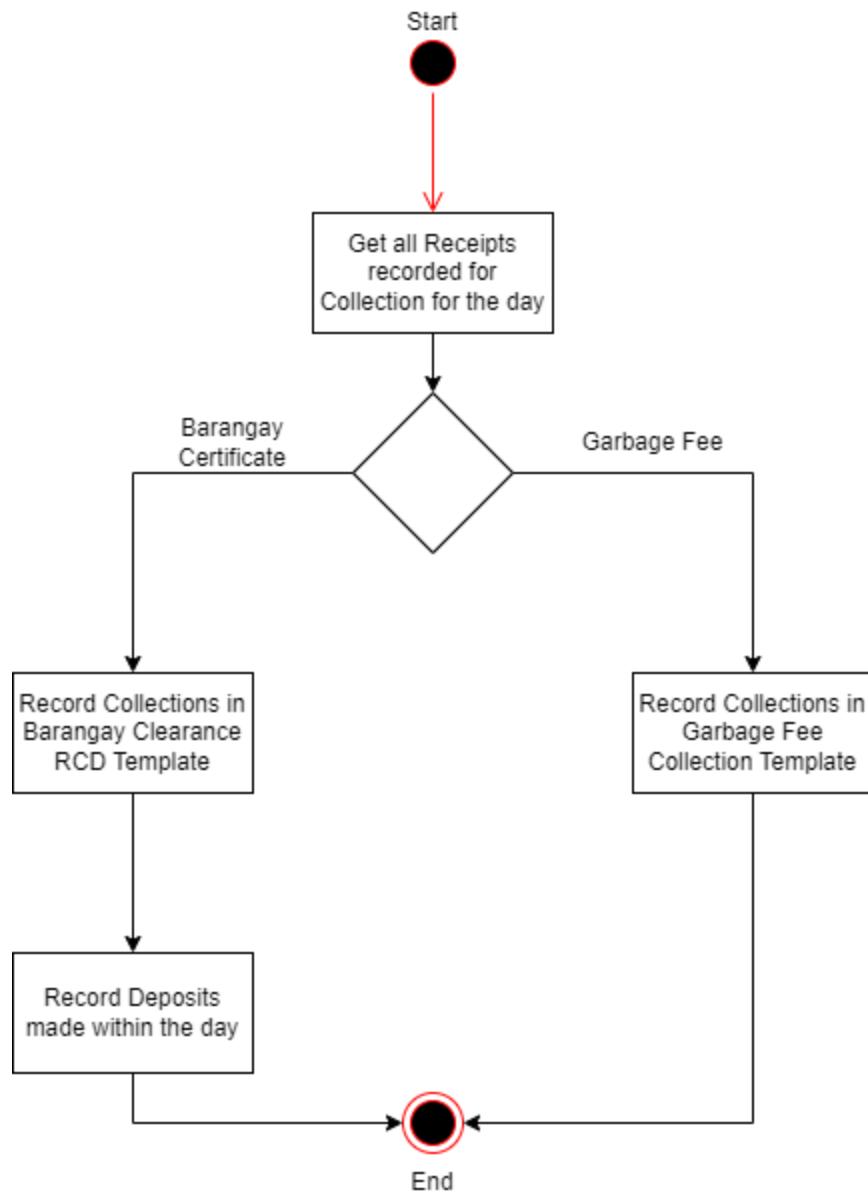


Figure 2: Activity Flow Diagram for the client's current method of processing RCDs

#### 1.2.1.6 Resident Disputes

Each barangay has an assigned *Lupon* who is responsible for the mediation between residents in a dispute. Upon receiving a complaint from a resident, the office is obligated to invite the parties involved to settle the dispute with the *Lupon* and the barangay captain present. Upon receiving an invitation from the barangay, both parties involved in the dispute are required to attend and attempt to settle the dispute. Disputes are given a maximum of three(3) attempts to be settled before it would be elevated to the court. When recording disputes, the Secretary logs the details of the involved parties such as their names, contact info and addresses. Each session is summarized in the logs which would be needed when the case would be forwarded to court.

### **1.2.2 IT Infrastructure**

The office makes use of five computer units, four functional and one in need of repair. From the four functional computer units, two are located on the first floor of the building used by the secretary and treasurer. The other two are located on the building's second floor utilized for the work of the two chairpersons of Health and Finance. Finally, the unit in need of repair is used by the office's Chairperson of Barangay Risk Reduction Management also located on the first floor. The office makes use of a single router utilizing a fiber optic cable provided by PLDT for the entire building, the officials claim that only the employees in the building have access to the internet connection and they do not allow guests to connect to the network which is beneficial for the database's security.

The group asked if it was possible for the officials to free up one computer unit to be utilized as a dedicated server for the sake of the system's security and efficiency to which they claimed was impossible due to the computer units all being used by every member of the office. As such, the group compromised to temporarily make use of one of the available computer units to serve as the server. To this effect, the group asked for permission to inspect every computer in the building in order to determine which unit can best serve the purpose of hosting the database. The inspection revealed the specifications of the office's computer units as seen in Table 1:

Table 1: Summary of Specifications of the Office's Computer Units

PC #1	Location: 1st Floor
	User: Treasurer
CPU	Ryzen 5 2600
GPU	GT 710
RAM	4GB RAM
STORAGE	256 GB
PC #2	Location: 1st Floor
	User: Secretary
CPU	Intel Pentium G3240
GPU	Integrated Graphics
RAM	2GB RAM
STORAGE	500 GB
PC #3	Location: 2nd Floor
	User: Chairperson of Finance, Ways and Means
CPU	Intel Core i3-8100
GPU	Integrated Graphics
RAM	4GB RAM
STORAGE	500GB

PC #4	Location: 2nd Floor
	User: Chairperson of Health, Nutrition, Sanitation, Tourism, and Environment
CPU	AMD Athlon 3000G
GPU	Integrated Graphics
RAM	4GB RAM
STORAGE	500GB
PC #5	Location: 1st Floor
	User: Chairperson of Peace and Order, Protection and Security, and Barangay Risk Reduction Management
Power Supply in need of replacement	

Figures 4 and 5 provide a floor plan detailing the locations of all computer units and wi-fi router within the office.

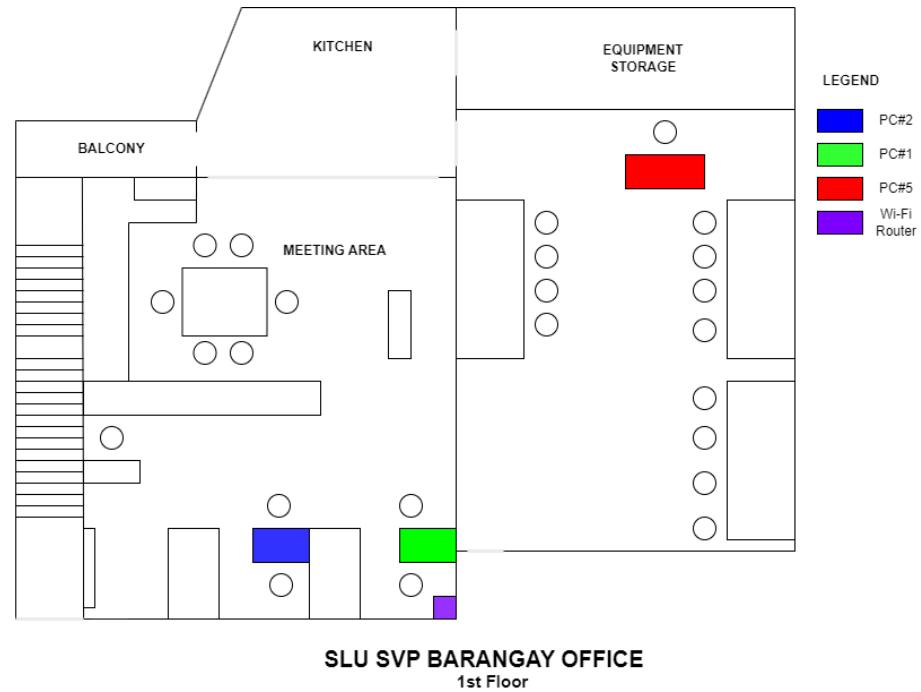


Figure 3: SLU SVP Barangay Office Floor Plan 1st Floor

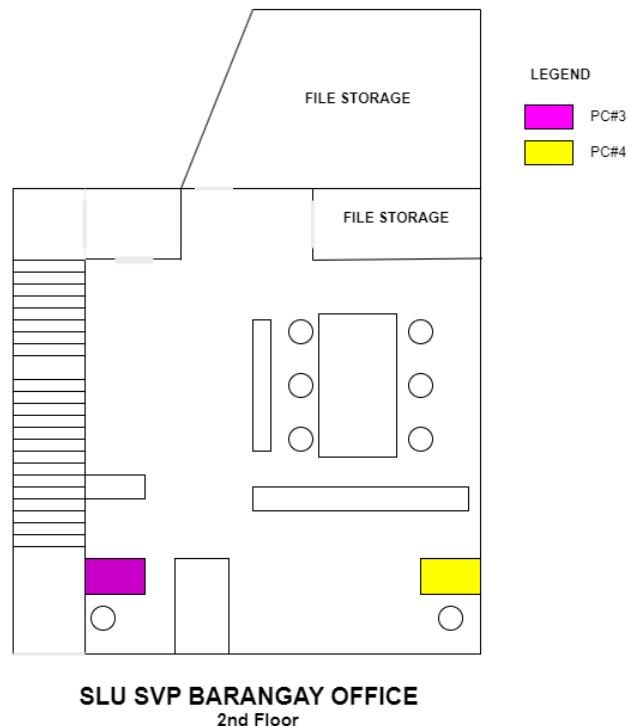


Figure 4: SLU SVP Barangay Office Floor Plan 2nd Floor

### **1.2.3 Rationale**

The interviews revealed that the office treasurer and secretary carry the most responsibilities when it comes to their duties as an LGU. For every major business process conducted by the office, either the Secretary or the Treasurer is a core officer officiating the process. Considering the tools that the two officers currently have, they have expressed their concerns with how inconvenient their daily work is considering that they have to conduct their duties through Microsoft Excel, Microsoft Word, and manual management of documents. As such, there is a need for them to have some form of digitization and automation in order to lighten their workload allowing them to focus on other tasks. In order to properly define how to exactly automate the core business processes of the client, the following issues must be addressed:

- Scheduling
- Processing Barangay Certificates and its Corresponding RCDs

According to the client, they process around 8-15 certificates a day where the amount of requests would increase during the first quarter of every year due to the fact that it is the season wherein most businesses would have to renew their business clearances.

Keeping track of issued certificates is an important task for the secretary, as already mentioned previously, they are required to keep a copy of issued certificates for at least five(5) years just in case there is a need to revisit old documents. Considering the variety of the types of certificates to keep track of an automated system that can digitally record these transactions would not only help the secretary in managing the certificates but it would also help the treasurer in keeping track of their collections for RCDs. A digital record can also provide the benefit of being able to adapt to price changes in the collection of fees since it can happen at any point in time according to the office Secretary.

Digitizing records of issued certificates also helps keep track of businesses within the barangay. At the time of writing, the barangay currently has a total of 93 registered businesses. With the incorporation of a digital record for issued business clearances, it would be easier for the Barangay Officers to be able to know which businesses need to be contacted in cases of business clearances that need to be renewed. This also allows for the barangay office to easily confirm whether a business is

legally registered or not and take necessary actions against unregistered businesses running operations within the barangay.

- Garbage Collection Fee

Keeping track of households that pay their weekly garbage collection is described to be hard to manage considering that there are a few households that pay their fees several weeks in advance. Considering that there are currently 504 households in SLU SVP Barangay, it can become hectic to manage the payment status of each household on a weekly basis taking into account households that have been penalized for not paying and as well as households that pay their fees in advance. Through digitizing these records, the Secretary and Treasurer would be able to save time in reconfirming and validating the amount due for each household when collecting garbage fees.

- Inventory System

The responsibility for managing the barangay's inventory system lies with the secretary and treasurer. However, their current task is challenging due to the reliance on conventional methods, such as manual entry on forms and the handwritten recording of essential information. The implementation of the Barangay Automated Office System (BAOS) is crucial for streamlining their tasks, as it incorporates features that enhances efficiency. The adoption of BAOS is anticipated to alleviate their workload by automating various aspects of their responsibilities, thereby facilitating a more seamless and effective workflow.

- Resident Disputes

Disputes among residents require logs to be stored in order for the dispute session to proceed smoothly. While disputes are rare in SLU SVP Barangay, it was mentioned that record keeping and tracking can become a hassle considering that some cases can be revisited months or years after it was last conducted or resolved. It is essential for these cases to be logged properly because the integrity of the information regarding the case is paramount when it comes to making a decision in making the two parties settle on an agreement or in some cases the information can be forwarded to court if a settlement cannot be agreed upon by the parties involved. Digitizing these logs also allows for the secretary to easily be able to identify the necessary parties and *Lupon* members to contact for each case

when it needs to be revisited. This also allows for the secretary to easily access the records of each case once it's needed when a new session would occur. According to the client, the details that they usually record for each case are the following:

- Barangay Captain and Lupon Members in attendance
- The details of the parties involved
- The sessions conducted for each case
- A summary of what transpired for each session
- A timestamp of the session

While these core business processes can be considered simple on their own, there is still a need to digitize the information generated by these processes that assists in streamlining the interdependability of these business processes on each other. Each of these processes generate relevant information that are used by other business procedures and/or services and as such information management is a paramount aspect of the proponent's daily duties. As an example, RCDs depend on the digital record of issued certificates. The list of households and residents obtained through resident tracking will be used to verify the validity of a client when processing certificates. With digitized records it is also possible to further enhance the proponent's administrative duties through decision support systems with the help of fast statistical reports generated from the records.

### **1.3 Statement of Objectives**

The project generally aims to develop an automated office system that is able to provide support in the Barangay Office's core business processes through information sharing and management. This objective involves the implementation of a system that allows for the automation of the interactivity of the core business processes of the office. In order to achieve such, the group aims to do the following specific objectives following the Systems Development Life Cycle:

#### **1.3.1 Requirements Elicitation**

- To be able to define the needs and expectations of the barangay officials and procure the system's functional and non-functional requirements based on the concerns of the client.
- To be able to create a System Requirements Specifications(SRS) document detailing the results of the various requirements elicitation techniques implemented by the group.

### **1.3.2 Design**

- To be able to analyze the contents of the SRS and to develop the necessary models and diagrams derived from the SRS and create the fundamental design of the system.

### **1.3.3 Implementation**

- To be able to define the different tools and technologies to be used in the development of the system.
- To be able to develop a system that reflects the design specified in the previous phase.
- To allow officials to test the system and gain feedback to make possible changes to the system.
- To be able to implement the system for the officials to use in their officework.

### **1.3.4 Testing and Deployment**

- To be able to create a testing and deployment plan for both the developers and the client.
- To be able to test the system in order to point out its flaws and be subject to immediate fixes before the deployment.
- To be able to make user manuals for officials to guide them when they will use the system.
- To be able to deploy the system for the use of the client in their offices.

### **1.3.5 Maintenance**

- To be able to produce documents such as user manuals that would assist the client in handling the system.
- To be able to develop a plan that ensures that the system would be functioning in its ideal state and form as intended even after the project has concluded which satisfies both the developers and clients.

## **1.4 Scope of the Project**

The group would be handling the development and deployment of the system which would be a locally hosted web application. The system features the implementation of a database which would be used for information management of the records in the barangay office in turn streamlining the core business processes of the

client. The system would also be offering management and planning support through statistical analysis and reports derived from the digitized records found within the database.

### **1.5 Significance of the Study**

In accordance with the G2E objective of the EGMP 2022, the system would be providing a way to empower government workers on a Barangay Level. Through the digitization of important documents and transactions within the barangay, it is possible to streamline these core processes further enhancing the efficiency of the LGU's service delivery and administrative capabilities within the area under their jurisdiction. In an effort to contribute to the ongoing push for e-governance, the development of the system, Barangay Automated Office System (BAOS) is a way to address the difficulty of information management involved in the core processes of the Barangay Office. By integrating an office automation system and augmenting it to their current daily duties, the barangay officials would be able to simplify their duties in respect to their current situation.

With the use of a web application, the use of dashboards, scheduling systems, and messaging through reminders allows for the officers to be able to communicate important notices with each other despite only having one officer present in the office each day allowing for the next officer in charge the following day to be notified of important notices to be considered during their day. Recording business transactions through the system in regards to the processing of garbage fees and barangay certificates not only allows for the further simplification of the simple process, but it also allows for the easier generation of RCDs eliminating the need for the office treasurer to constantly verify through the receipts in order to confirm the office's collections. With digitized records of the generated information from the office's core business processes, it is possible to support the decision making of the client due to the simplified approach to information management. As an example, the client would no longer have to search through their paperwork and receipts in order to confirm which businesses have not renewed their permits and are illegally conducting business under the area of their jurisdiction.

With the improvement of the office's core business processes through automation and digitization, the officers would be able to reduce the amount of time they dedicate to these core processes allowing them to have more time to focus on other tasks. Through this, the office would be able to transform their current mode of operations in response to the change in the prioritization of tasks within the office. Through a change in their operations as an LGU, it is possible to achieve the G2E objective as the system would be

able to allow for the office to undergo significant change in their service delivery and operations as an administrative unit.

## II. METHODOLOGY

The group followed an iterative waterfall model of development that met the intended requirements for the project. The iterative waterfall model, otherwise known as the modified waterfall model (Figure 6), will be a variation of the classical waterfall model that allows for the incorporation of a feedback loop (Kaur & Kumar, 2015). The implementation of a feedback loop will allow for all phases of the waterfall model to occur in several cycles—this will overcome the drawback of the classical model not being able to adapt very well to evolving requirements. The flexibility and adaptability of the iterative waterfall model made it a great choice for the group for software development projects, especially with changing requirements. The iterative waterfall model provided a balance between the structure and control of the traditional waterfall model and the flexibility and adaptability of an agile methodology and allowed for the project to be completed in phases, each phase built on the previous one. This can be useful when working with clients who have limited experience with automated systems, as it will enable them to incorporate feedback and make changes as needed. This will not necessarily mean that all feedback from the client will warrant a new iteration for the system. The group only considered requirements changes if it concerns minor changes such as a change in the data that should be stored in the database, a change in the design of the web application, and a change in the responses of the system in certain situations, to name a few. A change in requirements such as the addition of an entirely new feature were refused as the time did not allow for such major changes.

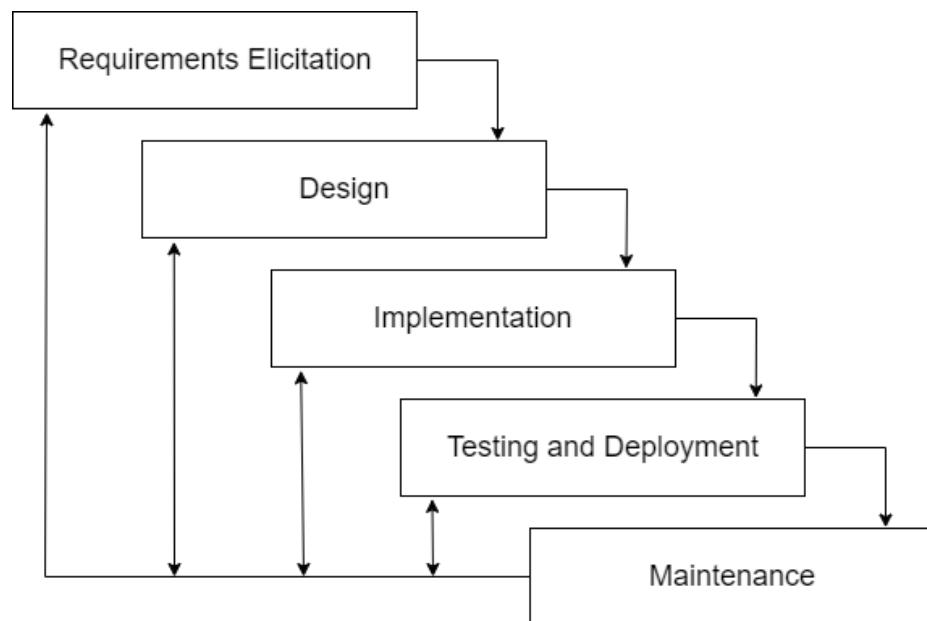


Figure 5: Iterative Waterfall Model Diagram

In relation to the above model, the group intended to follow the schedule below (Figure 7):

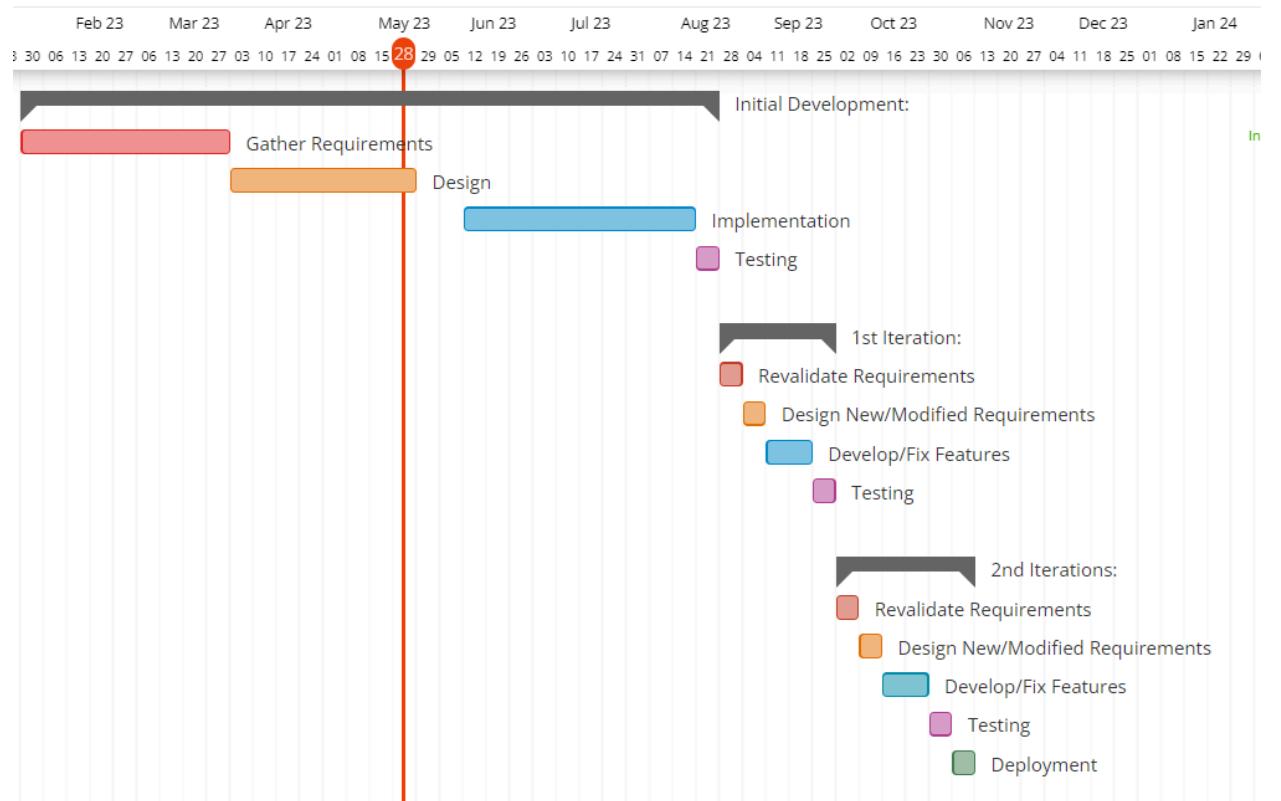


Figure 6: Estimated Project Timeline

## 2.1 Requirements Elicitation

In order to procure the necessary requirements needed to develop the system, the group conducted scheduled meetings with the client. Initially, the group was only able to schedule an appointment with the client on days where the office had an open time for a meeting; however, as time progressed, the office allowed the group to attend the weekly barangay council in order to conduct presentations and interviews with the officials in attendance. The following activities were conducted during the meetings:

### 2.1.1 Interviews

The group interviewed the officials regarding the desired functions of the system. During the first few meetings, the interviews were conducted in order to find out the initial requirements of the system. Subsequent meetings were then used to discuss the details of the desired functions in order to determine the scope of the system. Members near the area were also tasked to conduct follow-up interviews with the secretary and treasurer in order to clarify a few requirements. As the interviews progressed, the group wrote down relevant information that was derived from the meetings to be reviewed for the design phase.

### **2.1.2 Review of Documents**

To get a clearer understanding of the business processes of the client, the group requested for sample documents during the meetings as the interviews were going on. The group was given permission to borrow the documents to scan provided that all private information would be censored and that the documents would be returned after a few days. The documents were needed in order for the group to identify the needed information to be stored in the database and as well as to be able to see the layout of the documents that would be generated in regards to the certificates that would be processed by the system. The group then confirmed with the client regarding the information that is within the documents and why this information is relevant when putting it into the system.

### **2.1.3 Prototyping**

After the initial set of requirements were gathered, the group had to verify whether the group's understanding of the requirements were in line with the vision of the client. Lang, F. & Mjoberg, A. (2020) stated that prototyping as a requirements elicitation technique is able to clarify any problems that may arise early on and it helps provide a basis for discussion and development, while enriching the coordination and communication between developers and stakeholders. In relation to this, a simple prototype detailing the basic functions of the system were presented to the client. As each iteration of the prototype was presented to the client, the group narrated each and every action each user would take for each function and process in the system. This allowed the group to engage in a discussion with the client regarding missing features, system responses, and database details further enhancing the group's output for the requirements specification. The group delivered the prototypes incrementally depending on what modules the group was able to finish by the date of the barangay council. The group updated the requirements depending on the feedback of the client which would then be presented in the next iteration of the prototype until the officers were satisfied with the details. In total, the group underwent three iterations of prototypes until the client was satisfied.

## **2.2 Design**

In this stage, the group created a detailed design that specifies the system components, their interrelationships, and their interfaces. This involves creating diagrams, models, and other documentation that describe the system design in detail based on the data gathered. The group utilized a system architecture diagram to describe a visualization of the system's components and how it interacts with each other. Use Cases and Use Case Diagrams were used to describe the system's users and their

interaction with the system. Considering that the system to be developed is generally a web application, a Site map was also used to provide information about the pages on the website and how they are interlinked with each other. Lastly, with the integration of a relational database into the system, a Relational Schema and an Entity Relationship Diagram was used to describe the design of the database. Additionally, a Data Flow Diagram was also used to describe the flow of data or information for each process in the system. A final version of the prototype was also designed in relation to the final set of requirements that were derived from the previous section. The prototypes used for requirements elicitation were updated and finalized in order to create a final prototype that reflected the SRS.

### **2.3 Implementation**

The group developed a web application application to serve the needs of the client. In order to properly implement the system that satisfies the requirements stated by the clients, the group looked for the necessary tools and technologies that would be used to fully realize the system to develop. The group prioritized looking for the proper development environment to use for a web application and then proceeded to look for open source libraries that can be used in order to develop the necessary features of the system.

After the tools and technologies are defined, an implementation plan must be created. With the help of project management tools and collaboration tools, the development of the system would be streamlined in order to properly set the group on the right track. During development, the group would need to perform Functional Testing in order to verify whether the system would be able to function properly before it would be presented to the clients for further testing and eventual deployment. Typical Functional tests performed in this stage involve Unit, Integration, and System testing. During the tests, several test cases would be defined in order to have as wide of a test coverage as possible.

### **2.4 Testing and Deployment**

Once the system had been developed, the group conducted a set of tests involving the users to ensure the system is operating correctly meeting the needs of the clients. Usability, Performance and Compatibility testing were typical tests conducted to gather performance metrics of the system with the users in mind. In order to conduct these tests, the group defined several test cases to cover as many functions as possible. Any flaws or problems that are found during testing will need to be fixed.

This entails testing the system with barangay officials to see if it satisfies their needs and is user-friendly. Once the system has passed user acceptance testing, it's ready to be deployed. This involves installing the system in the barangay office and providing training and orientations to the users on how to use it. User manuals would also be provided for the client in order to properly guide new staff members on the system in case of a change in staff members in the office.

## **2.5 Maintenance**

The group intends to document the various cases of general issues that users may encounter with the system and the corresponding solution to the problem as a form of contingency plan that the client may use in case of problems encountered. In cases of unique issues not documented in the contingency plan, the group intends to have the members living near the area to respond to the client's concerns. Members living near the area can be contacted by the client to maintain the server to check if there were bugs that occurred during the implementation phase to ensure that the server is running properly, the client has also agreed to pay a small fee in such cases.

### **III. OUTCOMES AND RESULTS**

This chapter presents the various outputs that were derived from following the methods presented in Chapter 2. This chapter presents the requirements that were derived from the requirements elicitation phase and the necessary design models that were implemented for the system.

#### **3.1 Requirements Elicitation**

From the interviews with the client, the group has made the following list of modules and features to integrate into the web application.

Table 2: Modules and Features to be Implemented in the System

Module	Feature
Administration	User Management
Office Management	Scheduling
	Reminders/Announcements
Processing Barangay Certificates	Issuing Certificate of Residency
	Issuing Certificates for Transfer of Internet
	Renewing Business Clearance
	Issuing Clearance for New Businesses
	Issuing Certificate of Good Moral
	Issuing Certificate for Low Income
	Issuing Certificate for First Time Job Seekers
RCDs	RCD Generation for Barangay Certificates/Clearance

Module	Feature
Inventory	Add item/s in the inventory
	Delete item/s in the inventory
	Update the item's information
	Record the information needed for a borrowed item
Residential Disputes	Log Dispute Sessions
Account Management	Edit Personal User Profiles

### 3.1.1 System Requirements Specification

In order to properly segment the requirements, the group categorized each functional requirement according to the module of the system that they are assigned to. A separate category for the list of nonfunctional requirements was created.

Table 3: Functional Requirements: Administration Module

<b>Module: Administration</b>	
Functional Requirements	The administrator must be able to create, read, edit, and archive user accounts
	The administrator must be able to set roles for each user
	The administrator must be able to set permissions per role

Table 4: Functional Requirements: Office Management Module

<b>Module: Office Management</b>	
Functional Requirements	
	The Secretary must be able to set a date and time for scheduled events
	Users logged in must be notified of upcoming events based on the schedule
	Users must be able to leave messages on the Reminders section
	Users must be able to mark reminders as resolved and be deleted
	Users must be able to see the details of the scheduled (events organizers, corresponding contacts info, date and time, purpose)
	The Secretary must be able to edit the schedule for rescheduling
	Users must be able to see schedules specifically set for them

Table 5: Functional Requirements: Processing Barangay Certificates

<b>Module: Processing Barangay Certificates</b>	
Functional Requirements	The secretary must be able to process and issue barangay clearances and record it into the system
	The secretary must be able to select what type of certificate would be issued
	The secretary must be able to set document templates for each certificate type
	The secretary must be able to view and filter a list of issued certificates
	The secretary must be able to preview & print the document generated
	The secretary must be able to download the document to edit specific phrases
	The secretary must be able to add new certificate types and its corresponding template
	The secretary must be able to allow exceptions and issue certificates for residents not recorded in the database
	Status of Registered businesses must be able to update when processing business clearances
	The Treasurer must be prompted to enter a new receipt booklet when the numbers from the previous receipt booklet runs out.

Table 6: Functional Requirements: RCDs

<b>Module: RCDs</b>	
Functional Requirements	
	The Treasurer must be able to generate RCDs for the collections of Barangay certificates and Garbage Collection
	The Treasurer must be able to input the range of numbers of the receipt booklet that the treasurer is using for certificate processing
	The Treasurer must be able to set the price collected for certificates.
	The Treasurer must be able to manually input garbage collection records into the system
	The Treasurer must be able to delete collection records
	The Treasurer must be able to view and filter a list of collections and deposits.
	The Treasurer must be able to input deposit records into the system.

Table 7: Functional Requirements: Inventory

<b>Module: Inventory</b>	
Functional Requirements	The designated official must be able to add item/s in the inventory
	The designated official must be able to delete item/s in the inventory
	The designated official must be able to update the information of the item/s
	The designated official must be able to manually input the information of the item/s
	The designated official must be able to view and filter the list of borrowed item/s
	The designated official must be able to view the list of returned items
	The designated official must be able to identify the person who borrowed an item
	The designated official must be able to view and filter items that belong to the same category/specification
	The designated official must be able to create sets that are composed of different components in the inventory

Table 8: Functional Requirements: Resident Disputes

<b>Module: Resident Disputes</b>	
Functional Requirements	The secretary must be able to create reports for each dispute session
	The secretary must be able to perform CRUD operations on dispute cases
	The secretary must be able to record the parties involved for each case.
	The secretary must be able to set what actions were taken by the Lupon for each case

Table 9: Non Functional Requirements

<b>Non-Functional Requirements</b>	
Usability	The system should be easy to use, self-guiding, and require minimal guidance. Documentation should be prepared to reduce the need of teaching by the developers to the users.
Reliability	The system should perform reliably with minimal complications. Users should be able to perform their tasks without having issues in the system. If errors do arise, the system should be able to handle it accordingly and allow the user to complete their tasks.
Performance	The system should accommodate multiple simultaneous users without sacrificing performance.
Supportability, Portability, and Interoperability	The web application aspect of the system should be able to support all of the popularly used browsers.
Availability	Users should be able to utilize the processes of the system at any moment during office hours.
Security	The data stored in the system should be stored securely. Only those that have adequate authority should be able to access their respective data. Unauthorized access from external and internal sources should be prevented.

### 3.2 Design

#### 3.2.1 System Architecture

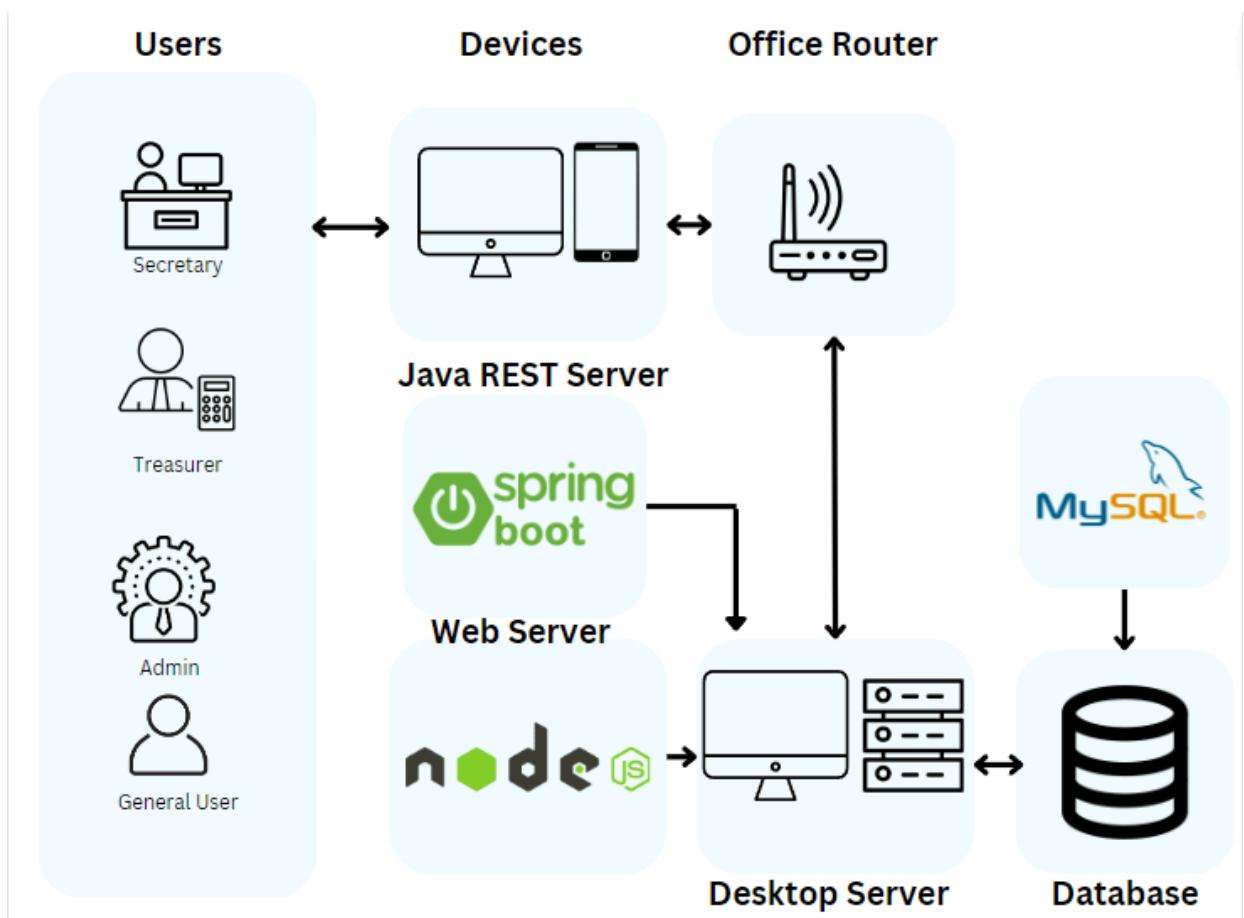


Figure 7: System Architecture

The system architecture describes how each component relevant to BAOS interacts with each other. There are four (4) main users involved with the system: the Office Secretary, Treasurer, the Admin, and the General User. General Users refer to the other officials that do not have any special roles relevant to the system as opposed to the roles of the Secretary and the Treasurer. Each user can access the web application through their browsers using their phones or computers. The web application would be hosted on a Desktop Server using the Node.js environment which would also be hosting the database using MySQL. Spring boot was used in order to serve the document editor featured in the system. Considering that it is a locally hosted web application, users are able to connect to the server using their router in the office.

### 3.2.2 User Permissions

Below is a summary of the modules that are available for each user. This describes the limitations of a user's access to certain functionalities in the system wherein the color red signifies restricted access for the user and the color green signifies the opposite. Through the admin module. It is possible to change these permissions for each user except for the Administrator.

Table 10: Summary of User Permissions

User	Administration		Office Management		Barangay Certificates		RCDs		Residential Disputes		Account Management	
	Read	Edit/ Write	Read	Edit/ Write	Read	Edit/ Write	Read	Edit/ Write	Read	Edit/ Write	Read	Edit/ Write
Secretary	Red	Red	Green	Green	Green	Green	Red	Red	Green	Green	Green	Green
Treasurer	Red	Red	Green	Green	Green	Red	Green	Green	Red	Red	Green	Green
Admin	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
General User	Red	Red	Green	Green	Red	Green	Red	Red	Green	Red	Green	Green

### 3.2.3 Use Cases

The following describes the different core use scenarios that the users could encounter when interacting with the system. Both the Narrative and Diagram approach was used to show the different use case scenarios.

#### 3.2.3.1 Use Case Narrative

Table 11: Use Case Narratives

<b>Title</b>	Create User Account
<b>Actor</b>	Administrator
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Administrator inputs username and password of account</li> <li>2. Administrator enters the personal details of the user</li> <li>3. The administrator assigns a role to the user</li> <li>4. A confirmation message is shown, signifying that the account was created</li> </ol>
<b>Precondition</b>	The administrator is logged into the system
<b>Trigger</b>	Administrator selected “Create Account” from the account list.
<b>Extension</b>	<ol style="list-style-type: none"> <li>1 A username already exists             <ol style="list-style-type: none"> <li>1. The system prompts the user that the username is already taken</li> <li>2. Use case proceeds to Step 1</li> </ol> </li> <li>2 a. User is not a member of the barangay office             <ol style="list-style-type: none"> <li>1. The administrator checks “guest account”</li> <li>2. Use case proceeds to Step 4</li> </ol> </li> </ol>
<b>Result</b>	Account is saved into the system. Users can now use the new user account to log in

<b>Title</b>	Edit User Account
<b>Actor</b>	Administrator

<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. The administrator chooses the account from the account list to edit</li> <li>2. Administrator enters necessary changes on account</li> <li>3. Administrator confirms changes</li> <li>4. A confirmation message is shown, signifying that the new information is applied</li> </ol>
<b>Precondition</b>	The administrator is logged into the system
<b>Trigger</b>	n/a
<b>Extension</b>	<ol style="list-style-type: none"> <li>3 a. Edited User is logged in             <ol style="list-style-type: none"> <li>1. The user is prompted that changes have been made to their account</li> <li>2. The user is logged out</li> <li>3. Use Case proceeds to Step 4</li> </ol> </li> <li>3 b. Administrator cancels changes             <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case terminated</li> </ol> </li> </ol>
<b>Result</b>	User Account is updated with the new settings made to their account

<b>Title</b>	Archive User Account
<b>Actor</b>	Administrator
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. The administrator chooses the account from the account list to archive/delete</li> <li>2. Administrator confirms deletion</li> <li>3. A confirmation message is shown, signifying that the account was archived</li> </ol>
<b>Precondition</b>	The administrator is logged into the system
<b>Trigger</b>	n/a
<b>Extension</b>	<ol style="list-style-type: none"> <li>2 a. Edited User is logged in             <ol style="list-style-type: none"> <li>1. The user is prompted that the account is</li> </ol> </li> </ol>

	<p>deleted</p> <ol style="list-style-type: none"> <li>2. The user is logged out</li> <li>3. Use Case proceeds to Step 3</li> </ol> <p>2 b. Administrator cancels deletion</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case terminated</li> </ol>
<b>Result</b>	User account is set to “Inactive” and cannot be used to log in

<b>Title</b>	Edit User Role Permissions
<b>Actor</b>	Administrator
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Administrator selects role to change permissions</li> <li>2. The administrator selects what the roles can do on certain features.</li> <li>3. A Confirmation message is shown, signifying that the changes were made</li> </ol>
<b>Precondition</b>	The administrator is logged into the system
<b>Trigger</b>	Administrator selects “User Permissions” in the Settings tab
<b>Extension</b>	n/a
<b>Result</b>	User Permissions are updated

<b>Title</b>	Schedule Activity
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary enters a descriptive name for the activity</li> <li>2. Secretary enters information of the organizer</li> <li>3. Secretary enters the date and time of the</li> </ol>

	<p>activity</p> <ol style="list-style-type: none"> <li>4. The secretary is asked for confirmation before setting the activity</li> <li>5. A Confirmation message is shown showing the summary of the activity, signifying that the schedule has been set</li> </ol>
<b>Precondition</b>	Secretary is logged into the system
<b>Trigger</b>	Secretary selects “Add Activity” in the Schedule tab
<b>Extension</b>	<p>3a Secretary sets date and time that has already passed</p> <ol style="list-style-type: none"> <li>1. The system asks the user to re-enter a new date and time</li> <li>2. Use Case Proceeds to Step 4</li> </ol> <p>4a Secretary cancels the process</p> <ol style="list-style-type: none"> <li>1. Systems ask for confirmation of cancellation</li> <li>2. Use Case Terminates</li> </ol>
<b>Result</b>	Schedule is recorded into the system and is visible in the calendar

<b>Title</b>	Edit Schedule
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary changes the details originally recorded for the activity</li> <li>2. Secretary confirms changes</li> <li>3. The system shows a message signifying that the changes have been made</li> </ol>
<b>Precondition</b>	Secretary is logged into the system
<b>Trigger</b>	Secretary selects a schedule from the list
<b>Extension</b>	<p>1 a Secretary sets a new date and time that has already passed</p> <ol style="list-style-type: none"> <li>1. The system asks the user to re-enter the date</li> </ol>

	<p>and time</p> <p>2. Use Case Proceeds to Step 2</p> <p>2a Secretary cancels the process</p> <p>3. The system asks for confirmation of cancellation</p> <p>4. Use Case Terminates</p>
<b>Result</b>	New Schedule details are visible in the Schedule list and calendar

<b>Title</b>	Set Reminder
<b>Actor</b>	All Users
<b>Main Success Scenario</b>	<p>1. The user enters a message to be posted in the reminders section</p> <p>2. User confirms message</p> <p>3. The system shows a message confirming that the reminder has been posted</p>
<b>Precondition</b>	User is logged into the system
<b>Trigger</b>	User clicks “add reminder” on the home page/dashboard
<b>Extension</b>	<p>2 a User cancels process</p> <p>1. The system asks for confirmation of cancellation</p> <p>2. Use Case Terminates</p>
<b>Result</b>	Message is visible to all users in the home page/dashboard

<b>Title</b>	Resolve Reminder
<b>Actor</b>	All Users
<b>Main Success Scenario</b>	<p>1. User selects reminder to resolve</p> <p>2. The system asks for confirmation of action</p>

	<p>3. Confirmation message is shown signifying that the action has been completed</p>
<b>Precondition</b>	User is logged into the system
<b>Trigger</b>	n/a
<b>Extension</b>	<p>2 a User cancels process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminates</li> </ol>
<b>Result</b>	Reminder message is no longer visible in the dashboard/home page

<b>Title</b>	Issue Certificates
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary views the Default view of the list of issued certificates</li> <li>2. Secretary clicks on “Issue Certificate” option</li> <li>3. Secretary is shown a popup window</li> </ol>
<b>Precondition</b>	Secretary is logged into the system
<b>Trigger</b>	Secretary navigates to the “Certificates” page
<b>Extension</b>	n/a
<b>Result</b>	Secretary is shown a list of certificates that they can issue

<b>Title</b>	Issue Certificate of Residency
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary searches resident’s name from the database</li> <li>2. Secretary confirms resident’s qualifications for the certificate</li> <li>3. Secretary selects whether the resident is a</li> </ol>

	<p>“bonafide resident” or a “renter”</p> <ol style="list-style-type: none"> <li>4. The document is generated based on the template</li> <li>5. The secretary may download or print the document directly</li> <li>6. Secretary confirms the completion of transaction</li> <li>7. Confirmation message is shown signifying that the transaction has been recorded</li> </ol>
<b>Precondition</b>	Use Case: Issue Certificates
<b>Trigger</b>	Secretary Selected “Certificate of Residency”
<b>Extension</b>	<p>1 a Resident does not appear in the database</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol> <p>1 b Resident does not appear in the database (2nd option)</p> <ol style="list-style-type: none"> <li>1. Secretary checks “Allow Exemption”</li> <li>2. The secretary enters the details of the resident manually</li> <li>3. Use Case Proceed to Step 2</li> </ol> <p>2 a Resident has not stayed in the barangay for at least 6 months</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol> <p>3 a Resident is a bonafide Resident</p> <ol style="list-style-type: none"> <li>1. The system utilizes a document template for bonafide residents</li> <li>2. Use Case proceeds to Step 4</li> </ol> <p>3 b Resident is a Renter</p> <ol style="list-style-type: none"> <li>1. The system utilizes a document template for renters</li> <li>2. Use Case proceeds to Step 4</li> </ol> <p>6 a Resident can not pay immediately</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> </ol>

	2. Use Case Terminated
<b>Result</b>	Transaction recorded in the list of issued certificates and collections

<b>Title</b>	Issue Certificate for Transfer of Internet
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary searches resident's name from the database</li> <li>2. Secretary confirms resident's qualifications for the certificate</li> <li>3. Secretary inputs resident's previous address</li> <li>4. The document is generated based on the template</li> <li>5. The secretary may download or print the document directly</li> <li>6. Secretary confirms the completion of transaction</li> <li>7. A confirmation message is shown signifying that the transaction has been recorded</li> </ol>
<b>Precondition</b>	Use Case: Issue Certificates
<b>Trigger</b>	Secretary Selected "Certificate for Transfer of Internet"
<b>Extension</b>	<p>1 a Resident does not appear in the database</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol> <p>1 b Resident does not appear in the database (2nd option)</p> <ol style="list-style-type: none"> <li>1. Secretary checks "Allow Exemption"</li> <li>2. The secretary enters the details of the resident manually</li> <li>3. Use Case Proceed to Step 2</li> </ol> <p>6 a Resident can not pay immediately</p>

	<ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Transaction recorded in the list of issued certificates and collections

<b>Title</b>	Issuing Business Clearance
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary searches resident's name from the database</li> <li>2. Secretary confirms resident's qualifications for the certificate</li> <li>3. Secretary selects whether the clearance is for a renewal or if it is for a new business</li> <li>4. The document is generated based on the template</li> <li>5. The secretary may download or print the document directly</li> <li>6. Secretary confirms the completion of transaction</li> <li>7. A confirmation message is shown signifying that the transaction has been recorded</li> </ol>
<b>Precondition</b>	Use Case: Issue Certificates
<b>Trigger</b>	Secretary Selected "Business Clearance"
<b>Extension</b>	<p>1 a Resident does not appear in the database</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol> <p>1 b Resident does not appear in the database (2nd option)</p> <ol style="list-style-type: none"> <li>1. Secretary checks "Allow Exemption"</li> <li>2. The secretary enters the details of the resident manually</li> <li>3. Use Case Proceed to Step 2</li> </ol>

	<p>3 a Clearance is for New Business</p> <ol style="list-style-type: none"> <li>1. Secretary registers payor as a new business owner</li> <li>2. The system utilizes document template for new businesses</li> <li>3. Use Case proceeds to Step 4</li> </ol> <p>3 b Clearance is for Renewal</p> <ol style="list-style-type: none"> <li>1.</li> <li>2. System utilizes document template for renters</li> <li>3. Use Case proceeds to Step 4</li> </ol> <p>6 a Resident can not pay immediately</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Transaction recorded in the list of issued certificates and collections

<b>Title</b>	Issue Certificate of Good Moral/ Low Income / First Time Job Seekers
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary searches resident's name from the database</li> <li>2. Secretary confirms resident's qualifications for the certificate</li> <li>3. The document is generated based on the template</li> <li>4. Secretary may download or print the document directly</li> <li>5. Secretary confirms the completion of transaction</li> <li>6. A confirmation message is shown signifying that the transaction has been recorded</li> </ol>
<b>Precondition</b>	Use Case: Issue Certificates
<b>Trigger</b>	Secretary Selected "Good Moral"/"Low

	Income”/”First Time Job Seeker”
<b>Extension</b>	<p>1 a Resident does not appear in the database</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol> <p>1 b Resident does not appear in the database (2nd option)</p> <ol style="list-style-type: none"> <li>1. Secretary checks “Allow Exemption”</li> <li>2. The secretary enters the details of the resident manually</li> <li>3. Use Case Proceed to Step 2</li> </ol> <p>6 a Resident can not pay immediately</p> <ol style="list-style-type: none"> <li>1. Secretary cancels the transaction</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Transaction recorded in the list of issued certificates and collections

<b>Title</b>	Create New Certificate Type
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary enters the type of certificate</li> <li>2. Secretary enters the amount of fee to be collected</li> <li>3. Secretary confirms the input</li> <li>4. Confirmation message shown that signifies that the new certificate type has been created</li> </ol>
<b>Precondition</b>	Secretary is logged into the system
<b>Trigger</b>	Secretary navigated to “Certificates” page and selected “Add Certificate Type”
<b>Extension</b>	<p>2 a Secretary enters invalid input</p> <ol style="list-style-type: none"> <li>1. The system prompts the Secretary to enter valid input</li> <li>2. Use Case proceeds to Step 2</li> </ol> <p>3 a Secretary cancels process</p>

	<ol style="list-style-type: none"> <li>1. The system asks for confirmation for cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	New Certificate Type can be selected when issuing certificates

<b>Title</b>	Update Document Templates for Certificates
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary selects what certificate type they want to change the template of</li> <li>2. Secretary uploads the new template</li> <li>3. The secretary is given a preview of the new template</li> <li>4. Secretary confirms the change</li> <li>5. A confirmation message is shown signifying that the template has changed</li> </ol>
<b>Precondition</b>	Secretary is logged into the system
<b>Trigger</b>	Secretary navigated to “Certificates” and Selected “Templates”
<b>Extension</b>	<p>2 a Secretary uploads an invalid template</p> <ol style="list-style-type: none"> <li>1. The system prompts the secretary that an invalid file was uploaded</li> <li>2. Use Case Proceeds to Step 2</li> </ol> <p>4 a Secretary cancels the process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Issuing Certificates will now follow the new template

<b>Title</b>	Add Collection
<b>Actor</b>	Treasurer

<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer inputs name of payor</li> <li>2. The treasurer selects the purpose of the collection</li> <li>3. Treasurer confirms transaction</li> <li>4. Confirmation message is shown completing the transaction</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD” and selected “Add Collection”
<b>Extension</b>	<p>1 a Resident does not appear in the database</p> <ol style="list-style-type: none"> <li>1. The treasurer cancels the process</li> <li>2. Use Case Terminated</li> </ol> <p>1 b Resident does not appear in the database (2nd option)</p> <ol style="list-style-type: none"> <li>1. Treasurer checks “Allow Exemption”</li> <li>2. Treasurer enters the details of the resident manually</li> <li>3. Use Case Proceed to Step 2</li> </ol> <p>3 a Treasurer cancels the transaction</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol> <p>3 b Receipt booklet that was set is already full</p> <ol style="list-style-type: none"> <li>1. Treasurer inputs a new batch of receipt numbers based on their new booklet</li> <li>2. Use Case proceeds to Step 4</li> </ol>
<b>Result</b>	Transaction recorded in Collections

<b>Title</b>	Delete Collection
<b>Actor</b>	Treasurer
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer selects the record they want to</li> </ol>

	<p>delete</p> <ol style="list-style-type: none"> <li>2. The system asks for confirmation of deletion</li> <li>3. A Confirmation is shown, signifying that the deletion was completed</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD”
<b>Extension</b>	<p>2 a Treasurer cancels the process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Records of the collection are removed from the list

<b>Title</b>	Edit Collection
<b>Actor</b>	Treasurer
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer selects the record they want to edit</li> <li>2. Treasurer inputs the new data</li> <li>3. Treasurer confirms changes</li> <li>4. A Confirmation is shown, signifying that the changes were made</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD” and selects a record to edit
<b>Extension</b>	<p>3 a Treasurer cancels the process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Records of the collection is updated

<b>Title</b>	Add Deposit
<b>Actor</b>	Treasurer

<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer inputs name of bank</li> <li>2. Treasurer enters the reference number of the transaction</li> <li>3. Treasurer inputs the amount that was deposited</li> <li>5. Treasurer confirms transaction</li> <li>6. Confirmation message is shown completing the process</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD” and selects “Add Deposit”
<b>Extension</b>	<p>4 a Treasurer cancels the transaction</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Transaction recorded in Deposits

<b>Title</b>	Delete Deposit
<b>Actor</b>	Treasurer
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer selects the record they want to delete</li> <li>2. The system asks for confirmation of deletion</li> <li>3. Confirmation is shown, signifying that the deletion was completed</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD”
<b>Extension</b>	<p>2 a Treasurer cancels the process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Records of the deposit are removed from the list

<b>Title</b>	Edit Deposit
<b>Actor</b>	Treasurer
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer selects the record they want to edit</li> <li>2. Treasurer inputs the new data</li> <li>3. Treasurer confirms changes</li> <li>4. A Confirmation is shown, signifying that the changes were made</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD” and selects a record to edit
<b>Extension</b>	<p>3 a Treasurer cancels the process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Records of the deposit are updated

<b>Title</b>	Set Price for Collection
<b>Actor</b>	Treasurer
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer selects the type of collection that they want to set the price of</li> <li>2. Treasurer enters the amount of fee</li> <li>3. Treasurer confirms the changes</li> <li>4. A confirmation message is shown</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD” and selects “Set Fees”
<b>Extension</b>	<p>2 a Treasurer enters invalid amount</p> <ol style="list-style-type: none"> <li>1. The system prompts Treasurer to enter a different amount</li> <li>2. Use Case Proceeds to Step 2</li> </ol> <p>3 a Treasurer cancels the process</p>

	<ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Fees are updated in the system. New recorded collections would now be using the fees set.

<b>Title</b>	Generate RCD
<b>Actor</b>	Treasurer
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Treasurer inputs the range of dates that they want to generate a report for</li> <li>2. Treasurer is given a preview of the generated document</li> <li>3. The treasurer confirms the contents of the document</li> <li>4. Treasurer either prints or downloads the document</li> <li>5. Confirmation message is shown, completing the process</li> </ol>
<b>Precondition</b>	Treasurer is logged into the system
<b>Trigger</b>	Treasurer navigated to “RCD” and selects “Generate Report”
<b>Extension</b>	<p>1 a Treasurer enters invalid data</p> <ol style="list-style-type: none"> <li>1. The system prompts the Treasurer to enter a different data</li> <li>2. Use Case Proceeds to Step 1</li> </ol> <p>3 a Treasurer cancels the process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminated</li> </ol>
<b>Result</b>	Generated RCD Report Document

<b>Title</b>	Add/Edit Household
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. The user enters members of the household</li> <li>2. The user selects the head of the household</li> <li>3. User confirms input</li> <li>4. Confirmation message completing the process</li> </ol>
<b>Precondition</b>	User is logged into the system
<b>Trigger</b>	User navigated to “Household Profile” and selected “Create Profile”
<b>Extension</b>	<p>3 a User cancels process</p> <ol style="list-style-type: none"> <li>1. Systems ask for confirmation of cancellation</li> <li>2. Use Case Terminates</li> </ol>
<b>Result</b>	Household information is saved into the system and is visible on the list of households in the barangay

<b>Title</b>	Add/Edit Resident
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. The user enters details of individual resident</li> <li>2. User confirms input</li> <li>3. A confirmation message is shown completing the process</li> </ol>
<b>Precondition</b>	User is logged into the system
<b>Trigger</b>	Use Case; Add Household or Use Case: Edit Household or User Navigated to “Mater List” and selected “Edit Resident” / “Add Resident”
<b>Extension</b>	<p>2 a User cancels process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case Terminates</li> </ol>
<b>Result</b>	Resident information is saved into the system and is

	visible in the display of lists
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<b>Title</b>	Add New Dispute
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary enters the details of the parties involved in the dispute</li> <li>2. Secretary enters the details of the Lupon members assigned to the case</li> <li>3. Secretary enters the description of the dispute</li> <li>4. Secretary confirms the details</li> </ol>
<b>Precondition</b>	User is logged into the system,
<b>Trigger</b>	User navigates to “Community Profile” and selects “Disputes”
<b>Extension</b>	<p>1 a Parties involved belong to the barangay</p> <ol style="list-style-type: none"> <li>1. The system autofills the details</li> <li>2. Use Case Proceeds to Step 2</li> </ol> <p>1 b One of the parties involved does not belong to the barangay</p> <ol style="list-style-type: none"> <li>1. Secretary manually inputs details of the complainant/complainee</li> <li>2. Use Case Proceeds to Step 2</li> </ol> <p>1 c Both parties do not belong in the barangay</p> <ol style="list-style-type: none"> <li>1. The system prompts the secretary that the inputs are invalid</li> <li>2. Use Case terminates</li> </ol> <p>4 a Secretary cancels the process</p> <ol style="list-style-type: none"> <li>1. The system asks for confirmation of cancellation</li> <li>2. Use Case terminates</li> </ol>
<b>Result</b>	Dispute Case saved in the system

<b>Title</b>	Add Dispute Session
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary enters the date of the session</li> <li>2. Secretary selects the Lupon members that were present during the session</li> <li>3. Secretary enters the details of what transpired during the session</li> <li>4. Secretary selects whether the dispute was resolved or not</li> </ol>
<b>Precondition</b>	User is logged into the system,
<b>Trigger</b>	User selects the dispute case and selects “Add Session”
<b>Extension</b>	<p>4 a The case was not resolved</p> <ol style="list-style-type: none"> <li>1. The secretary can select to set a schedule for the next session</li> <li>2. The system updates the schedule list in the database</li> <li>3. Use Case terminates</li> </ol> <p>4 b The case was resolved</p> <ol style="list-style-type: none"> <li>1. The system marks the case as resolved</li> <li>2. Use Case terminates</li> </ol> <p>4 c The case was not resolved and it is the third session</p> <ol style="list-style-type: none"> <li>1. The system notifies the secretary that it is already the third session</li> <li>2. The system marks the case as “Elevated to Court”</li> <li>3. Use Case terminates</li> </ol>
<b>Result</b>	Dispute session saved in the system

<b>Title</b>	Edit Dispute Details
<b>Actor</b>	Secretary
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary selects the dispute they want to edit</li> <li>2. Secretary edits the fields displayed in the menu</li> <li>3. Secretary confirms changes</li> </ol>
<b>Precondition</b>	User is logged into the system
<b>Trigger</b>	User navigates to “Community Profile” and selects “Disputes”
<b>Extension</b>	
<b>Result</b>	Dispute Information saved into the system.

<b>Title</b>	Add Inventory Article
<b>Actor</b>	Secretary/Treasurer
<b>Main Success Scenario</b>	<ol style="list-style-type: none"> <li>1. Secretary/Treasurer can add an Article</li> </ol>
<b>Precondition</b>	Secretary/Treasurer is logged into the system
<b>Trigger</b>	User navigates to “Inventory” and select “Add Article”
<b>Extension</b>	<ol style="list-style-type: none"> <li>1. The Secretary/Treasurer can input the Article Name</li> <li>2. The Secretary/Treasurer can provide a description for the Article</li> <li>3. The Secretary/Treasurer can provide the unit of measure of the said item</li> <li>4. The Secretary/Treasurer can provide the unit value of the said item</li> <li>5. The Secretary/Treasurer can select what Type of the said item</li> </ol>
<b>Result</b>	Secretary/ Treasurer can add an Article

<b>Title</b>	Update Inventory Article Information
<b>Actor</b>	Secretary/Treasurer
<b>Main Success Scenario</b>	2. Secretary/Treasurer can update the information of an Article
<b>Precondition</b>	Secretary/Treasurer is logged into the system
<b>Trigger</b>	User navigates to “Inventory” then select an item in the “Inventory Articles” Table and select “Edit Article”
<b>Extension</b>	<ul style="list-style-type: none"> <li>1. The Secretary/Treasurer can input the Article Name</li> <li>2. The Secretary/Treasurer can provide a description for the Article</li> <li>3. The Secretary/Treasurer can provide the unit of measure of the said item</li> <li>4. The Secretary/Treasurer can provide the unit vale of the said item</li> <li>5. The Secretary/Treasurer can select what Type of the said item</li> </ul>
<b>Result</b>	Secretary/ Treasurer can edit the information of an Article

<b>Title</b>	Add item in Inventory Article
<b>Actor</b>	Secretary/Treasurer
<b>Main Success Scenario</b>	1. Secretary/Treasurer can add an item in Inventory Article
<b>Precondition</b>	Secretary/Treasurer is logged into the system

<b>Trigger</b>	User navigates to “Inventory” then select an item in the “Inventory Articles” Table and select “Add Item”
<b>Extension</b>	N/A
<b>Result</b>	Secretary/ Treasurer can add an item in Inventory Article

<b>Title</b>	Edit item in Inventory Article
<b>Actor</b>	Secretary/Treasurer
<b>Main Success Scenario</b>	2. Secretary/Treasurer can edit an item in Inventory Article
<b>Precondition</b>	Secretary/Treasurer is logged into the system
<b>Trigger</b>	User navigates to “Inventory” then select an item in the “Inventory Articles” Table then select an item under “Items” table and select “Edit Item”
<b>Extension</b>	1. The Secretary/Treasurer can determine if the condition of an item is still serviceable or not
<b>Result</b>	Secretary/ Treasurer can edit an item in Inventory Article

<b>Title</b>	Delete Inventory Article
<b>Actor</b>	Secretary/Treasurer
<b>Main Success Scenario</b>	1. Secretary/Treasurer can delete an Inventory Article
<b>Precondition</b>	Secretary/Treasurer is logged into the system
<b>Trigger</b>	User navigates to “Inventory” then select an item in the “Inventory Articles” Table then select “Edit Item” and select “Delete Article”
<b>Extension</b>	N/A

<b>Result</b>	Secretary/ Treasurer can delete an Inventory Article
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<b>Title</b>	Borrow an Item
<b>Actor</b>	Secretary/Treasurer
<b>Main Success Scenario</b>	2. Secretary/Treasurer can select what Item/s can be borrowed
<b>Precondition</b>	Secretary/Treasurer is logged into the system
<b>Trigger</b>	User navigates to “Inventory” then select an item in the “Inventory Articles” Table then select an item under “Items” table and select “Borrow Item”
<b>Extension</b>	<ol style="list-style-type: none"> <li>1. The secretary/treasurer can select a resident on who borrowed the item</li> <li>2. The secretary/treasurer can select when the item was borrowed</li> </ol>
<b>Result</b>	Secretary/ Treasurer can view the borrowed item/s under Unreturned Borrowed Items

<b>Title</b>	Return an Item
<b>Actor</b>	Secretary/Treasurer
<b>Main Success Scenario</b>	1. Secretary/Treasurer can select what Item/s is/are returned
<b>Precondition</b>	Secretary/Treasurer is logged into the system
<b>Trigger</b>	User navigates to “Inventory” then select an item in the “Unreturned Borrowed Items” Table and select “Return Item”
<b>Extension</b>	<ol style="list-style-type: none"> <li>1. The secretary/treasurer can select when the item was returned</li> <li>2. The secretary/treasurer can select if an item/s condition can still be used for future purposes</li> </ol>

<b>Result</b>	Secretary/ Treasurer can view the returned item/s under Inventory Articles and the value under Inventory Value Summary will be updated
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### 3.2.3.2 Use Case Diagram

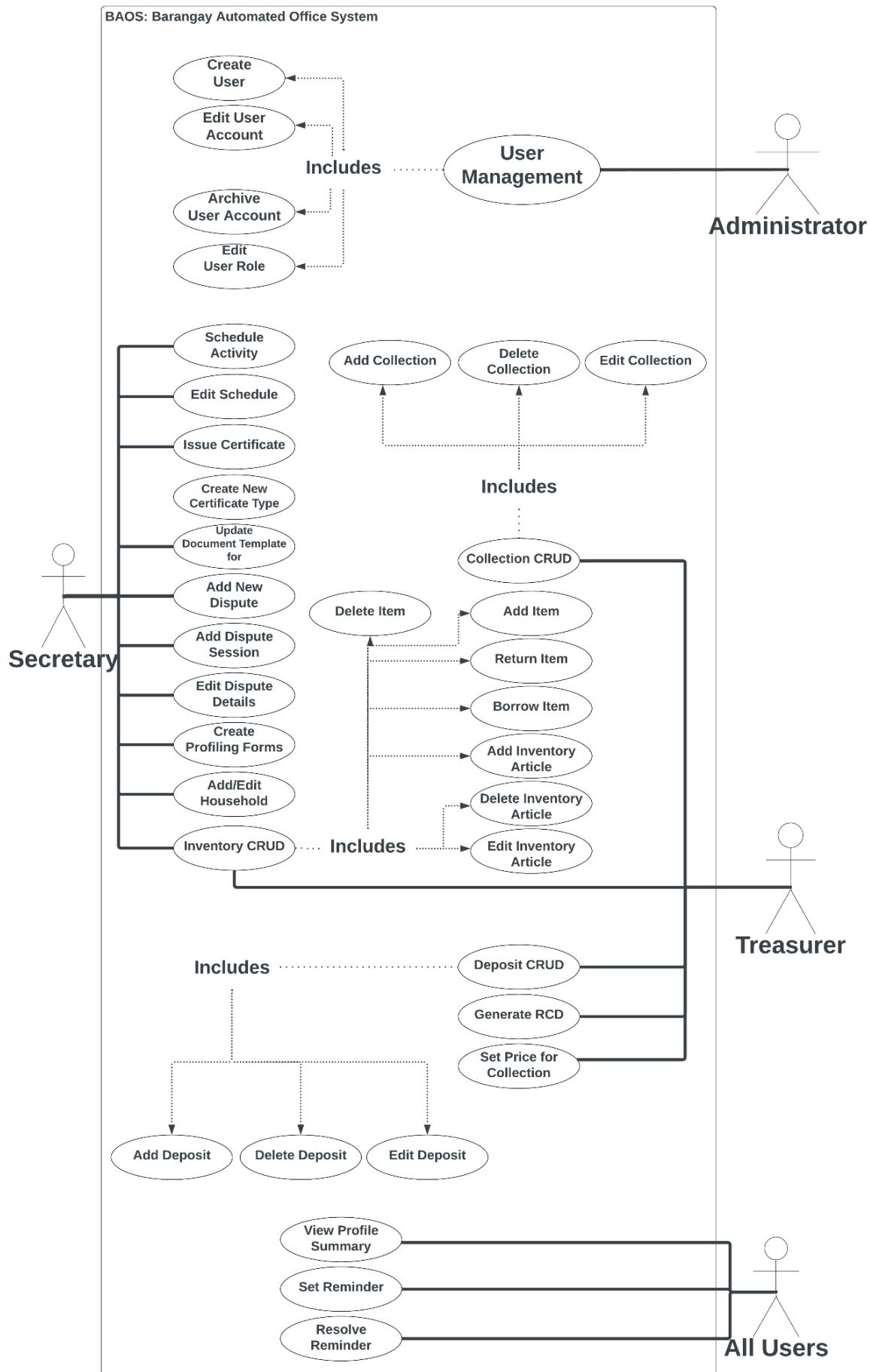


Figure 8: Use Case Diagram

### 3.2.4 Site Map

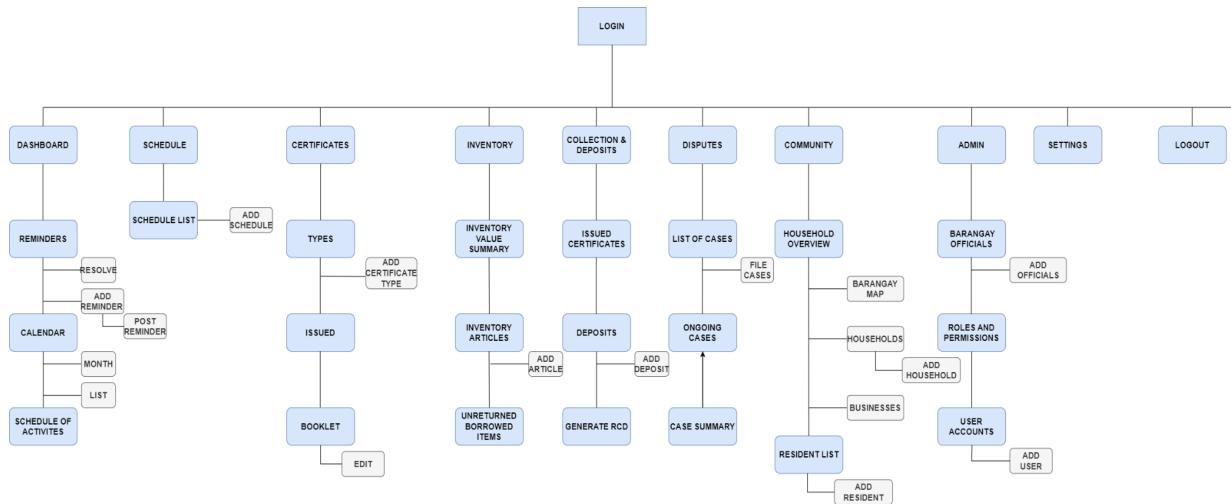


Figure 9: BAOS: Site Map

The site map above shows the different elements present in the web application. This also shows the different elements expected for each page in the web application.

### 3.2.5 Data Architecture

#### 3.2.5.1 Relational Schema

BUSINESSES(business\_ID, owner\_ID, business\_name, collection\_ID, status)

PK business\_ID

FK owner\_ID FROM BUSINESSOWNERS UPDATE CASCADE

DELETE CASCADE NULLS not allowed

FK collection\_ID FROM CERTIFICATECOLLECTIONS UPDATE

CASCADE DELETE CASCADE NULL not allowed

BUSINESSOWNERS(owner\_ID, full\_name, business\_contact, resident\_ID)

PK owner\_ID

FK resident\_ID FROM RESIDENTS UPDATE CASCADE DELETE

SET NULL NULLS allowed

BUSINESSOWNERSPENDING(owner\_ID, full\_name, business\_contact, resident\_ID)

PK owner\_ID

FK resident\_ID FROM RESIDENTS UPDATE CASCADE DELETE

SET NULL NULLS allowed

BUSINESSESPENDING(business\_ID, owner\_ID, business\_name, collection\_ID, status)

PK business\_ID

FK owner\_ID FROM BUSINESSOWNERS UPDATE CASCADE

DELETE CASCADE NULLS not allowed

FK collection\_ID FROM CERTIFICATECOLLECTIONS UPDATE  
CASCADE DELETE CASCADE NULL not allowed

CERTCOLBUSDETS(col\_id, prev\_bus\_tin)

PK col\_id

CERTCOLGENDETS(col\_id, community\_tax\_cert )

PK col\_id

CERTIFICATECOLLECTIONS(collection\_ID, timestamp, receipt\_number, resident\_ID, certificate\_ID, amount\_collected, status)

PK collection\_ID

FK resident\_ID FROM BUSINESSOWNERS UPDATE CASCADE  
DELETE CASCADE NULLS not allowed

FK certificate\_ID FROM CERT\_TEMPLATES UPDATE CASCADE  
DELETE CASCADE NULLS not allowed

CERT\_TEMPLATES(template\_id, cert\_id, templ\_name, date\_added, file\_dir)

PK templ\_id

FK cert\_id FROM CERT\_TYPES UPDATE CASCADE DELETE  
CASCADE NULLS not allowed

CERT\_TYPES(type\_id, type\_name, fee, chosen)

PK type\_id

FK chosen FROM CERT\_TEMPLATES UPDATE CASCADE DELETE  
SET NULL NULLS allowed

DEFAULT\_CERT\_TYPES(d\_cert\_id, default\_type, cert\_id)

PK d\_cert\_id

FK cert\_id FROM CERT\_TEMPLATES UPDATE CASCADE DELETE  
CASCADE NULLS not allowed

DISPUTECASES(Docket\_no, case\_title, case\_description, date\_filed,  
case\_nature, action\_taken)

PK Docket\_no

DISPUTEPARTIES(party\_ID, full\_name, contact\_number, dispute\_position,  
Docket\_no)

PK party\_ID

FK Docket\_no FROM DISPUTE\_CASES UPDATE CASCADE  
DELETE CASCADE NULLS not allowed

DISPTESESSIONS(session\_ID, Docket\_no, timestamp, session\_summary)

PK session\_ID

FK Docket\_no FROM DISPUTE\_CASES UPDATE CASCADE  
DELETE CASCADE NULLS not allowed

FEATURES(feature\_ID, feature)

PK feature\_ID

GARBAGEBOOKLET(booklet\_ID, status, min\_number, max\_number)

PK booklet\_ID

GARBAGEFEECOLLECTION(gcollection\_ID, timestamp, receipt\_number,  
resident\_ID, amount\_collected, penalty\_paid)

PK gcollection\_ID

FK resident\_ID FROM RESIDENTS DELETE CASCADE UPDATE  
CASCADE

GARBAGEFEEDUE(household\_number, amount\_due, overpayment, penalty,  
paid)

PK household\_number

FK household\_number FROM HOUSEHOLDS DELETE CASCADE  
UPDATE CASCADE

GARBAGEFEESETTING(gfee\_ID, amount)

PK gfee\_ID

HOUSEHOLDS(household\_number, address, resident\_ID, Latitude, Longitude)

PK household\_number

FK resident\_ID FROM RESIDENTS UPDATE CASCADE DELETE

SET NULL NULLS allowed

INVENTORY\_ARTICLE(article\_ID, article, description, unit\_of\_measure, unit\_value, type)

PK article\_ID

INVENTORY\_ARTICLE\_SET(aSet\_ID, set\_name, description,)

PK aSet\_ID

INVENTORY\_BORROW(borrow\_ID, resident\_ID, item\_ID, date\_borrowed, date\_returned, expected\_return, approved\_by)

PK borrow\_ID

FK resident\_ID FROM RESIDENTS UPDATE CASCADE DELETE

SET NULL NULLS allowed

FK item\_ID FROM INVENTORY\_ITEM UPDATE CASCADE DELETE

SET NULL NULLS allowed

FK approve\_by FROM officials UPDATE CASCADE DELETE SET

NULL NULLS allowed

INVENTORY\_ITEM(item\_ID, article\_ID, condition, on\_hand)

PK item\_ID

FK article\_ID FROM INVENTORY\_ARTICLE UPDATE CASCADE

DELETE CASCADE NULLS not allowed

INVENTORY\_REPAIR(repair\_ID, resident\_ID, item\_ID, status)

PK repair\_ID

FK resident\_ID FROM RESIDENTS UPDATE CASCADE DELETE

CASCADE NULLS not allowed

FK item\_ID FROM INVENTORY\_ITEM UPDATE CASCADE DELETE

CASCADE

INVENTORY\_RESERVE(reserve\_ID, resident\_ID, item\_ID, reservation\_date, expected\_return,status)

PK reserve\_ID

FK resident\_ID FROM RESIDENTS UPDATE CASCADE DELETE

CASCADE NULLS not allowed

FK item\_ID FROM INVENTORY\_ITEM UPDATE CASCADE DELETE  
CASCADE

INVENTORY\_SET\_INDIV(set\_ID,aSet\_ID,item\_ID)

PK set\_ID

FK aSet\_ID FROM INVENTORY\_ARTICLE\_SET UPDATE CASCADE  
DELETE CASCADE

FK item\_ID FROM INVENTORY\_ITEM UPDATE CASCADE DELETE  
DELETE CASCADE

LUPON(lupon\_ID, official\_ID, Docket\_no)

PK lupon\_ID

FK official\_ID FROM OFFICIALS UPDATE CASCADE DELETE  
CASCADE NULLS not allowed

FK Docket\_no FROM DISPUTE\_CASES UPDATE CASCADE  
DELETE CASCADE NULLS not allowed

OFFICIALS(official\_ID, resident\_ID, position, email, status)

PK official\_ID

FK resident\_ID FROM RESIDENTS UPDATE CASCADE DELETE  
CASCADE NULLS not allowed

PERMISSIONS(role\_ID, feature\_ID, permission)

PK role\_ID, feature\_ID

FK role\_ID FROM ROLES UPDATE CASCADE DELETE RESTRICT

FK feature\_ID FROM FEATURES UPDATE CASCADE DELETE  
RESTRICT

PLACEHOLDERS(id, placeholder, placeholder\_name, placeholder\_desc, categ)

PK id

FK categ FROM PLACEHOLDER\_CATEGORIES UPDATE SET NULL  
DELETE SET NULL

PLACEHOLDER\_CATEGORIES(id, category)

PK id

RECEIPTBOOKLET(booklet\_ID, status, min\_number, max\_number)

PK booklet\_ID

UNIQUE status

REMINDERS(reminder\_ID, reminder\_details, official\_ID, dt\_posted)

PK reminder\_ID

FK official\_ID FROM OFFICIALS UPDATE CASCADE DELETE  
CASCADE NULLS not allowed

RESIDENTS(resident\_ID, household\_number, name, gender, birthday,  
contact\_number, marital\_status, residential\_type, IP\_status, Archived)

PK resident\_ID

FK household\_number FROM HOUSEHOLDS UPDATE CASCADE  
DELETE CASCADE NULLS not allowed

ROLES(role\_ID, role\_name)

PK role\_ID

SCHEDULES(schedule\_ID, activity, organizer, email, contact\_no, date,  
time,general)

PK schedule\_ID

SCHED\_SPEC(ss\_ID, schedule\_ID, official\_ID)

PK ss\_ID

FK schedule\_ID FROM SCHEDULE UPDATE CASCADE DELETE  
CASCADE

FK official\_ID FROM OFFICIALS UPDATE CASCADE DELETE  
CASCADE

SESSIONS(session\_id, expires, data)

PK session\_id

```
USERACCOUNTS(username, password, official_ID, role_ID, status)
  PK username
  FK official_ID FROM OFFICIALS UPDATE CASCADE DELETE
  RESTRICT
  FK role_ID FROM ROLES UPDATE CASCADE DELETE RESTRICT
```

### 3.2.5.2 Entity Relationship Diagram

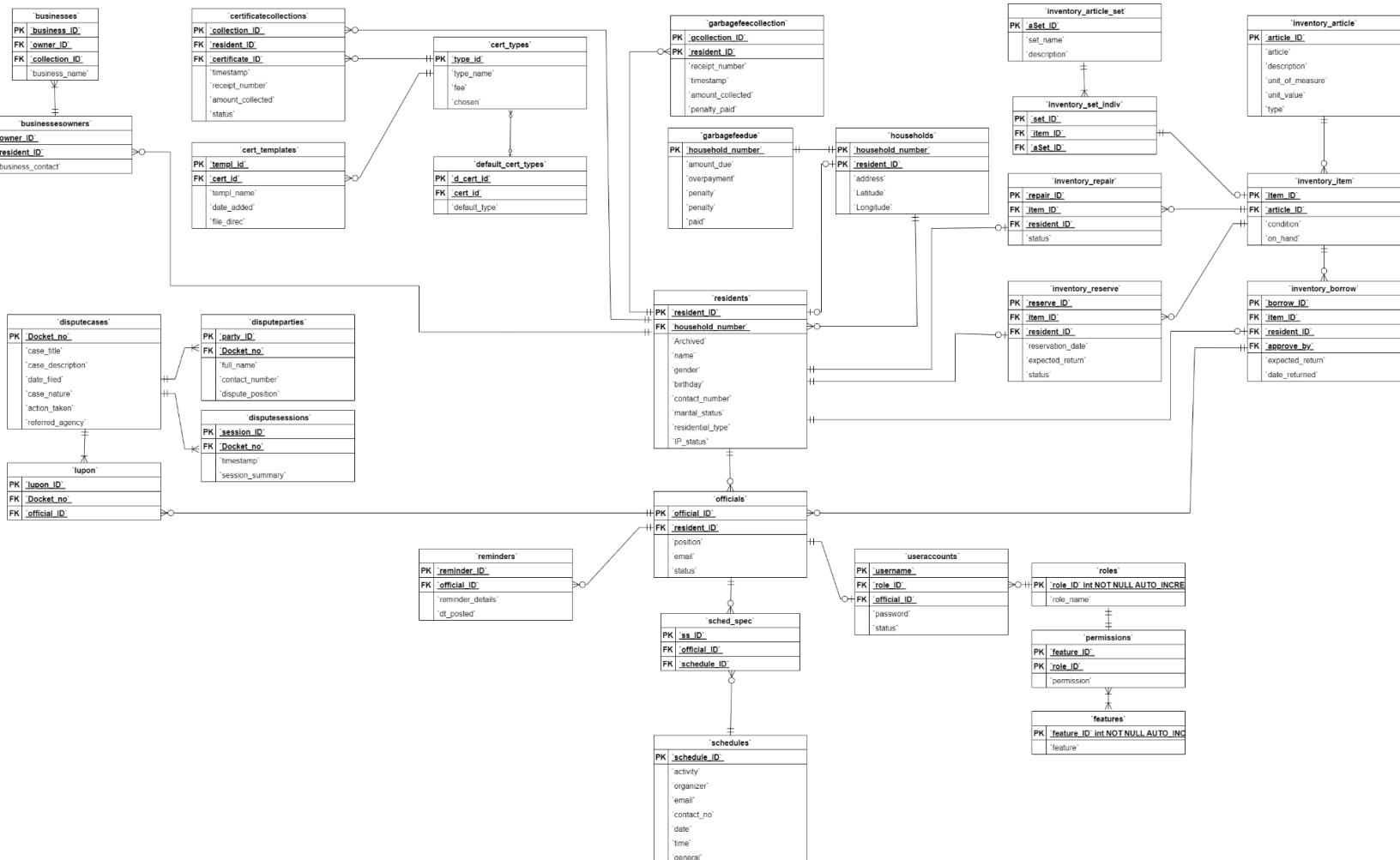


Figure 10: Entity Relationship Diagram

The figure above displays the different relationships between each entity in the database. Based on the relational schema above, some tables were excluded due to their being no relations at all with the other entities.

### 3.2.5.3 Data Flow Diagram

Below is a graphical representation of how data and information are processed and transferred through the various processes of the system.

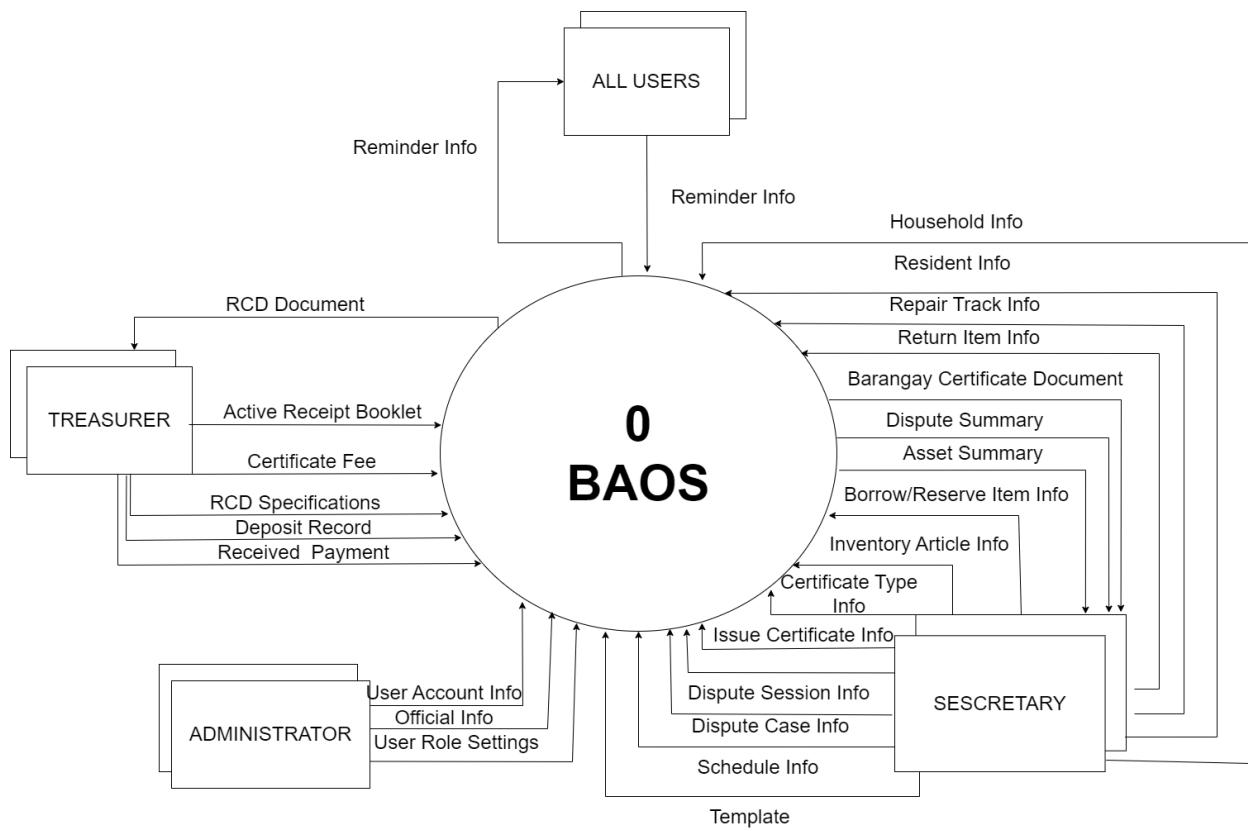


Figure 11: BAOS: Context Diagram

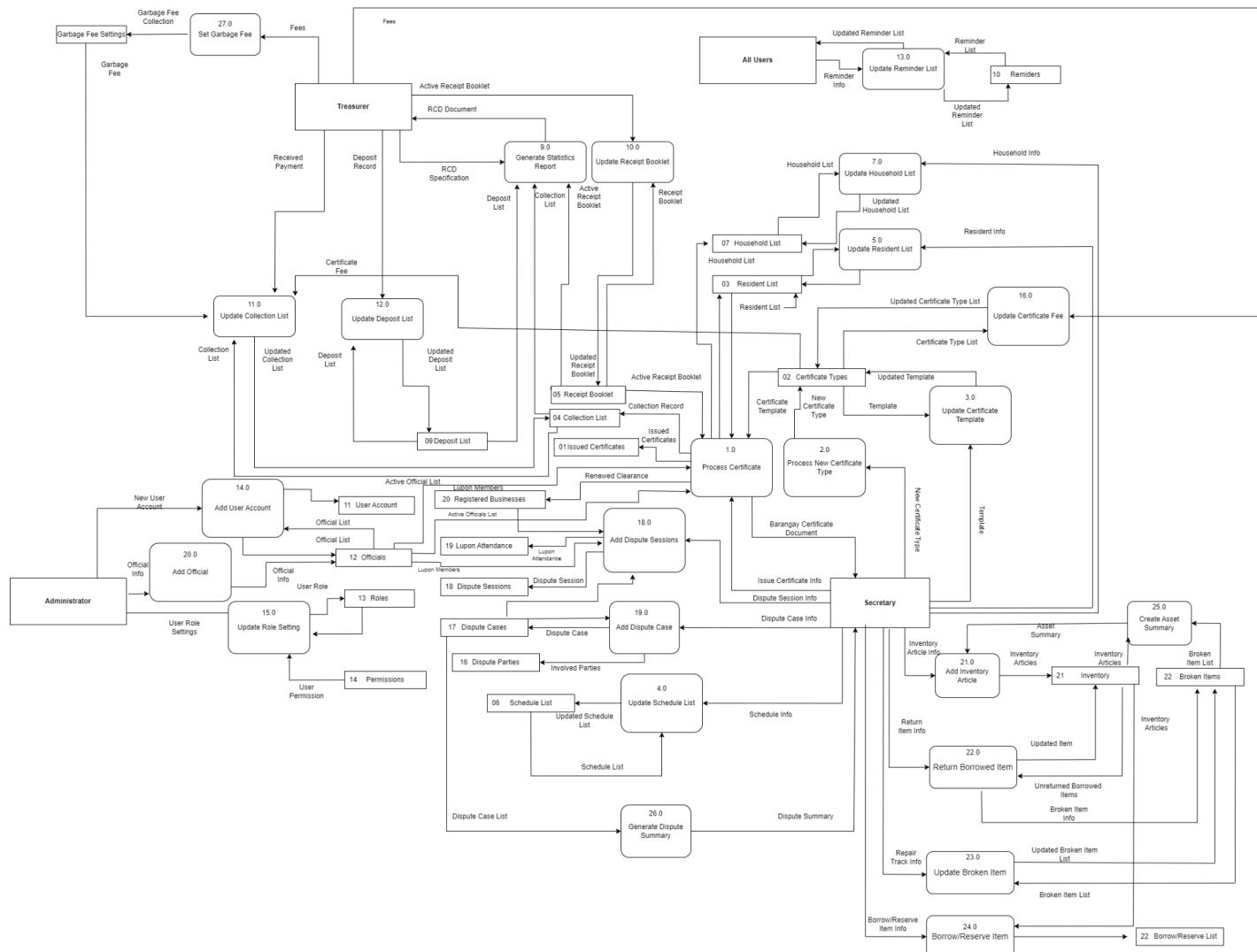


Figure 12: BAOS: Diagram 0 - Data Flow Diagram

### **3.2.5.4 Data Dictionary**

Account Details = Username + Password + Official Name + User Role + Status

Active Officials List = {Official Details}

Active Receipt Booklet = Receipt Type + "In Use" + Min Receipt Number + Max  
Receipt Number

Activity = {Characters}

Address = Street Name + Purok

Amount Collected = Currency

Amount Deposited = Currency

Article= {Characters}

Article Details= Inventory Articles + Items

Author = {Characters}

Bank Name = {Characters}

Barangay Certificate Document = Template + Resident Details + Active Officials List

Birthday = Date

Booklet Status = ["In Use" | "Exhausted"]

Borrowed= {Number}

Borrow History= Borrowed+Borrower + Borrower Contact + Returned

Borrowed = Date

Borrower = {Characters}

Borrower Contact = 11 {Number}11

Broken/Overage= {Number}

Case Description = {Characters}

Case Title = {Characters}

Case Status = ["Active" | "Resolved" | "Moved To Court"]

Category = ["Clean and Green Equipment" | "DRR" | "Emergency" | "IT" | "Office" |  
"Other Machineries" | "Other PPE" | "Sports"]

Certificate Collection = Timestamp + Receipt Number + Payor + Certificate Type +  
Amount Collected

Certificate Fee = Currency

Certificate Type = ["Certificate of Residency" | "Certificate of Good Moral" | "Business  
Clearance" | "Certificate for Low Income" | "Certificate for  
Transfer of Internet" | "Certificate for First Time Job Seekers"]

Certificate Type Details = Certificate Type + Fee Collected + Template

Certificate Types = {Certificate Type Details}

Characters = [ 'A'..'Z' | 'a' .. 'z' | '-' | '/' | ' ' ]

Collection List = {[Certificate Collection | Garbage Collection]}

Complainant = {Characters}

Complainee = {Characters}  
condition = {Characters}  
Contact Number = 11 {Number}11  
CTC Number = 8 {Number}8  
Currency = 1{ Number }10 + '.' + 2{Number}2  
Date = Year + Month + Day  
Day = [0...[30|31|27|28]]  
Deposit Details = Bank Name + Reference Number + Amount Deposited  
Deposit List = {Deposit Details}  
Description = {Characters}  
Dispute Case = Case Title + Case Description + Date + Case Status  
Dispute Session = Dispute Case + Session Number + Session Summary + Lupon  
Attendance  
Email = {Characters} + '@' + {Characters} + ".com"  
Feature = ["Admin" | "Certificate" | "Schedule" | "Reminder" | "RCD" | "Community Profile"]  
Fee Collected = Currency  
Garbage Collection = Timestamp + CTC Number + "Garbage" + Amount Collected  
Hour = 2 {[0...23]}2  
Household Details = Household Number + Address + Household Head  
Household Head = Resident Name  
Household List = {Household Details}  
Household Number = 2{Number}2  
Household Profile = Household Details  
ID = {Number}  
Inventory Articles = Article + Description + Unit of Measure + Unit Value + Type + Total Quantity  
Inventory Value Summary= Category + Total Quantity + In Possession + Borrowed + Broken/Overage + Total Value of Assets + Total Value Loss + Overall Total Value  
In Possession={Number}  
Involved Parties = Complainant + Complainee  
IP Status = ["True" | "False"]  
Issue Certificate Info = Resident Name + Certificate Type  
Issued Certificate = Resident Name + Certificate Type + Timestamp  
Issued Certificates = {Issued Certificate}  
Item Details = Article + Items  
Items = ID + condition + On Hand  
Lupon = Officials

Lupon Attendance = {Lupon}

Lupon Members = {Lupon}

Marital Status = ["Married" | "Single" | "Divorce" | "Separated"]

Max Date = Date

Max Receipt Number = Receipt Number

Min = 2{[0...60]}2

Min Date = Date

Min Receipt Number = Receipt Number

Month = ["January" | "February" | "March" | "April" | "May" | "June" | "July" | "August"  
| "September" | "October" | "November" | "December" ]

New Certificate Type = Certificate Type Details

New User Account = Account Details

Number = [0..9]

Official Details = Official Name + Position + E-mail + Official Status

Official Name = {Characters}

Officials = {Official Details}

Organizer = {Characters}

Owner Name = Resident Name

Password = {[Characters | Number]}

Payor = Resident Name

Permission Details = Role Details + Feature + Permission Level

Permission Level = ["View" | "Edit"]

Permissions = {Permission Details}

Position = ["Punong Barangay" | "Secretary" | "Treasurer" | "Chairperson-Public Works  
and BAC" | "Chairperson-Health, Nutrition, Sanitation, Tourism and  
Environment" | "Chairperson-Trade, Commerce and Livelihood, and  
Transportation/Public Utilities and Agriculture" | "Chairperson-Human  
Rights, Laws and Regulations, Senior Citizen, Social Services, Urban  
Poor, Women and Family" | "Chairperson-Finance, Ways and Means" |  
"Chairperson-Peace and Order, Protection and Security, and Barangay  
Risk Reduction Management" | "SK Chairman" | "Child Development  
Worker" | "Nutrition Action Officer" | "Chief Tanod" | "Assistant Chief  
Tanod" | "Lupon"]

Official Status = ["Active" | "Retired"]

On Hand= {Characters}

Overall Total Value=Currency

Processed Household List = Household List

Processed Resident List = Resident List

Processed Survey Results = Survey Result

Profile Statistics Report = {[Processed Household List | Processed Resident List | Process Survey Results]}

Purok = 2{Number}2

RCD Document = Collection List + Deposit List + Active Receipt Booklet + Report Date Batch

Receipt Booklet = {Receipt Booklet Details}

Receipt Booklet Details = Receipt Type + Booklet Status + Min Receipt Number + Max Receipt Number

Receipt Number = 7{Number}7

Receipt Type = ["Certificate" | "Garbage"]

Reference Number = 14{[Characters | Number]}14

Registration Number = 'N' + 10{Number}10

Renewed Clearance = Issued Certificate

Reminder Details = Reminder Title + Reminder Message + Author + Reminder Status

Reminder Info = Reminder Details

Reminder Message = {Characters}

Reminder Status = ["Resolved" | "Active"]

Reminder Title = {Characters}

Reminders = {Reminder Details}

Report Date Batch = Min Date + Max Date

Resident Details = Resident Name + Household Number + Birthday + Contact Number + Marital Status + Residential Type + IP status

Resident List = {Resident Details}

Resident Name = {Characters}

Resident Profile = Resident Details

Residential Type = ["Bonafide Resident" | "Renter"]

Returned=Date

Role Details = Role ID + User Role

Role ID = 9{Number}9

Roles = {Role Details}

Schedule Details = Activity + Organizer + Email + Contact Number + Date + Time

Schedule List = {Schedule Details}

Sec = 2{[0...60]}2

Session Number = {Number}

Session Summary = {Characters}

Status = ["Active" | "Archived"]

Street Name = {Characters}

Survey Answers = {Characters}  
Survey Result = {Survey Answers}  
Survey Result File = Survey Result  
Template = {Characters}  
Time = Hour + Min + Sec  
Timestamp = Date + Time  
Total Quantity={Number}  
Total Value Loss =Currency  
Total Value of Assets=Currency  
Type = Category  
Type = ["IT" | "Sports" | "DRR" | "Other Machineries" | "Other PPE" ]  
Unit of Measure =Currency  
Unit Value ={Characters}  
Unreturned Borrowed Items = Article + Item ID + Borrower Name + Contact Number +  
Date Borrowed  
Update Household List = Household List  
Updated Resident List = Resident List  
User Account = {Account Details}  
User Role = ["Administrator" | "Secretary" | "Treasurer" | "General User" | "Guest"]  
User Role Settings = Role Details  
Username = {[Characters | Number]}  
Year= 4{Numbers}4

### **3.3 Implementation**

#### **3.3.1 Security and Data Privacy**

The team acknowledges the handling of sensitive personal information by the web application, in accordance with the Republic Act of 2012. This encompasses a range of details, including an individual's race, ethnic origin, marital status, age, color, religious, philosophical or political affiliations, health, education, genetic or sexual life, and information pertaining to legal proceedings, offenses, and court sentences. Recognizing these categories as confidential information, access is limited to a select group of individuals or parties, typically requiring clearance or special authorization.

To fortify data privacy and security, the team has implemented encryption measures for this sensitive information within the database. This proactive approach ensures that, even in the unfortunate event of a breach, unauthorized

hackers cannot gain access to this highly confidential data. Additionally, stringent access controls have been enforced, allowing only personnel with the appropriate user permissions to retrieve and interact with this specific category of information. Apart from encryption and hashing, input validations were also included in the implementation of data privacy and security.

### 3.3.2 Tools and Technologies

As discussed previously, the group developed a web application and a native application to serve the needs of the client. In order to properly implement the system that satisfies the requirements stated by the clients, the group applied the following tools and technologies.

Table 12: Tools and Technologies to be Used in Developing the System

Tool/ Technology	Category	Description	Purpose
Node.js	Runtime Environment	A free open-source environment that can run on Windows, Linux Unix, Mac OS X, and others. It uses JavaScript on the server.	Server Environment
Express.js	Framework	A small framework that works on top of Node.js that adds features and simplifies its APIs.	Framework for Node.js to develop web application
Easy-template-x	Library	A library TypeScript used in Editor, and Document Editor applications.	Library for Node.js to create document templates for barangay clearance and RCD printing.
Leaflet.js	Library	JavaScript API used for	Library for

		making interactive maps.	Node.js to integrate an interactive map for community profile
excel4node	Library	JavaScript library for making advanced Excel files.	Library for Node.js to generate and work with Excel files programmatically, making it particularly useful for tasks such as data export, report generation, and automation of Excel-related processes
Select2	Library	Select2 is a jQuery-based replacement for HTML select boxes with advanced features like searching and tagging.	Library for jQuery to provide a more dynamic and feature-rich interface for selecting options
BootStrap	Library	Bootstrap is a front-end framework for building	Library for HTML, CSS,

		responsive websites.	JavaScript to streamline web development by offering pre-built components and a responsive grid system
Event-Calendar	Library	Event-Calendar integrates a calendar system into web applications for managing events and schedules.	Library for Javascript to enhance application functionality by enabling users to view, create, and manage events.
DocumentEditor	Library	DocumentEditor allows users to create, edit, and format documents within a web application	Library for Javascript to provide seamless document manipulation for users within a web environment.
MySQL	Technology	MySQL is an open-source tool that is used to manage data stored within servers and databases.	Used for creating the database for the system
Java	Programming Language	An object-oriented programming language that	Programming Language

		can be used in a wide variety of operating systems including android	to be used for Srpingboot
Webstorm	IDE	An IDE for JavaScript	Tool used to write the code for developing the Node.js Application
Google Docs	Collaboration Tool	A free web-based word processor that is made by Google.	Documentation
Github	Collaboration Tool	GitHub is a website and cloud-based service tool that helps developers store and manage their code, as well as track and control changes to their code.	Code Repository
Bitrix24	Collaboration Tool	Bitrix24 is a collaboration software with complete tools for management, collaboration, and management.	Project Management
Google Drive	Collaboration Tool	Google Drive is a cloud-based storage service that enables users to store and access files online.	File repository

### 3.3.3 Test Cases and Results

Several Test cases were identified based on the functional requirements, prototype, and use cases. Each of these cases were manually tested by the group's assigned tester in order to provide feedback on any issues identified. Each case has an

expected result and the testers were expected to document the results in order to identify any discrepancy in the system's behavior. The test cases and its corresponding results can be found on Appendix D.

### **3.4 Testing and Deployment**

User testing is a pivotal phase in the web application's lifecycle, with the proponent, the primary overseer, formally committing to the project's integrity through the user acceptance form. This agreement signifies alignment with specified requirements and quality standards. For the entire duration from November 14-17 and January 8-10, the group conducted regular visits to the proponent to gather feedback regarding the system which would be rectified and be delivered the following day fortifying the application's efficacy and user experience. User testing validates compliance and instills confidence in the proponent regarding the application's reliability. The group has also produced a deployment plan which details the different criteria needed for the project to be officially deployed along with the plans moving forward to ensure that the system is supported. Additional details can be found in Appendix C

### **3.5 Maintenance**

The maintenance phase strategically situated some group members near the proponent. This pragmatic approach enables swift interventions in case of operational discrepancies, with the nearby group members engaging in hands-on troubleshooting. This responsive maintenance strategy ensures minimal downtime and seamless operation. Leveraging a collective pool of expertise, the group members serve as a support system, enhancing the proponent's commitment to delivering a resilient web application. This proactive maintenance stance minimizes disruptions, emphasizing the project's dedication to an uninterrupted and optimal user experience. Furthermore, the group has included a plan for the deployment of the project for the enhancement of the overall system.

#### **IV. CONCLUSIONS AND RECOMMENDATIONS**

The Barangay Automation Office System (BAOS) is a web application developed through an iterative waterfall approach, utilizing Node.js as a server environment, aimed at automating administrative tasks for barangay government officials, improving efficiency in record-keeping, certificate issuance, and other duties. The SLU-SVP Barangay Office, as a Local Government Unit, assumes a pivotal role in certificate processing, fee management, and dispute resolution. Use Cases, Data Flow Diagrams, Relational Schema, System Architecture, and Site Maps were used by the group in order to describe the intended design of the system.

To have a better understanding of the software and system design, the group utilized use case diagrams to represent the functional aspects of the application showing the interactions between users and the system, System Architecture to provide a high-level description of the components and their interactions within the application and Data Architecture to show the representations of data entities and their relationships within the system.

For the development and testing phase of the application, several important documents are provided to ensure the quality and successful deployment of the application. The following documents are: Test Case and Results which systematically verify that the web application behaves as intended under different scenarios and conditions. The Deployment Plan outlines the steps and criteria for deploying the application into the production environment, and the User Acceptance Approval Form to formally indicate their acceptance or approval of the application after it has been tested and is ready for deployment.

For future researchers, explore the possibility of hosting the web application on a server that could enable barangay officials to access data from their respective homes, contingent upon the implementation of proper security protocols in place for the web application. Another recommendation would be to include document generation for the modules Data profiling, and inventory, as these documents are needed by the barangay and could streamline the workload of the secretary.

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## APPENDICES

### APPENDIX A: Documents

Residency



Republic of the Philippines  
SLU-SVP BARANGAY  
Baguio City  
**Telephone Number: (074) 442-1730**  
**Email address: barangayslusvp@gmail.com**



#### BARANGAY OFFICIALS 2018-2023

[REDACTED]  
PUNONG BARANGAY

KAGAWAD

Chairperson-Public Works and  
BAC

[REDACTED]  
Chairperson-Health, Nutrition,  
Sanitation, Tourism and Environment

[REDACTED]  
Chairperson- Trade, Commerce and  
Livelihood, and Transportation/Public  
Utilities and Agriculture

[REDACTED]  
Chairperson-Human Rights, Laws  
and Regulations, Senior Citizen,  
Social Services, Urban Poor, Women  
And Family.

[REDACTED]  
Chairperson-Finance, Ways and means

[REDACTED]  
Chairperson-Peace and Order, Protection  
and Security, and Barangay Risk  
Reduction Management.

[REDACTED]  
Chairperson-Education, BCPC,  
Youth and Sports

[REDACTED]  
SK CHAIRMAN

[REDACTED]  
Barangay Secretary

[REDACTED]  
Barangay Treasurer

[REDACTED]  
Child Development Worker

[REDACTED]  
BRGY. Nutrition Action Officer/  
Brgy. Nutrition Scholar

[REDACTED]  
Barangay Chief Tanod

[REDACTED]  
Assist. Chief Tanod

[REDACTED]  
Maintenance Personnel

#### OFFICE OF THE PUNONG BARANGAY

#### CERTIFICATION OF RESIDENCY

#### TO WHOM IT MAY CONCERN:

This is to certify that [REDACTED]  
years old, is a renter at No. [REDACTED]

[REDACTED] since.

This certification is hereby issued upon the request of the  
above named for whatever legal purpose/intent that it may  
serve.

Issued this 22nd day of February 2023 at SLU-SVP Barangay,  
Baguio City, Philippines.

[REDACTED]  
Punong Barangay

[REDACTED]  
Officer of the Day

#### BAGUIO CITY ORDINANCE 34 s 2017

PROHIBITS Smoking & Vaping  
in all Public Places, &  
SELLING w/in 100m absolute ban  
Penalty from Php 1,000.00 - Php 5,000.00

NOTE: NOT VALID WITHOUT OFFICIAL SEAL

Appendix 1: Certificate of Residency (Default)



Republic of the Philippines  
SLU-SVP BARANGAY  
Baguio City  
Telephone Number: (074) 442-1730  
Email address: [barangayslusvp@gmail.com](mailto:barangayslusvp@gmail.com)



**BARANGAY OFFICIALS**  
2018-2023

**PUNONG BARANGAY**

**KAGAWAD**

Chairperson-Public Works and  
BAC

Chairperson-Health, Nutrition,  
Sanitation, Tourism and Environment

Chairperson- Trade, Commerce and  
Livelihood, and Transportation/Public  
Utilities and Agriculture

Chairperson-Human Rights, Laws  
and Regulations, Senior Citizen,  
Social Services, Urban Poor, Women  
And Family.

Chairperson-Finance, Ways and means

Chairperson-Peace and Order, Protection  
and Security, and Barangay Risk  
Reduction Management.

Chairperson-Education, BCPC,  
Youth and Sports

**SK CHAIRMAN**

**Barangay Secretary**

**Barangay Treasurer**

**Child Development Worker**

**BRGY. Nutrition Action Officer/  
Brgy. Nutrition Scholar**

**Barangay Chief Tanod**

**Assist. Chief Tanod**

**Maintenance Personnel**

**OFFICE OF THE PUNONG BARANGAY**

**CERTIFICATE OF RESIDENCY**

**TO WHOM IT MAY CONCERN:**

This is to certify that [REDACTED] is a  
bona fide resident at [REDACTED]

This certification is hereby issued upon request of the above  
mentioned person for NBI application and bank account  
opening.

Issued this 6th day of MARCH 2023 at SLU-SVP Barangay,  
Baguio City, Philippines.

[REDACTED]  
Punong Barangay  
[REDACTED]

**Officer of the Day**

Firmando  
d'gueds

lote

6 months  
renewal

AGUIJO CITY ORDINANCE 34 s 2017

PROHIBITION OF SMOKING & VAPING

in all Public Places &

within 100m absolute ban

from any building or premises

NOTE: NOT VALID WITHOUT OFFICIAL SEAL

Appendix 2: Certificate of Residency (Special Phrase)

(Handwritten Note)



Republic of the Philippines  
**SLU-SVP BARANGAY**  
Baguio City  
Telephone No. (074) 442-17-30  
E-mail Add: [barangayslusp@gmail.com](mailto:barangayslusp@gmail.com)



**OFFICE OF THE PUNONG BARANGAY**

**BARANGAY CLEARANCE**

**MARCH 06, 2023**

**Date**

To whom it may concern:

This is to certify that [REDACTED] years old, presently residing at [REDACTED] has never been charged or convicted of any offense, violation or infringement of any law or ordinance presently enforced in this Barangay.

This further certifies that the undersigned could vouch for his/her good moral character and being a responsible and law-abiding citizen of the Philippines.

This certification is issued upon his/her request for whatever legitimate purpose or purposes it may serve him/ her best.

Done this **6<sup>th</sup> day of March 2023**, at SLU-SVP Barangay, Baguio City, Philippines.

[REDACTED]  
Signature of Applicant

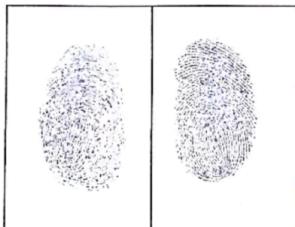
Community Tax Cert. 13049768  
Issued on: 03-06-2023  
Issued at : Baguio City

Recommended by: [REDACTED]

Chairperson on Peace and Order, Protection  
and Security and BDRRMC

Barangay O.R. No. 1342416  
Amount paid: Php 100.00

THUMBMARKS



Approved by: [REDACTED]

Punong Barangay

[Handwritten Signature]

Note: NOT VALID WITHOUT OFFICIAL SEAL

Appendix 3: Certificate of Good Moral



Republic of the Philippines  
SLU-SVP BARANGAY  
Baguio City  
Telephone Number: (074) 442-1730  
Email address: barangayslusvp@gmail.com



**BARANGAY OFFICIALS**

2018-2022

**PUNONG BARANGAY**

**KAGAWAD**

Chairperson-Public Works and  
BAC

Chairperson-Health, Nutrition,  
Sanitation, Tourism and Environment

Chairperson- Trade, Commerce and  
Livelihood, and Transportation/Public  
Utilities and Agriculture

Chairperson-Human Rights, Laws  
and Regulations, Senior Citizen,  
Social Services, Urban Poor, Women  
And Family.

Chairperson-Finance, Ways and means

Chairperson-Peace and Order, Protection  
and Security, and Barangay Risk  
Reduction Management.

**SK CHAIRMAN**

Barangay Secretary

Barangay Treasurer

Child Development Worker

BRGY. Nutrition Action Officer/  
Brgy. Nutrition Scholar

Barangay Chief Tanod

Assit. Chief Tanod

**OFFICE OF THE PUNONG BARANGAY**

To Whom It May Concern

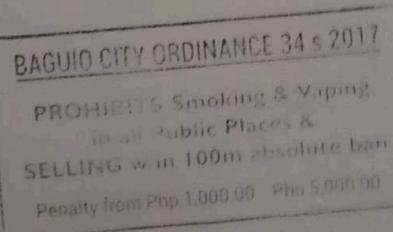
This is to certify that [REDACTED] years old,  
single, is resident of this Barangay since birth up to this date of issuance  
with present address at [REDACTED]  
Baguio City, is qualified to avail of RA 11261 or the First time  
Jobseekers Act of 2019.

I further certify that the holder/bearer was informed of his/her  
rights, including the duties and responsibilities accorded by RA 11261  
through the Oath of undertaking he/she has signed and executed in the  
presence of our barangay Officials.

Issued this 31<sup>st</sup> day of May 2022 at SLU-SVP Barangay, Baguio  
City, Philippines.

[REDACTED]  
Punong Barangay

[REDACTED]  
Officer of the day



NOTE: NOT VALID WITHOUT OFFICIAL SEAL

Appendix 4: Certificate for First Time Job Seeker (Page 1)



Republic of the Philippines  
Office of the Barangay Council  
SLU-SVP BARANGAY  
Baguio City  
Telephone No. (074) 442-1730



OFFICE OF THE PUNONG BARANGAY  
BARANGAY CLEARANCE

OCTOBER 26, 2022  
Date

To Whom It May Concern:

This is to certify that MS. residing at [REDACTED] (years old), has never been charged or convicted of any offense, violation or Infringement of any law or ordinance presently enforced in this Barangay.

This further certifies that the undersigned could vouch for his/her good moral character and being a responsible and law-abiding citizen of the Philippines.

This certification is issued upon his/her request for FIRST TIME JOB SEEKER.

Done in the SLU-SVP BARANGAY, Bakakeng, Baguio City, Philippines, this 26<sup>th</sup> day of October 2022

[REDACTED]  
Signature of Applicant

Community Tax Cert, No :  
Issued on :  
Issued at :  
Barangay O.R No. :

Recommended by:

[REDACTED]  
Chairman [REDACTED] Order  
Protection and Security

THUMBMARKS



Approved by:

[REDACTED]  
Punong Baran [REDACTED]

BAGUIO CITY ORDINANCE 34 s 2017  
PROHIBITS Smoking & Vaping  
in all Public Places &  
SELLING w/in 100m absolute ban  
Penalty from Php 1,000.00 - Pho 5,000.00

NOTE: NOT VALID WITHOUT OFFICIAL BARANGAY SEAL

Appendix 5: Certificate for First Time Job Seeker (Page 2)

## **OATH OF UNDERTAKING**

Republic Act 11261 – First Time Jobseekers Assistance Act

I, \_\_\_\_\_, \_\_\_\_\_ years of age, resident of \_\_\_\_\_ (complete address),  
for \_\_\_\_\_ (years/months), availing the benefits of **Republic Act 11261**, otherwise known as  
the **First Time Jobseekers Act of 2019**, do hereby declare, agree and undertake to abide and  
be bound by the following:

1. That this is the first time that I will actively look for a job, and therefore requesting that a Barangay Certification be issued in my favor to avail the benefits of the law;
2. That I am aware that the benefit and privilege/s under the said law shall be valid only for one (1) year from the date that the Barangay Certification is issued;
3. That I can avail the benefits of the law only once;
4. That I understand that my personal information shall be included in the Roster/List of First Time Jobseekers and will not be used for any unlawful purpose;
5. That I will inform and/or report to the Barangay personally, through text or other means, or through my family/relatives once I get employed;
6. That I am not a beneficiary of the JobStart Program under R.A. No. 10869 and other laws that give similar exemptions for the documents or transactions exempted under R.A No. 11261;
7. That if issued the requested Certification, I will not use the same in any fraud, neither falsify nor help and/or assist in the fabrication of the said certification;
8. That this undertaking is made solely for the purpose of obtaining a Barangay Certification consistent with the objective of R.A. No. 11261 and not for any other purpose; and
9. That I consent to the use of my personal information pursuant to the Data Privacy Act and other applicable laws, rules, and regulations.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, in the City/Municipality of \_\_\_\_\_.

Signed by:

Witnessed by:

**First Time Jobseeker**

**Barangay Official and Position**

For applicants at least fifteen years old to less than 18 years of age:

I, \_\_\_\_\_, \_\_\_\_\_ years of age, parent/guardian of \_\_\_\_\_, and a resident of \_\_\_\_\_ (complete address),  
for \_\_\_\_\_ (years/months), do hereby give my consent for my child/dependent to avail the  
benefits of **Republic Act 11261** and be bound by the abovementioned conditions.

Signed by:

**Parent/Guardian**

**THIS FORM NEED NOT BE NOTARIZED**

*RA 11261 Form 2*

Appendix 6 Certificate for First Time Job Seeker (Page 3)



Republic of the Philippines  
SLU-SVP BARANGAY  
Baguio City  
Telephone Number: (074) 442-1730  
Email address: [barangayslusvp@gmail.com](mailto:barangayslusvp@gmail.com)



**BARANGAY OFFICIALS  
2018-2023**

PUNONG BARANGAY

KAGAWAD

Chairperson-Public Works and  
BAC

Chairperson-Health, Nutrition,  
Sanitation, Tourism and Environment

Chairperson- Trade, Commerce and  
Livelihood, and Transportation/Public  
Utilities and Agriculture

Chairperson-Human Rights, Laws  
and Regulations, Senior Citizen,  
Social Services, Urban Poor, Women  
And Family.

Chairperson-Finance, Ways and means

Chairperson-Peace and Order, Protection  
and Security, and Barangay Risk  
Reduction Management.

Chairperson-Education, BCPC,  
Youth and Sports

SK CHAIRMAN

Barangay Secretary

Barangay Treasurer

Child Development Worker

BRGY. Nutrition Action Officer/  
Brgy. Nutrition Scholar

Barangay Chief Tanod

Assist. Chief Tanod

Maintenance Personnel

**OFFICE OF THE PUNONG BARANGAY**

**CERTIFICATION**

TO WHOM IT MAY CONCERN:

This is to certify that [REDACTED] years old,  
Filipino citizen is presently residing at [REDACTED]

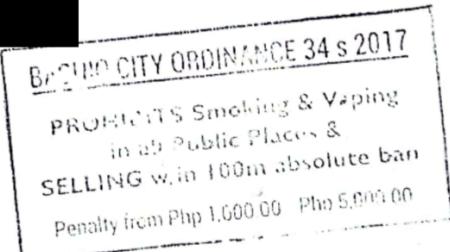
This is to further certify that the above- mentioned person  
belongs to the list/s of Families with Low Source of Income in our  
Barangay, and that she is a single parent with two (2) dependents  
and is employed as a caretaker only.

This certification is issued upon the request of the  
above mentioned name for whatever legal intent or purpose it  
may serve him.

Issued this 21<sup>th</sup> day of February 2023 at SLU-SVP  
Barangay, Baguio City, Philippines.

PSWB - Low source  
of income

Officer of the Day



NOTE: NOT VALID WITHOUT OFFICIAL SEAL

Appendix 7: Certificate of Low Source of Income



Republic of the Philippines  
**SLU-SVP BARANGAY**  
Baguio City  
Telephone No. (074) 442-17-30  
E-mail Add: [barangayslusvp@gmail.com](mailto:barangayslusvp@gmail.com)



**OFFICE OF THE PUNONG BARANGAY**

**BARANGAY BUSINESS CLEARANCE**

**MARCH 08, 2023**

Date

TO WHOM IT MAY CONCERN:

This is to certify that [REDACTED] has applied for;

1. The new / renewal of his /her Business Permit covering the period of ONE YEAR (2022).
2. His / her Business Establishment is located at [REDACTED]  
[REDACTED]
3. The kind of business being applied for is: [REDACTED] under the Trade Name of :  
[REDACTED]
4. The line/s of business of the application is /are the following: [REDACTED]
5. The under signed respectfully recommend approval / disapproval due to the following reason/s to wit: All pertinent documents are in order.

Issued this 8<sup>th</sup> day of March 2023, at SLU- SVP , Barangay , Baguio City .

[REDACTED]  
Signature of Applicant

Community Tax Cert. \_\_\_\_\_ > Punong Barangay  
Issued on: \_\_\_\_\_  
Issued at : Baguio City

Previous Business TIN NO. 14-6-47113-164740  
Fees Paid : Php 200.00  
Barangay O.R No. 1342421

Application Received:  
Date : 3-08-23  
By: tess

*new - 130 - 180 > paid  
old - 200 - 1500*

BAGUIO CITY ORDINANCE 34 s 2011

Approved by: [REDACTED]

Punong Barangay

PROHIBITS Smoking & Vaping  
in all Public Places &  
SELLING w/in 100m absolute ban  
Penalty from Php 1,000.00 - Php 5,000.00

Kagawad

[REDACTED]  
Officer of the day

Note: NOT VALID WITHOUT OFFICIAL SEAL



Republic of the Philippines  
City of Baguio  
**PERMIT TO ENGAGE IN BUSINESS**

SANITATION STANDARD RATING

SATISFACTORY

TRANSACTION TYPE

RENEWAL

BUSINESS PERMIT NO

14-6-47113-164740

**2022**

NAME OF TAXPAYER  
[REDACTED]

BUSINESS TRADENAME  
[REDACTED]

BUSINESS ADDRESS  
[REDACTED]

LINE(S) OF BUSINESS  
RETAIL SELLING IN SARI-SARI STORE

---END---

DATE ISSUED

4/19/2022

EXPIRY DATE

12/31/2022

[REDACTED]  
City Treasurer

[REDACTED]  
City Mayor

ASSESSMENT DETAILS #325886

BUSINESS TAX	4,952.00
MAYOR'S PERMIT	450.00
STORAGE FEE	0.00
DEL. TRUCKS/VAN FEE	0.00
SANITARY BUSS. FEE	100.00
TC/CF	150.00
CEPMO CERT. FEE	100.00
FIRE INSPI. FEE	500.00
SANITARY INSPI. FEE	125.00
SEWERAGE FEE	0.00
BUSINESS PLATE	0.00
GARBAGE FEE	600.00
BACK TAXES	0.00
TOTAL	6,977.00

PAYMENT DETAILS

MODE OF PAYMENT	SEMI-ANNUAL
AMOUNT PAID	3,203.00
OFFICIAL RECEIPT	5553619
CTC - 9223126	221.00
DATE PAID	2/15/2022

VERIFIED 2022



CONDITION FOR THE VALIDITY OF THIS PERMIT

1. This permit is not valid if not signed by the City Treasurer and the City Mayor.
2. This permit must be displayed in a conspicuous place within the business establishment.
3. This permit is not valid if there is/are any alteration/s, addition/s or erasure/s or the tax, fees/charges are not paid, as required under the existing ordinance.
4. This permit is subject to the compliance by permittee to all existing laws, ordinances, rules, and regulations on the business, trade, or calling granted to the permittee.
5. Permittee shall notify the Office of the City Treasurer not later than the date of retirement and surrender this permit to Licensing Division of the City Mayor's Office including all previous permits issued to him/her upon discontinuance or retirement from service.
6. THIS PERMIT IS NON-TRANSFERABLE.

OTHER PERMIT CONDITION(S)

NONE

- P. MIRANDA

Appendix 9: Business Clearance (Page 2)

CERTIFICATION

TO WHOM IT MAY CONCERN:

This is to certify that MS. [REDACTED] [REDACTED] **YEARS OLD**, A former resident from 1 CICM Purok 10, Bakakeng Norte, Baguio City is going **TO** **TRANSFER HER INTERNET CONNECTION (Converge)** to [REDACTED] SLU-SVP, Bakakeng, Baguio City.

This certification is hereby issued upon request of the above mentioned person for whatever legal purposes it may serve.

Issued this 26<sup>th</sup> day of July 2022 at SLU-SVP Barangay, Baguio City, Philippines.

[REDACTED]  
Punong Barangay

[REDACTED]  
Officer of the Day

Appendix 10: Certificate for Transfer of Internet

REPORT OF COLLECTIONS AND DEPOSIT						
Name of Barangay Treasurer				Date: JANUARY 04, 2021		
Barangay:	SLU-SVP BARANGAY			RCD:2021-01-01		
<b>A.COLLECTIONS</b>						
DATE	NUMBER	PAYOR	NATURE OF COLLECTION	AMOUNTS		
01/04/2021	1092978		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092979		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092980		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092981		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092982		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092983		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092984		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092985		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
01/04/2021	1092986		BRGY.CERTIFICATE	100		
01/04/2021	1092987		BRGY BUSINESS CLEARANCE			
			RENEWAL	200		
<b>TOTAL</b>				<b>1,300.00</b>		
<b>B.DEPOSITS</b>						
BANK/BRANCH			REFERENCE	AMOUNT		
PHILIPPINES VETERANS BANK						
<b>TOTAL</b>						
<b>C. ACCOUNTABILITY OF ACCOUNTABLE FORMS</b>						
Name of Form and No.	Beginning Balance		Receipt	Issued		Ending Balance
	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To
With money Value						
Official Receipt						
Without money Value	423	1092978 1093400			10	1092978 1092987 413 1092988 1093400
Official Receipt						
<b>D. CERTIFICATE</b>	I Herby certify that the above Report of collections and Deposits and Accountable Forms including supporting documents are true and correct					
Barangay Treasurer						Date: JANUARY 04, 2021
<b>E.ACCTING ENTRIES</b> Account Title			Account Code	Debit	Credit	
Prepared By: _____			Approved By: _____			

Appendix 11: RCD of Certificates for January (Page 1)

REPORT OF COLLECTIONS AND DEPOSIT								
Treasurer	SLU-SVP BARANGAY				Date: JANUARY 05, 2021 RCD:2021-01-02			
NUMBER	PAYOR	NATURE OF COLLECTION			AMOUNTS			
01/05/2021 1092988		BRGY CLEARANCE			100			
05/2021 1092989		BRGY BUSINESS CLEARANCE						
01/05/2021 1092990		RENEWAL			200			
01/05/2021 1092991		BRGY BUSINESS CLEARANCE			200			
01/05/2021 1092992		RENEWAL			200			
01/05/2021 1092993		BRGY BUSINESS CLEARANCE						
01/05/2021 1092994		RENEWAL			200			
		BRGY BUSINESS CLEARANCE			200			
		RENEWAL						
		TOTAL			1,400.00			
<b>B. DEPOSITS</b>								
BANK/BRANCH			REFERENCE			AMOUNT		
PHILIPPINES VETERANS BANK								
<b>TOTAL</b>								
<b>C. ACCOUNTABILITY OF ACCOUNTABLE FORMS</b>								
Name of Form and No.	Beginning Balance		Receipt		Issued		Ending Balance	
	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.
		From		To		From		To
With money Value								
Official Receipt								
Without money Value	413	1092988	1093400			7	1092988	1092994
Official Receipt						406	1092995	1093400
<b>D. CERTIFICATION</b>	I Herby certify that the report of collections and Deposits and Accountable Forms including supporting documents are true and correct							
E. ACCOUNTING ENTRIES	Account Code		Debit		Credit			
Account Title								
Prepared By:	Approved By:							

## Appendix 12: RCD of Certificates for January (Page 2)

REPORT OF COLLECTIONS AND DEPOSIT								
Treasurer [REDACTED] SLU-SVP BARANGAY				Date: JANUARY 06, 2021 RCD:2021-01-03				
NUMBER	PAYOR	NATURE OF COLLECTION		AMOUNTS				
1092995	[REDACTED]	BARANGAY CERTIFICATE		100				
6/2021	1092996	BARANGAY CERTIFICATE		100				
01/06/2021	1092997	BARANGAY CERTIFICATE		100				
01/06/2021	1092998	BRGY BUSINESS CLEARANCE RENEWAL		200				
TOTAL				500.00				
B. DEPOSITS		BANK/BRANCH		REFERENCE		AMOUNT		
		PHILIPPINES VETERANS BANK						
TOTAL								
C. ACCOUNTABILITY OF ACCOUNTABLE FORMS								
Name of Form and No.	Beginning Balance		Receipt	Issued		Ending Balance		
	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To
With money Value								
Official Receipt								
Without money Value	406	1092995 1093400			4	1092995 1092998	402	1092999 1093400
Official Receipt								
D. CERTIFICATE	I hereby certify that the Report of collections and Deposits and Accountable Forms including supporting documents are true and correct							
Barangay Treasurer [REDACTED]								
E. ACCOUNTING ENTRIES Account Title			Account Code	Debit	Credit			
Prepared By:			Approved By:					

Appendix 13: RCD of Certificates for January (Page 3)

#### Appendix 14: RCD of Certificates for January (Page 4)

REPORT OF COLLECTIONS AND DEPOSITS									
Treasurer [REDACTED] SIU SVP BARANGAY						Date: JANUARY 15, 2021 RCD: 2021 01 06			
NUMBER 1093012	PAYOR [REDACTED]	NATURE OF COLLECTION BRGY BUSINESS CLEARANCE BUNI WAI			AMOUNTS 200				
TOTAL						200.00			
B. DEPOSITS									
BANK/BRANCH PHILIPPINES VETERANS BANK			REFERENCE			AMOUNT			
TOTAL									
C. ACCOUNTABILITY OF ACCOUNTABLE FORMS									
Name of Form and No. Qty.	Beginning Balance Inclusive Serial No. From To		Receipt Qty.	Issued Inclusive Serial No. From To		Ending Balance Inclusive Serial No. From To			
With money Value									
Official Receipt									
Without money Value	389	1093012	1093400			1	1093012	1093012	
Official Receipt							388	1093013	1093400
D. CERTIFICATION									
I hereby certify that the Report of collections and Deposits and Accountable Forms including supporting documents are true and correct. Barangay Treasurer _____ Date: JANUARY 15, 2021									
E. ACCOUNTING ENTRIES Account Title			Account Code	Debit	Credit				
Prepared By: _____			Approved By: _____						

Appendix 15: RCD of Certificates for January (Page 5)

REPORT OF COLLECTIONS AND DEPOSIT								
Treasurer [REDACTED] SLU-SVP BARANGAY						Date: JANUARY 18, 2021 RCD:2021-01-07		
NUMBER	PAYOR	NATURE OF COLLECTION		AMOUNTS				
1093013		BRCY BUSINESS CLEARANCE RENEWAL		200				
21 1093014		BARANGAY CERTIFICATE		100				
02/2021 1093015		BARANGAY CERTIFICATE		100				
6/2021 1093016		BARANGAY CERTIFICATE		100				
18/2021 1093017		BARANGAY CERTIFICATE		100				
TOTAL				600.00				
B. DEPOSITS	BANK/BRANCH	REFERENCE		AMOUNT				
	PHILIPPINES VETERANS BANK							
TOTAL								
C. ACCOUNTABILITY OF ACCOUNTABLE FORMS								
Name of Form and No.	Beginning Balance		Receipt	Issued			Ending Balance	
	Qty.	Inclusive Serial No. From	Qty.	Inclusive Serial No. From	Qty.	Inclusive Serial No. From	Qty.	Inclusive Serial No. From
With money Value								
Official Receipt								
Without money Value	388	1093013	1093400			5	1093013	1093017
Official Receipt							383	1093018
								1093400
D. CERTIFICATION								
I Herby certify that the Report of collections and Deposits and Accountable Forms including supporting documents are true and correct								
[REDACTED]								
Date: JANUARY 18, 2021								
E. ACCOUNTING ENTRIES			Account Code	Debit	Credit			
Account Title								
Prepared By:			Approved By:					

Appendix 16: RCD of Certificates for January (Page 6)

REPORT OF COLLECTIONS AND DEPOSIT								
Treasurer [REDACTED] SLU-SVP BARANGAY				Date: JANUARY 19, 2021 RCD:2021-01-08				
NUMBER	PAYOR	NATURE OF COLLECTION		AMOUNTS				
1093018		BARANGAY CERTIFICATE		100				
1093019		BARANGAY CLEARANCE		100				
1093020		BRGY BUSINESS CLEARANCE (RENEWAL)		200				
1093021		BRGY BUSINESS CLEARANCE (RENEWAL)		200				
1093022		BARANGAY CERTIFICATE		100				
1093023		BARANGAY CERTIFICATE		100				
1093024		BRGY BUSINESS CLEARANCE (RENEWAL)		200				
TOTAL				1,000.00				
<b>B. DEPOSITS</b>		BANK/BRANCH	REFERENCE	AMOUNT				
		PHILIPPINES VETERANS BANK						
TOTAL								
<b>C. ACCOUNTABILITY OF ACCOUNTABLE FORMS</b>								
Name of Form and No.	Beginning Balance Qty.	Receipt Inclusive Serial No. From To	Issued Qty.	Ending Balance Qty.				
With money Value								
Official Receipt								
Without money Value	383	1093018 1093400	7	1093018 1093024 376 1093025 1093400				
Official Receipt								
<b>D. CERTIFICATION</b>								
I Herby certify that the collections and Deposits and Accountable Forms including supporting documents are true and correct								
[REDACTED]								
Barangay [REDACTED] Date: JANUARY 19, 2021								
<b>E. ACCOUNTING ENTRIES</b> Account Title			Account Code	Debit	Credit			
Prepared By:			Approved By:					

Appendix 17: RCD of Certificates for January (Page 7)

REPORT OF COLLECTIONS AND DEPOSIT						
Treasurer	[REDACTED] SLU-SVP BARANGAY			Date: JANUARY 21, 2021		
RCD:2021-01-10						
<b>S.</b>						
NUMBER	PAYOR	NATURE OF COLLECTION		AMOUNTS		
1093031	[REDACTED]	BRGY BUSINESS CLEARANCE (RENEWAL)		200		
1093032	[REDACTED]	BRGY CLEARANCE		100		
1093033	[REDACTED]	BRGY BUSINESS CLEARANCE (RENEWAL)		200		
1093034	[REDACTED]	BRGY CERTIFICATE		100		
1093035	[REDACTED]	BRGY BUSINESS CLEARANCE (RENEWAL)		200		
1093036	[REDACTED]	BARANGAY CERTIFICATE		100		
1093037	[REDACTED]	BRGY CLEARANCE		100		
<b>TOTAL</b>				<b>1,000.00</b>		
<b>B. DEPOSITS</b>	BANK/BRANCH	REFERENCE		AMOUNT		
	PHILIPPINES VETERANS BANK					
<b>TOTAL</b>						
<b>C. ACCOUNTABILITY OF ACCOUNTABLE FORMS</b>						
Name of Form and No.	Beginning Balance		Receipt	Issued		Ending Balance
	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.
With money Value						
Official Receipt						
Without money Value	370	1093031	1093400		7	1093031
Official Receipt					1093037	363
					1093038	1093400
<b>D. CERTIFICATION</b>						
I Herby certify that all of collections and Deposits and Accountable Forms including supporting documents are true and correct						
_____ B. [REDACTED] er Date: JANUARY 21, 2021						
<b>E. ACCOUNTING ENTRIES</b> Account Title		Account Code	Debit	Credit		
Prepared By:		Approved By:				

Appendix 18: RCD of Certificates for January (Page 8)

REPORT OF COLLECTIONS AND DEPOSIT												
treasurer SLU-SVP BARANGAY		Date: JANUARY 22, 2021 RCD:2021-01-11										
<b>A. PAYOR</b>	NUMBER 1093038	PAYOR		NATURE OF COLLECTION		AMOUNTS						
				Brgy BUSINESS CLEARANCE (I NIWA)		200						
TOTAL				200.00								
<b>B. DEPOSITS</b>		BANK/BRANCH		REFERENCE		AMOUNT						
		PHILIPPINES VETERANS BANK										
TOTAL												
<b>C. ACCOUNTABILITY OF ACCOUNTABLE FORMS</b>												
Name of Form and No.	Beginning Balance		Receipt		Issued		Ending Balance		Qty. From To			
	Inclusive Serial No.		Inclusive Serial No.		Inclusive Serial No.		Inclusive Serial No.					
	Qty.	From	To	Qty.	From	To	Qty.	From		To		
With money Value												
Official Receipt												
Without money Value	363	1093038	1093400				1	1093038	1093038	362	1093039	1093400
Official Receipt												
<b>D. CERTIFICATION</b>												
I hereby certify that the report of collections and Deposits and Accountable Forms including supporting documents are true and correct												
Date: <u>JANUARY 22, 2021</u>												
<b>E. ACCOUNTING ENTRIES</b>												
Account Title				Account Code		Debit	Credit					
Prepared By:				Approved By:								

## Appendix 19: RCD of Certificates for January (Page 9)

REPORT OF COLLECTIONS AND DEPOSIT							
PREPARED BY [REDACTED]		DATE: JANUARY 26, 2022 RCD-2022-01-26					
IN. NUMBER	PAYOR	NATURE OF COLLECTION		AMOUNT		REFERENCE	AMOUNT
		1099041	1099 BUSINESS CLEARING INTRAM.	200			
1099041	1099 BUSINESS CLEARING INTRAM.	400					
1099042	1099 CLEARANCE	100					
1099043	1099 BUSINESS CLEARING INTRAM.	200					
<b>TOTAL</b>					<b>300.00</b>		
<b>B. DEPOSITS</b>							
	BANK/BRANCH	REFERENCE		AMOUNT			
	PHILIPPINES VETERANS BANK						
<b>TOTAL</b>							
<b>C. ACCOUNTABILITY OF ACCOUNTABLE FORMS</b>							
Name of Form and No.	Beginning Balance	Receipt	issued	Ending Balance			
Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To
With money Value							
Official Receipt							
Without money Value	361	1099040	1099400	4	1099040	1099043	357
Official Receipt							
<b>D. CERTIFICATION</b>							
I Herby certify that the above collections and Deposits and Accountable Forms including supporting documents are true and correct.	Date: JANUARY 26, 2022						
<b>E. ACCOUNTING ENTRIES</b> Account Title		Account Code	Debit	Credit			
Prepared By:	Approved By:						

Appendix 20: RCD of Certificates for January (Page 10)

REPORT OF COLLECTIONS AND DEPOSIT											
Treasurer SLU-SVP BARANGAY		Date: JANUARY 27, 2021 RCD:2021-01-14									
NUMBER 1093044	PAYOR [REDACTED]	NATURE OF COLLECTION BRGY BUSINESS CLEARANCE (RENEWAL)			AMOUNTS 200						
TOTAL DEPOSITS					200.00						
BANK/BRANCH PHILIPPINES VETERANS BANK		REFERENCE			AMOUNT						
TOTAL											
D. ACCOUNTABILITY OF ACCOUNTABLE FORMS											
Name of Form and No.	Beginning Balance		Receipt		Issued		Ending Balance		Inclusive Serial No. From To		
	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To	Qty.	Inclusive Serial No. From To			
With money Value Official Receipt											
Without money Value Official Receipt	357	1093044	1093400			1	1093044	1093044	356	1093045	1093400
D. CERTIFICATION											
I hereby certify that this report of collections and Deposits and Accountable Forms including supporting documents are true and correct											
Date: <u>JANUARY 27, 2021</u>											
E. ACCOUNT Account Title	Account Code			Debit	Credit						
Prepared By:	Approved By:										

Appendix 21: RCD of Certificates for January (Page 11)

REPORT OF COLLECTIONS AND DEPOSIT										
Treasurer		SLU-SVP BARANGAY								
								Date: JANUARY 29, 2021		
								RCD:2021-01-15		
PAYER		NATURE OF COLLECTION				AMOUNTS				
BANKER 1093045		BRIGY. CLEARANCE				100				
TOTAL						100.00				
B. DEPOSITS										
BANK/BRANCH		REFERENCE				AMOUNT				
PHILIPPINES VETERANS BANK										
TOTAL										
<b>C. ACCOUNTABILITY OF ACCOUNTABLE FORMS</b>										
Name of Form and No.	Beginning Balance			Receipt		Issued			Ending Balance	
	Qty.	Inclusive Serial No.		Qty.	Inclusive Serial No.		Qty.	Inclusive Serial No.		
		From	To		From	To		From	To	
With money Value										
Official Receipt										
Without money Value	356	1093045	1093400			1	1093045	1093045	355	
Official Receipt									1093046	
									1093400	
<b>D. CERTIFICATE</b>										
All collections and Deposits and Accountable Forms including supporting documents are true and correct										
I Herby certify _____										
Date: JANUARY 29, 2021										
<b>E. ACCOUNTING ENTRIES</b>										
Account Title				Account Code		Debit		Credit		
Prepared By:				Approved By:						

## Appendix 22: RCD of Certificates for January (Page 12)

REPORT OF COLLECTIONS AND DEPOSIT										
					Date: JANUARY 29, 2021					
SLU-SVP BARANGAY					RCD:2021-01-15					
PAYOR	NATURE OF COLLECTION				AMOUNTS					
[REDACTED]	Barangay Clearance				100					
TOTAL					100.00					
B. DEPOSITS	BANK/BRANCH			REFERENCE		AMOUNT				
	PHILIPPINES VETERANS BANK					php 14,040.00				
01/29/2021										
TOTAL										
C. ACCOUNTABILITY OF ACCOUNTABLE FORMS										
Name of Form and No.	Beginning Balance		Receipt		Issued		Ending Balance			
	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.	Qty.	Inclusive Serial No.		
From		To	From	To	From	To	From	To		
With money Value										
Official Receipt										
Without money Value	356	1093045	1093400			1	1093045	1093045		
Official Receipt										
D. CERTIFICATION										
I HEREBY CERTIFY THAT the collections and Deposits and Accountable Forms including supporting documents are true and correct										
[REDACTED]	Date: JANUARY 29, 2021									
E. ACCOUNTING ENTRIES				Account Code		Debit		Credit		
Account Title										
Prepared By:				Approved By:						

Appendix 23: RCD of Certificates for January (Page 13) Appendix 26: RCD of Certificates for January (Page 13)

CITY OF BAGUIO 1901		DAILY STATEMENT OF COLLECTIONS AND ACCOUNTABLE FORMS						SUCPTE. & BARANGAY BAGUIO CITY	
DAILY STATEMENT OF COLLECTIONS AND ACCOUNTABLE FORMS/OTHER FEES								MARCH 15, 2023	
CITY	BAGUIO CITY				PROVINCE		BENGUET		
Name Of Form	Balance Last Report		Received Since		Issued or Sold Today		Collections or Money Value of Form Issued	Returned	or Transferred
Accountable Form No.	QTY	Inclusive Serial Numbers	QTY	Inclusive Serial Numbers	QTY	Inclusive Serial Numbers	QTY		Inclusive Serial Numbers
CTC	132	[REDACTED]			55	[REDACTED]	77		[REDACTED]
Community Tax -Individual									
php 6,305.00 W/O PENALTIES php 6,305.00									
Add Under Remittance:									
Subtract Over Remittance:									
DATE	3/15/2023				TOTAL COLLECTIONS:		php 6,305.00		
I HEREBY CERTIFY that the above statement of my collections and accountability for accountable forms is TRUE AND CORRECT and the amount of PHP 7,742.00 covered by the same has been turned over to the CITY TREASURY together with all supporting documents.									
[REDACTED] COLLECTOR									
I HEREBY CERTIFY that the above statement of my collections and accountability for accountable forms has been verified by me and found to be correct, an actual physical amount of the accountable forms reported as BALANCES ON HAND having made, and the amount of php received together with all supporting documents.									
[REDACTED] LIQUIDATION OFFICER (NAME & SIGNATURE)									

OFFICE OF THE CITY TREASURER  
CASH DIVISION

RECEIVED  
MAR 15 2023  
BY [REDACTED]

CITY TREASURER'S OFFICE  
RECEIVED  
MAR 15 2023  
BAGUIO CITY

Appendix 24: RCD of Garbage Collection (Page 1)

		ABSTRACT OF COLLECTION OTHER FEES SLU-SVP BARANGAY		
CTC NUMBER	PAYEE	CTC-INDIVIDUAL	CTC-PENALTIES	TOTAL
130		50.00	0.00	50.00
130		50.00	0.00	50.00
130		125.00	0.00	125.00
130		160.00	0.00	160.00
130		5.00	0.00	5.00
130		149.00	0.00	149.00
130		5.00	0.00	5.00
130		25.00	0.00	25.00
130		101.00	0.00	101.00
130		125.00	0.00	125.00
130		149.00	0.00	149.00
130		115.00	0.00	115.00
130		50.00	0.00	50.00
130		50.00	0.00	50.00
130		481.00	0.00	481.00
130		578.00	0.00	578.00
130		50.00	0.00	50.00
130	CANCELLED	CANCELLED	CANCELLED	
130		118.00	0.000	118.00
130		113.00	0.00	113.00
130		185.00	0.00	185.00
130		50.00	0.00	50.00
130		185.00	0.00	185.00
130		329.00	0.00	329.00
130		50.00	0.00	50.00
130		119.00	0.00	119.00
130		50.00	0.00	50.00
130		50.00	0.00	50.00
130		329.00	0.00	329.00
130		77.00	0.00	77.00
130		5.00	0.00	5.00
130		185.00	0.00	185.00
130		5.00	0.00	5.00

Appendix 25: RCD of Garbage Collection (Page 2)



ABSTRACT OF COLLECTION  
OTHER FEES  
SLU-SVP BARANGAY



CTC NUMBER	PAYEE	CTC-INDIVIDUAL	CTC-PENALTIES	TOTAL
130		255.00	0.00	255.00
130		85.00	0.00	85.00
130		149.00	0.00	149.00
130		125.00	0.00	125.00
130		209.00	0.00	209.00
130		5.00	0.00	5.00
130		50.00	0.00	50.00
130		365.00	0.00	365.00
130		125.00	0.00	125.00
130		125.00	0.00	125.00
130		50.00	0.00	50.00
130		129.00	0.00	129.00
130		50.00	0.00	50.00
130		50.00	0.00	50.00
130		50.00	0.00	50.00
130		50.00	0.00	50.00
130		125.00	0.00	125.00
130		125.00	0.00	125.00
130		5.00	0.00	5.00
130		5.00	0.000	5.00
130		5.00	0.00	5.00
	NOTHING FOLLOWS***	***	TOTAL	6,305.00

I HEREBY CERTIFY THAT THE AMOUNT ABOVE IS TRUE AND CORRECT.

MARCH 15, 2023

## **APPENDIX B: User Acceptance Approval Form**

### **PROJECT OVERVIEW**

The proponent is a local government unit (LGU), specifically a barangay. Barangay is the basic political unit in the Philippines as it is the primary planning and implementing unit of government programs, basic services, projects, and activities. After conducting interviews with the barangay officials, the group learned that the treasurer and secretary handle the most responsibilities, wherein they manually handle these documents, which took a lot of their time. Based on the interviews, the proponent wanted to digitize and automate these documents to ease up their responsibilities and help with other things that could benefit the residents of the barangay. These documents are the following: Processing Barangay Certificates, Garbage Collection Fees and their corresponding Reports of Certificates and Deposits, Inventory System, and Resident Disputes.

### **DEPLOYMENT DETAILS**

The full deployment of BAOS: Barangay Automated Office System is scheduled for

**Date: February \_\_ , 2023**

**Time:**

### **USER ACCEPTANCE CRITERIA**

To ensure the application meets user expectations, the following criteria will be evaluated:

1. All core functionalities that were asked by the proponent must operate seamlessly
2. The system must be easy to use and a guide was provided by the group to assist the proponent in guiding them in using the application
3. The system must perform reliably with minimal complication
4. The system must be able to accommodate multiple simultaneous users without affecting its performance
5. The system must be able to support every commonly used browser
6. The system must be available to users at any time within the office hours
7. The system's data must be stored securely and should prevent users without the right authorization/permission from accessing confidential data that are not within their jurisdiction.

### **TEST RESULTS**

Ensure that all the features included in the application are working. The table below is provided for the proponent to make sure these features are working. The contents of the table are the following:

**Features:** Name of the feature shown in the application

**Defects Identified:** If any defects or issues were found during testing.

**Resolution Status:** Indicates the current status of resolving identified defects.

<b>Features</b>	<b>Issues Identified</b>	<b>Resolution Status</b>

<b>Login</b>		
<b>Administrator Window</b>		
<b>Dashboard</b>		
<b>Reminders Tab</b>		
<b>Calendar</b>		
<b>Schedule of Activities</b>		
<b>Schedule List</b>		
<b>Certificates</b>		
<b>Inventory</b>		
<b>Certificates and Deposits</b>		
<b>Disputes</b>		

<b>Community</b>		
<b>Admin Tab</b>		
<b>Add Officials</b>		
<b>Edit Officials</b>		
<b>Roles and Permissions</b>		
<b>Add User Accounts</b>		
<b>Edit User Accounts</b>		
<b>Remove User Accounts</b>		
<b>Settings</b>		
<b>Logout</b>		
<b>For Other Barangay Officials</b>		
<b>Dashboard</b>		

<b>Reminders</b>		
<b>Calendar</b>		
<b>Schedule of Activities</b>		
<b>Schedule List</b>		
<b>Certificates</b>		
<b>Inventory</b>		
<b>Collections and Deposits</b>		
<b>Disputes</b>		
<b>Community</b>		
<b>Settings</b>		

<b>Logout</b>		
---------------	--	--

Table 13: User Acceptance Test Results

## USER FEEDBACK

The proponent provided valuable feedback during the acceptance testing, emphasizing:

- Positive responses to the functionalities that were needed for the digitization and automation of documents.
- The system remains fast even when multiple users are using the application.
- The visual for resident tracking was very useful

## APPROVAL SIGNATURES

We, the undersigned, hereby approve the deployment and user acceptance of BAOS: Barangay Automated Office System:

---

*Heraldo Lamaton, SLU – SVP Punong Barangay*

---

*Dr. Randy Domantay, Project Adviser*

---

*Raitheon Fared Astudillo, Project Leader*

---

*Anri Bruce Apilis, Lead Developer*

---

*Victor Lorenzo Ancheta, Developer*

---

*Dave Joshua Godoy, Tester*

---

*Andre Adam Lim, Developer*

---

*Ethan Dominic Mercado, Tester*

---

*Mark TJ Permison, Developer*

---

*Raean Rillera, Documenter*

## ACKNOWLEDGMENT OF COMPLETION

- We acknowledge that the entire BAOS: Barangay Automated Office System application has been successfully deployed. The proponent has reviewed and accepted the final iteration and version of the application

The BAOS group will make sure that after the deployment of the application, the group will be able to handle the following services until **June 10, 2024**:

- **Ongoing Support:** Dedicated support channels for user inquiries and assistance will be provided by the member located near the proponent
- **Maintenance Plans:** Regular system maintenance to address potential issues and ensure optimal performance until the users are accustomed to the application.

## **APPENDIX C: Deployment Plan**

### **INTRODUCTION**

Barangay Automation Office System (BAOS) is a system that is designed to make jobs easier for barangay or village government officials through the improvement of their information management. The barangay office's activities, like the maintenance of records and documents, recording of households, issuing barangay clearance, issuing business permits, issuing certificates for first-time job seekers, and other administrative duties within the area, are intended to be automated and improved by the system. Barangay officials can easily access and update information, keep track of their tasks, and communicate with other officials thanks to the Barangay Automation Office System (BAOS). The system improves the efficiency and effectiveness of the barangay office operations and ensures timely and accurate delivery of services to the community. The system would be a web application developed in an iterative waterfall approach using Node.js as a server environment. The group used models such as: Use Cases, Data Flow Diagrams, Relational Schema, System Architecture, and Site Maps in order to describe the intended design of the system.

### **OVERVIEW**

The proponent is a local government unit (LGU), specifically a barangay. Barangay is the basic political unit in the Philippines as it is the primary planning and implementing unit of government programs, basic services, projects, and activities. After conducting interviews with the barangay officials, the group learned that the treasurer and secretary handle the most responsibilities, wherein they manually handle these documents, which took a lot of their time. Based on the interviews, the proponent wanted to digitize and automate these documents to ease up their responsibilities and help with other things that could benefit the residents of the barangay. These documents are the following: Processing Barangay Certificates, Garbage Collection Fees and their corresponding Reports of Certificates and Deposits, Inventory System, and Resident Disputes.

### **DEPLOYMENT PLANNING**

#### **RELEASE SCOPE**

The group would be handling the development and deployment of the system, which would be a locally hosted web application. The system features the implementation of a database that would be used for information management of the records in the barangay office, streamlining the client's core business processes. The system would also be offering management and planning support through statistical analysis and reports derived from the digitized records found within the database.

#### **ASSUMPTIONS**

The assumption about the current capabilities and use of the application, when deployed, is that the application is designed to maintain transparent and accessible records. The application may provide a user-friendly interface for barangay authorities to easily access and review the details of these documents.

#### **DEPENDENCIES**

The dependencies that could affect the deployment of the application are that the group prioritized looking for a proper development environment that the proponent's hardware could handle, and since the application handles critical documents, the application needs to be tested with the authorities to see if the application satisfies their

needs and is user-friendly and once it passed the user acceptance test, then the application can be deployed.

## CONSTRAINTS

One of the constraints that the group could encounter is schedule constraints. Since the application is created during a school semester, the group members have just enough time to accomplish the application. Another aspect that could affect the schedule constraint is the upcoming election this November which could affect the availability of the officials of the proponent.

## RISKS

The group looked for every development environment that could be compatible with the hardware available to the proponent office, which could play a role in unforeseen problems after deployment or during implementation.

## RELEASE TESTING

All releases are subject to testing in accordance with the standard release management process. This section outlines the plans and logistics for completing the testing for this specific release. Additionally, any omissions or alterations to the testing process must be identified. Testing results will be documented, aggregated, and communicated to the proponent prior to the approval of the deployment.

### INTERNAL TESTING

1. Functional Testing:
  - a. Perform unit testing to verify the individual components of the system.
  - b. Conduct integration testing to ensure that different modules of the system work together seamlessly.
  - c. Perform system testing to validate the overall functionality and behavior of the application.
2. Usability Testing:
  - a. Involve stakeholders and end-users to test the application's user-friendliness and ease of use.
  - b. Gather feedback on the user interface, navigation, and overall user experience.
  - c. Address any usability issues identified during testing.
3. Performance Testing:
  - a. Test the application's performance under different load conditions to ensure it can handle multiple simultaneous users.
  - b. Measure response times, resource usage, and scalability of the system.
  - c. Optimize performance bottlenecks and ensure efficient resource utilization.
4. Compatibility Testing:
  - a. Validate that the application works correctly on various browsers, operating systems, and devices.
  - b. Test compatibility with different screen sizes, resolutions, and input methods.
5. Security Testing:
  - a. Verify that appropriate security measures are in place to protect user data and prevent unauthorized access.
  - b. Conduct vulnerability assessments and penetration testing to identify and address potential security risks.
6. Documentation and Issue Resolution:
  - a. Document any outstanding issues or bugs encountered during testing.

- b. Prioritize and investigate these issues for resolution before deployment.
- c. Maintain a process for ongoing issue tracking and resolution during maintenance.

## **USER ACCEPTANCE TESTING**

User Acceptance Testing (UAT) is a critical phase in the testing process that involves end users to ensure that the application meets their requirements and expectations. The process for User Acceptance Testing includes the following steps:

1. Identification of Testers
  - a. Identify a group of end users or stakeholders who represent the target audience for the application.
  - b. Ensure diversity in the testing group to cover various user roles and perspectives.
2. Test Planning
  - a. Develop a detailed test plan outlining the scope, objectives, and criteria for user acceptance testing.
  - b. Clearly define the test scenarios, test cases, and expected outcomes.
3. Test Execution
  - a. Distribute the test cases to the identified users, specifying the tasks and expected results.
  - b. Encourage testers to explore the application thoroughly and perform typical tasks relevant to their roles.
4. Issue Reporting
  - a. Instruct users to report any issues or unexpected behavior encountered during testing.
  - b. Encourage detailed descriptions and, if possible, steps to reproduce identified issues.
5. Documentation
  - a. Document the results of user acceptance testing, including successful tests, identified issues, and any changes made to address those issues.
  - b. Maintain clear records of user feedback and any modifications made to the application based on that feedback.

## **APPROVAL FOR DEPLOYMENT**

### **CRITERIA FOR DEPLOYMENT**

In order for the deployment of BAOS: Barangay Automated Office System to be approved for deployment, the following criteria must be met:

- Deployment plan complete and circulated to all relevant stakeholders
- All required testing is complete, and results documented
- Go/No-Go meeting must be held to review testing results and obtain approval
- All “blocker” priority issues resolved
- All “critical” priority issues resolved
- The release schedule was reviewed and approved.

### **PREREQUISITES FOR DEPLOYMENT**

Prior to the deployment of BAOS: Barangay Automated Office System the following prerequisites must be met:

- Approval obtained
- Deployment date/time identified
- Production instance database backup complete

## **SIGNOFF**

Deployment of BAOS: Barangay Automated Office System to the production instance shall occur on **February\_\_, 2023 at 3:00 PM - 5:00 PM**

**Approver name:** Dr. Randy Domantay

**Title & organization:** Project Adviser

**Signature:**\_\_\_\_\_

**Date:** **February\_\_, 2023**

**Approver name:** Heraldo Lamaton

**Title & organization:** SLU SVP Punong Barangay

**Signature:**\_\_\_\_\_

**Date:** **February\_\_, 2023**

**Approver name:** Raitheon Fared Astudillo

**Title & organization:** Research Leader

**Signature:**\_\_\_\_\_

**Date:** **November\_\_, 2023**

## APPENDIX D: Test Cases

<b>Test Case</b>	User inputs correct credentials and clicks the login button.	<b>Expected Result</b>	User taken to the homepage.
		<b>Actual Result</b>	User take to the homepage
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks and checks the Show Password checkbox after inputting credentials.	<b>Expected Result</b>	The password appears.
		<b>Actual Result</b>	The password appears
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks and unchecks the Show Password checkbox after inputting credentials.	<b>Expected Result</b>	The masked password appears.
		<b>Actual Result</b>	The masked password appears
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User log in while the same user is logged-in on another computer	<b>Expected Result</b>	The existing user session will be logged out while the incoming user session will be logged in
		<b>Actual Result</b>	The existing user session will be logged out while the incoming user session will be logged in
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User inputs incorrect credentials and clicks the login button.	<b>Expected Result</b>	System prompts Invalid Credentials.
		<b>Actual Result</b>	System prompts Invalid Credentials.
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User does not input credentials and clicks the login button.	<b>Expected Result</b>	System prompts Invalid Credentials.
		<b>Actual Result</b>	System prompts Invalid Credentials
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks Resolve button on Reminder	<b>Expected Result</b>	The reminder disappears.
		<b>Actual Result</b>	The reminder disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs reminder and clicks Add Reminder button	<b>Expected Result</b>	User input box appears.
		<b>Actual Result</b>	User input box appears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks Close button in Add Reminder	<b>Expected Result</b>	User input box disappears.
		<b>Actual Result</b>	User input box disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks Post Reminder button in Add Reminder	<b>Expected Result</b>	New reminder added to the list of reminders.
		<b>Actual Result</b>	New reminder added to the list of reminders
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on reminder	<b>Expected Result</b>	Reminder scrolls up and down to show more detail
		<b>Actual Result</b>	Reminder scrolls up and down to show more detail
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User side scrolls on reminder	<b>Expected Result</b>	Reminder scrolls side to side to show more reminders
		<b>Actual Result</b>	Reminder scrolls side to side to show more reminders
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks backward arrow on calendar	<b>Expected Result</b>	Calendar proceeds to the previous month.
		<b>Actual Result</b>	Calendar proceeds to the previous month
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks forward arrow on calendar	<b>Expected Result</b>	Calendar proceeds to the next month.
		<b>Actual Result</b>	Calendar proceeds to the next month
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks today button on calendar	<b>Expected Result</b>	Calendar proceeds to the current day.
		<b>Actual Result</b>	Calendar proceeds to the current day
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks list button on calendar	<b>Expected Result</b>	Calendar turns into a list of activities within the current week.
		<b>Actual Result</b>	Calendar turns into a list of activities within the current week
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks month button on calendar	<b>Expected Result</b>	List turns back into a calendar format.
		<b>Actual Result</b>	List turns back into a calendar format
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an activity in the calendar	<b>Expected Result</b>	System prompts the event details.
		<b>Actual Result</b>	System prompts the event details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Ok button in the Event Details	<b>Expected Result</b>	Event detail prompt closes.
		<b>Actual Result</b>	Event detail prompt closes
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Event Details	<b>Expected Result</b>	Event detail prompt closes.
		<b>Actual Result</b>	Event detail prompt closes
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on calendar	<b>Expected Result</b>	Calendar scrolls up or down showing more dates.
		<b>Actual Result</b>	Calendar scrolls up or down showing more dates
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on Schedule of Activities	<b>Expected Result</b>	List of events scrolls up or down showing more events.
		<b>Actual Result</b>	List of events scrolls up or down showing more events

		<b>Assertion</b>	TRUE
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**Schedule Page**

<b>Test Case</b>	User clicks on Schedule on navigation bar	<b>Expected Result</b>	Current page goes to the Barangay Schedule page showing the schedule list and other functionalities.
		<b>Actual Result</b>	Current page goes to the Barangay Schedule page showing the schedule list and other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in Search By in barangay schedule page	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute in Search By in barangay schedule page	<b>Expected Result</b>	The clicked type of attribute appears beside the input box.
		<b>Actual Result</b>	The clicked type of attribute appears beside the input box
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box matching the type of attribute in barangay schedule page	<b>Expected Result</b>	Matching results appear in the table below.
		<b>Actual Result</b>	Matching results appear in the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box not matching the type of attribute in barangay schedule page.	<b>Expected Result</b>	No results appear in the table below.
		<b>Actual Result</b>	No results appear in the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks Add Schedule button	<b>Expected Result</b>	prompt appears showing input boxes and drop down lists for the details of the activity.
		<b>Actual Result</b>	Prompt appears showing input boxes and drop down lists for the details of the activity
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the calendar icon in the New Schedule prompt.	<b>Expected Result</b>	Calendar appears with other functionalities.
		<b>Actual Result</b>	Calendar appears with other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks up arrow on the calendar in New Schedule prompt	<b>Expected Result</b>	Calendar goes back to the previous month.
		<b>Actual Result</b>	Calendar goes back to the previous month
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks down arrow on the calendar in New Schedule prompt	<b>Expected Result</b>	Calendar goes to the next month.
		<b>Actual Result</b>	Calendar goes to the next month.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Month and year on the calendar in New Schedule prompt	<b>Expected Result</b>	prompt shows years and months over the years and future years.
		<b>Actual Result</b>	prompt shows years and months over the years and future years.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks Clear on the calendar in New Schedule prompt	<b>Expected Result</b>	Date selected is cleared.
		<b>Actual Result</b>	Date selected is cleared.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks Today on the calendar in New Schedule prompt	<b>Expected Result</b>	Date selected goes to the current date.
		<b>Actual Result</b>	Date selected goes to the current date.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks a date on the calendar in New Schedule prompt	<b>Expected Result</b>	Date selected appears on the date section of the New Schedule prompt.
		<b>Actual Result</b>	Date selected appears on the date section of the New Schedule prompt.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the clock icon in the New Schedule prompt.	<b>Expected Result</b>	Scroll down list of the hours,minutes, and am or pm appears.
		<b>Actual Result</b>	Scroll down list of the hours,minutes, and am or pm appears.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User selects time on the scroll down list.	<b>Expected Result</b>	Selected time reflects in the New Schedule prompt.
		<b>Actual Result</b>	Selected time reflects in the New Schedule prompt.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Add Schedule button	<b>Expected Result</b>	prompt appears and asks to finalize the schedule.
		<b>Actual Result</b>	prompt appears and asks to finalize the schedule.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Cancel button in the finalization of the schedule	<b>Expected Result</b>	prompt goes back to the New Schedule prompt.
		<b>Actual Result</b>	prompt goes back to the New Schedule prompt.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the finalization of the schedule	<b>Expected Result</b>	prompt appears telling the new schedule is added.
		<b>Actual Result</b>	prompt appears telling the new schedule is added.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt telling the new schedule is added.	<b>Expected Result</b>	The activity shows up on the table and reflects on the calendar in the Dashboard page.
		<b>Actual Result</b>	The activity shows up on the table and reflects on the calendar in the Dashboardpage.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with incorrect format	<b>Expected Result</b>	prompt shows instructions to correct the format.
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	then clicks the Add Schedule button	<b>Actual Result</b>	prompt shows instructions to correct the format.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any detail then clicks the Add Schedule button	<b>Expected Result</b>	prompt asks to fill in the field with no detail in it.
		<b>Actual Result</b>	prompt asks to fill in the field with no detail in it.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the New Schedule prompt	<b>Expected Result</b>	New Schedule prompt disappears.
		<b>Actual Result</b>	New Schedule prompt disappears.
		<b>Assertion</b>	TRUE

#### Certificates Page

<b>Test Case</b>	User clicks on Certificates on navigation bar	<b>Expected Result</b>	Current page goes to the Certificate page showing Certificate Types, issued certificates, and other functionalities.
		<b>Actual Result</b>	Current page goes to the Certificate page showing Certificate Types, issued certificates, and other functionalities.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Certificate type	<b>Expected Result</b>	A drop down menu will appear with the type name and fee. Functionalities like issue certificate and template options also appear.
		<b>Actual Result</b>	A drop down menu will appear with the type name and fee. Functionalities like issue certificate and template options also appear.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on the same Certificate type	<b>Expected Result</b>	Dropdown menu will close
		<b>Actual Result</b>	Dropdown menu will close
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Issue Certificate	<b>Expected Result</b>	A prompt will appear asking for the resident's name.
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		<b>Actual Result</b>	A prompt will appear asking for the resident's name.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in Issue Certificate	<b>Expected Result</b>	The prompt will close.
		<b>Actual Result</b>	The prompt will close.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Close button in Issue Certificate	<b>Expected Result</b>	The prompt will close.
		<b>Actual Result</b>	The prompt will close.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Next button in Issue Certificate	<b>Expected Result</b>	System will ask you to select a resident.
		<b>Actual Result</b>	System will ask you to select a resident.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Next button in Issue Certificate after choosing or inputting a resident's name	<b>Expected Result</b>	New prompt will appear containing details about the resident.
		<b>Actual Result</b>	New prompt will appear containing details about the resident.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Back button in Issue Certificate	<b>Expected Result</b>	The prompt will go back to the previous prompt.
		<b>Actual Result</b>	The prompt will go back to the previous prompt.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input a Business Name	<b>Expected Result</b>	A prompt will appear indicating the no business name to register given
		<b>Actual Result</b>	A prompt will appear indicating the no business name to register given
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Issue button in Issue Certificate	<b>Expected Result</b>	System will go to a document editor with the certificate template.
		<b>Actual Result</b>	System will go to a document editor with the certificate template.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Save & Download button	<b>Expected Result</b>	The file of the document is downloaded and saved. It will also appear in the Issued part of the Certificates page
		<b>Actual Result</b>	The file of the document is downloaded and saved. It will also appear in the Issued part of the Certificates page
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Save button	<b>Expected Result</b>	prompt appears saying Certificate Successfully Saved
		<b>Actual Result</b>	prompt appears saying Certificate Successfully Saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on OK button in Certificate Successfully Saved prompt	<b>Expected Result</b>	prompt disappears
		<b>Actual Result</b>	prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Back button in document editor	<b>Expected Result</b>	Page goes back to the certificates main page
		<b>Actual Result</b>	Page goes back to the certificates main page
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on the Template Options in the drop down menu of the certificate type	<b>Expected Result</b>	prompt will show the templates used before.
		<b>Actual Result</b>	prompt will show the templates used before.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a template in Template Options prompt	<b>Expected Result</b>	Box of selected template lights up.
		<b>Actual Result</b>	Box of selected template lights up.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in Template Options prompt	<b>Expected Result</b>	prompt will disappear.
		<b>Actual Result</b>	prompt will disappear.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Close button in Template Options prompt	<b>Expected Result</b>	prompt will disappear.
		<b>Actual Result</b>	prompt will disappear.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Select Type button in Template Options prompt	<b>Expected Result</b>	prompt will show successfully updated selected template.
		<b>Actual Result</b>	prompt will show successfully updated selected template.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Add Template button in Template Options prompt	<b>Expected Result</b>	prompt will show a file selection section.
		<b>Actual Result</b>	prompt will show a file selection section.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Choose File button in Add Template prompt	<b>Expected Result</b>	File explorer will open for the user to choose a file for the new template
		<b>Actual Result</b>	File explorer will open for the user to choose a file for the new template
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in File Explorer prompt	<b>Expected Result</b>	File explorer will disappear.
		<b>Actual Result</b>	File explorer will disappear.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Cancel button in File Explorer prompt	<b>Expected Result</b>	File explorer will disappear.
		<b>Actual Result</b>	File explorer will disappear.

		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks on Open button in File Explorer prompt with no selected file	<b>Expected Result</b>	Nothing will happen
		<b>Actual Result</b>	Nothing will happen
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks on Open button in File Explorer prompt after selecting a file	<b>Expected Result</b>	The filename of the file will reflect on the Add Template prompt.
		<b>Actual Result</b>	The filename of the file will reflect on the Add Template prompt.
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks on Upload button in Add Template prompt after selecting file	<b>Expected Result</b>	Uploaded file will reflect in the Select Template prompt
		<b>Actual Result</b>	Uploaded file will reflect in the Select Template prompt
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks on Upload button in Add Template prompt after selecting file that is not a .docx file	<b>Expected Result</b>	File will disappear and system will prompt file not chosen
		<b>Actual Result</b>	File will disappear and system will prompt file not chosen
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks on Issued button in Certificates page	<b>Expected Result</b>	Page will show a table of issued certificates and attributes. Search bar with filters will appear
		<b>Actual Result</b>	Page will show a table of issued certificates and attributes. Search bar with filters will appear
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks on drop down list in Search By in certificates page	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE
<b>Test Case</b>	User clicks on an attribute inSearch By in certificates page	<b>Expected Result</b>	The clicked type of attribute appears beside the input box.

		<b>Actual Result</b>	The clicked type of attribute appears beside the input box.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box matching the type of attribute in certificates page	<b>Expected Result</b>	Matching results appear in the table below.
		<b>Actual Result</b>	Matching results appear in the table below.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box not matching the type of attribute in certificates page.	<b>Expected Result</b>	No results appear in the table below.
		<b>Actual Result</b>	No results appear in the table below.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on Issued Certificates	<b>Expected Result</b>	Issued Certificates scrolls up and down to history of Issued Certificates
		<b>Actual Result</b>	Issued Certificates scrolls up and down to history of Issued Certificates
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Issued Certificate	<b>Expected Result</b>	prompt appears and shows Issued Certificate details and other functionalities.
		<b>Actual Result</b>	prompt appears and shows Issued Certificate details and other functionalities.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in Issued Certificate Details prompt	<b>Expected Result</b>	prompt will disappear.
		<b>Actual Result</b>	prompt will disappear.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Close button in Issued Certificate Details prompt	<b>Expected Result</b>	prompt will disappear.
		<b>Actual Result</b>	prompt will disappear.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a Edit Certificate button in	<b>Expected Result</b>	Document editor will appear with functionalities.
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	Issued Certificate Details prompt	<b>Actual Result</b>	Document editor will appear with functionalities.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Save & Download button in document editor of Edit Certificate	<b>Expected Result</b>	The file of the document is downloaded and saved. It will also appear updated in the Issued part of the Certificates page
		<b>Actual Result</b>	The file of the document is downloaded and saved. It will also appear updated in the Issued part of the Certificates page
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Save button in document editor of Edit Certificate	<b>Expected Result</b>	prompt appears saying Certificate Successfully Saved
		<b>Actual Result</b>	prompt appears saying Certificate Successfully Saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on OK button in Certificate Successfully Saved prompt	<b>Expected Result</b>	prompt disappears
		<b>Actual Result</b>	prompt disappears
		<b>Assertion</b>	TRUE

#### Inventory page

<b>Test Case</b>	User clicks on Inventory on navigation bar	<b>Expected Result</b>	Current page goes to the Inventory page showing tables of the inventory and other functionalities.
		<b>Actual Result</b>	Current page goes to the Inventory page showing tables of the inventory and other functionalities.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scroll on inventory page	<b>Expected Result</b>	Inventory page scrolls up and down to show other functionalities
		<b>Actual Result</b>	Inventory page scrolls up and down to show other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in Search By in the inventory page	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down

		<b>Assertion</b>	TRUE
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<b>Test Case</b>	User clicks on an attribute in Search By in the inventory page	<b>Expected Result</b>	The clicked type of attribute appears beside the input box.
		<b>Actual Result</b>	The clicked type of attribute appears beside the input box.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box matching the type of attribute in the inventory page	<b>Expected Result</b>	Matching results appear in the table below.
		<b>Actual Result</b>	Matching results appear in the table below.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box not matching the type of attribute in the inventory page.	<b>Expected Result</b>	No results appear in the table below.
		<b>Actual Result</b>	No results appear in the table below.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks an article on the table in Inventory Articles	<b>Expected Result</b>	Article details appear
		<b>Actual Result</b>	Article details appear
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on Article details	<b>Expected Result</b>	Article details prompt scrolls up and down to show other functionalities
		<b>Actual Result</b>	Article details prompt scrolls up and down to show other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on Description in Article details	<b>Expected Result</b>	Description scrolls up and down to show more description
		<b>Actual Result</b>	Description scrolls up and down to show more description
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Inventory Articles	<b>Expected Result</b>	Article detail prompt closes.
		<b>Actual Result</b>	Article detail prompt closes.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Edit Article button in the Inventory Articles	<b>Expected Result</b>	Update/Delete Article prompt appears.
		<b>Actual Result</b>	Update/Delete Article prompt appears.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the back button in the Update/Delete Article prompt	<b>Expected Result</b>	Update/Delete Article prompt goes back to the previous prompt.
		<b>Actual Result</b>	Update/Delete Article prompt goes back to the previous prompt.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Delete Article button in the Update/Delete Article prompt	<b>Expected Result</b>	Prompts asks are you sure about this changes
		<b>Actual Result</b>	Prompts asks are you sure about this changes
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Cancel button in the are you sure about this changes prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	Prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the are you sure about this changes prompt	<b>Expected Result</b>	Prompt shows changes saved
		<b>Actual Result</b>	Prompt shows changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the changes saved prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	Prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in type on the Update/Delete Article prompt	<b>Expected Result</b>	List of types drop down
		<b>Actual Result</b>	List of types drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a type drop down list in type	<b>Expected Result</b>	Selected type reflects on the type attribute
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	on the Update/Delete Article prompt	<b>Actual Result</b>	Selected type reflects on the type attribute
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Update Article button in the Update/Delete Article prompt	<b>Expected Result</b>	Prompts asks are you sure about this changes
		<b>Actual Result</b>	Prompts asks are you sure about this changes
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Cancel button in the are you sure about this changes prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	Prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the are you sure about this changes prompt	<b>Expected Result</b>	Prompt shows changes saved
		<b>Actual Result</b>	Prompt shows changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the changes saved prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	Prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Add Article button in the Inventory Articles prompt	<b>Expected Result</b>	Prompt asks for article details
		<b>Actual Result</b>	Prompt asks for article details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any article detail then clicks the Add Article button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it.
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Add Article button	<b>Expected Result</b>	prompt appears and asks to add new article.
		<b>Actual Result</b>	prompt appears and asks to add new article.

		<b>Assertion</b>	TRUE
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<b>Test Case</b>	User clicks the Cancel button in in the add new article prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	Prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the add new article prompt	<b>Expected Result</b>	Prompt shows new article added
		<b>Actual Result</b>	Prompt shows new article added
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the new article added prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	Prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with incorrect format then clicks the Add Article button	<b>Expected Result</b>	prompt shows instructions to correct the format.
		<b>Actual Result</b>	prompt shows instructions to correct the format.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Add Item button in the Items prompt	<b>Expected Result</b>	Prompt shows added new item
		<b>Actual Result</b>	Prompt shows added new item
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the added new item prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	Prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls in the Items section of the Article Details prompt and clicks on an item	<b>Expected Result</b>	New prompt appears showing the item details, borrow history, and other functionalities
		<b>Actual Result</b>	New prompt appears showing the item details, borrow history, and other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the back button in the Item Details	<b>Expected Result</b>	Item detail prompt goes back to the Article details prompt.
		<b>Actual Result</b>	Item detail prompt goes back to the Article details prompt.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Edit Item button in the Item Details	<b>Expected Result</b>	New prompt appears with item details and condition can be changed
		<b>Actual Result</b>	New prompt appears with item details and condition can be changed
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list on the condition in the Edit Item prompt	<b>Expected Result</b>	List of conditions drop down
		<b>Actual Result</b>	List of conditions drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a condition in the drop down list	<b>Expected Result</b>	Condition reflects on the condition tab
		<b>Actual Result</b>	Condition reflects on the condition tab
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the back button in the Edit Item prompt	<b>Expected Result</b>	Prompt goes back to Item details prompt.
		<b>Actual Result</b>	Prompt goes back to Item details prompt.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Delete Item button in the Edit Item prompt	<b>Expected Result</b>	New prompt asks are you sure about these changes
		<b>Actual Result</b>	New prompt asks are you sure about these changes
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Cancel button in the prompt asking about the changes	<b>Expected Result</b>	Prompt goes back toEdit/ Delete prompt
		<b>Actual Result</b>	Prompt goes back toEdit/ Delete prompt

		<b>Assertion</b>	TRUE
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<b>Test Case</b>	User clicks the OK button in the prompt asking about the changes	<b>Expected Result</b>	New prompt appear saying changes saved
		<b>Actual Result</b>	New prompt appear saying changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt saying changes saved	<b>Expected Result</b>	Item disappears from Items list and goes back to the main Inventory page.
		<b>Actual Result</b>	Item disappears from Items list and goes back to the main Inventory page.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Update Item button in the Edit Item prompt	<b>Expected Result</b>	New prompt asks are you sure about these changes
		<b>Actual Result</b>	New prompt asks are you sure about these changes
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Cancel button in the prompt asking about the changes	<b>Expected Result</b>	Prompt goes back toEdit/ Delete prompt
		<b>Actual Result</b>	Prompt goes back toEdit/ Delete prompt
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt asking about the changes	<b>Expected Result</b>	New prompt appear saying changes saved
		<b>Actual Result</b>	New prompt appear saying changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt saying changes saved	<b>Expected Result</b>	Item updates if there are any in the Items list and goes back to the main Inventory page.
		<b>Actual Result</b>	Item updates if there are any in the Items list and goes back to the main Inventory page.

		<b>Assertion</b>	TRUE
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<b>Test Case</b>	User scrolls down to Borrow History and clicks on a returned borrowed item	<b>Expected Result</b>	Prompt will appear saying the item has been returned.
		<b>Actual Result</b>	Prompt will appear saying the item has been returned.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt	<b>Expected Result</b>	Prompt will disappear and return to Item Details prompt
		<b>Actual Result</b>	Prompt will disappear and return to Item Details prompt
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls down to Borrow History and clicks on a unreturned borrowed item	<b>Expected Result</b>	Prompt will appear asking for date of return and condition on return
		<b>Actual Result</b>	Prompt will appear asking for date of return and condition on return
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Return Item button	<b>Expected Result</b>	New prompt asks to return item
		<b>Actual Result</b>	New prompt asks to return item
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Cancel button in the prompt asking return item	<b>Expected Result</b>	Prompt goes back to return item prompt
		<b>Actual Result</b>	Prompt goes back to return item prompt
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt asking return item	<b>Expected Result</b>	New prompt appear saying item returned
		<b>Actual Result</b>	New prompt appear saying item returned
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt saying item returned	<b>Expected Result</b>	Total updates and goes back to the main Inventory page.
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		<b>Actual Result</b>	Total updates and goes back to the main Inventory page.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Borrow Item button	<b>Expected Result</b>	New prompt will appear asking for the borrow details
		<b>Actual Result</b>	New prompt will appear asking for the borrow details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User selects a Borrower and Date Borrowed and clicks the Borrow Item button	<b>Expected Result</b>	New prompt will appear asking to borrow item
		<b>Actual Result</b>	New prompt will appear asking to borrow item
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Cancel button in the prompt asking borrow item	<b>Expected Result</b>	Prompt goes back to borrow item prompt
		<b>Actual Result</b>	Prompt goes back to borrow item prompt
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt asking borrow item	<b>Expected Result</b>	New prompt appears saying item borrowed
		<b>Actual Result</b>	New prompt appears saying item borrowed
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the OK button in the prompt saying item borrowed	<b>Expected Result</b>	Total Quantity and Unreturned Items Borrowed updates and goes back to the main Inventory page.
		<b>Actual Result</b>	Total Quantity and Unreturned Items Borrowed updates and goes back to the main Inventory page.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on the drop down list on Search By in the Unreturned Borrowed Items	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute on Search By in the Unreturned Borrowed Items	<b>Expected Result</b>	The clicked type of attribute appears beside the input box
		<b>Actual Result</b>	The clicked type of attribute appears beside the input box
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs attribute with correct format	<b>Expected Result</b>	Matching results will show on the table below
		<b>Actual Result</b>	Matching results will show on the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs attribute with incorrect format	<b>Expected Result</b>	No result will show on the table below
		<b>Actual Result</b>	No result will show on the table below
		<b>Assertion</b>	TRUE

#### Collection and deposits page

<b>Test Case</b>	User clicks on the Collections & Deposits in the Navigation Tab	<b>Expected Result</b>	Current page directs to the Collections & Deposits page, showing tables of Collection and Deposits, as well as other functionalities
		<b>Actual Result</b>	Current page directs to the Collections & Deposits page, showing tables of Collection and Deposits, as well as other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on collections & deposits page	<b>Expected Result</b>	Collections & disputes page scrolls up and down to navigate through the collection table and deposits table
		<b>Actual Result</b>	Collections & disputes page scrolls up and down to navigate through the collection table and deposits table
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in Date in the collections table	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute in Date in the collections table	<b>Expected Result</b>	The clicked type of attribute appears beside the input box
		<b>Actual Result</b>	The clicked type of attribute appears beside the input box
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box matching the type of attribute in the collections table	<b>Expected Result</b>	Matching results appear in the table below
		<b>Actual Result</b>	Matching results appear in the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in Nature of Collection in the collections table	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute in Nature of Collection in the collections table	<b>Expected Result</b>	The clicked type of attribute appears beside the input box
		<b>Actual Result</b>	The clicked type of attribute appears beside the input box
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on the Add Collection button	<b>Expected Result</b>	Prompt asks for collection details
		<b>Actual Result</b>	Prompt asks for collection details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any case detail then clicks the Add button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Submit button	<b>Expected Result</b>	Prompt adds a new collection in the table
		<b>Actual Result</b>	Prompt adds a new collection in the table
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the cancel button in the Add Collection	<b>Expected Result</b>	Add Collection prompt disappears
		<b>Actual Result</b>	There is no cancel button, but the user can click anywhere outside the add Deposit Window
		<b>Assertion</b>	FALSE

<b>Test Case</b>	User clicks on drop down list in Bank in the Deposits table	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute in Bank in the collections & deposits page	<b>Expected Result</b>	The clicked type of attribute appears beside the Date drop down
		<b>Actual Result</b>	The clicked type of attribute appears beside the Date drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in Date in the Deposits table	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute in Date in the Deposits table	<b>Expected Result</b>	The clicked type of attribute appears beside the Bank drop down
		<b>Actual Result</b>	The clicked type of attribute appears beside the Bank drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Add Deposit	<b>Expected Result</b>	Prompt asks for deposit details
		<b>Actual Result</b>	Prompt asks for deposit details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any deposit detail then clicks the Add button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Add button	<b>Expected Result</b>	Prompt adds a new deposit in the table
		<b>Actual Result</b>	Prompt adds a new deposit in the table
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the cancel button in the Add Collection	<b>Expected Result</b>	Add Deposit prompt disappears
		<b>Actual Result</b>	The cancel button does not exist, but the user can click anywhere the add deposit record window to cancel the transaction
			FALSE

<b>Test Case</b>	User clicks on Apply Fees button	<b>Expected Result</b>	Prompt shows confirming to apply the fees
		<b>Actual Result</b>	Prompt shows confirming to apply the fees
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Apply Penalties button	<b>Expected Result</b>	Prompt shows conforming to apply the penalties
		<b>Actual Result</b>	Prompt shows confirming to apply the penalties
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types a number in the input box, matching the household number in the garbage payments due table	<b>Expected Result</b>	Matching results appear in the table below
		<b>Actual Result</b>	Matching results appear in the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on the Set Certificate fee	<b>Expected Result</b>	Prompt will ask for certificate fee details
		<b>Actual Result</b>	Prompt will ask for certificate fee details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not fill any of the fields in Set Certificate Fee	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Set button	<b>Expected Result</b>	Prompt sets a certificate fee
		<b>Actual Result</b>	Prompt sets a certificate fee
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the cancel button in the Set Certificate Fee	<b>Expected Result</b>	Set Certificate Fee prompt disappears
		<b>Actual Result</b>	Set Certificate Fee prompt disappears
			TRUE

<b>Test Case</b>	User clicks on the Generate Report button	<b>Expected Result</b>	Prompt will ask for report details
		<b>Actual Result</b>	Prompt will ask for report details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not fill any of the fields in Generate Report	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the cancel button in Generate Report	<b>Expected Result</b>	Generate Report prompt disappears
		<b>Actual Result</b>	Generate Report prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format	<b>Expected Result</b>	System will show you the generated report
		<b>Actual Result</b>	System will show you the generated

	then clicks the Next button		report
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Download button in Report	<b>Expected Result</b>	System will download your generated report
		<b>Actual Result</b>	System will download your generated report
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Print button in Report	<b>Expected Result</b>	System will print your generated report
		<b>Actual Result</b>	System will print your generated report
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Garbage Fee reports	<b>Expected Result</b>	System will show the records to the user
		<b>Actual Result</b>	System will show the records to the user
		<b>Assertion</b>	TRUE

#### Disputes page

<b>Test Case</b>	User clicks on Disputes on navigation bar	<b>Expected Result</b>	Current page directs to the Dispute page, showing tables of the disputes and other functionalities
		<b>Actual Result</b>	Current page directs to the Dispute page, showing tables of the disputes and other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on disputes page	<b>Expected Result</b>	Dispute page scrolls up and down to navigate through the list of cases
		<b>Actual Result</b>	Dispute page scrolls up and down to navigate through the list of cases
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in Search by in the Dispute page	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute in Search By in the dispute page	<b>Expected Result</b>	The clicked type of attribute appears beside the input box
		<b>Actual Result</b>	The clicked type of attribute appears beside the input box
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box matching the type of attribute in the dispute page	<b>Expected Result</b>	Matching results appear in the table below
		<b>Actual Result</b>	Matching results appear in the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks a case on the table in List of Cases	<b>Expected Result</b>	Case details appear
		<b>Actual Result</b>	Case details appear
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the List of Cases	<b>Expected Result</b>	Case detail prompt closes.
		<b>Actual Result</b>	Case detail prompt closes.
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the File Case button in the List of Cases prompt	<b>Expected Result</b>	Prompt asks for case details
		<b>Actual Result</b>	Prompt asks for case details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any case detail then clicks the Submit button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Submit button	<b>Expected Result</b>	Prompt files a new case
		<b>Actual Result</b>	Prompt files a new case
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the file new case prompt	<b>Expected Result</b>	Prompt disappears
		<b>Actual Result</b>	The x button does not exist, but the user can click anywhere outside the file case window
		<b>Assertion</b>	FALSE

<b>Test Case</b>	User clicks a case on the table in Ongoing Cases	<b>Expected Result</b>	Case details appear
		<b>Actual Result</b>	Case details appear
		<b>Assertion</b>	TRUE

### Community

<b>Test Case</b>	User clicks on community on navigation bar	<b>Expected Result</b>	Current page directs to the Community page, showing a map, resident list, and other functionalities
		<b>Actual Result</b>	Current page directs to the Community page, showing a map, resident list, and other functionalities
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User drags the cursor on the map	<b>Expected Result</b>	Dragging the mouse, moves the map around the SLU SVP area
		<b>Actual Result</b>	Dragging the mouse, moves the map around the SLU SVP area
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the zoom in button in the map	<b>Expected Result</b>	Map zooms in
		<b>Actual Result</b>	Map zooms in
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the zoom out button in the map	<b>Expected Result</b>	Map zooms out
		<b>Actual Result</b>	Map zooms out
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User scrolls on community page	<b>Expected Result</b>	Community page scrolls up and down to show a map, a list of residents, and other functionalities
		<b>Actual Result</b>	Community page scrolls up and down to show a map, a list of residents, and other functionalities

		<b>Assertion</b>	TRUE
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<b>Test Case</b>	User clicks on Households button	<b>Expected Result</b>	Prompt asks for household details
		<b>Actual Result</b>	Prompt asks for household details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on return button on household list	<b>Expected Result</b>	Prompt goes back from the main community page
		<b>Actual Result</b>	Prompt goes back from the main community page
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types a household number in the input box	<b>Expected Result</b>	Matching results appear in the table below
		<b>Actual Result</b>	Matching results appear in the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Add Household	<b>Expected Result</b>	Prompt asks for household details
		<b>Actual Result</b>	Prompt asks for household details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any household detail then clicks the Confirm button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Confirm button	<b>Expected Result</b>	Prompt shows a new household added
		<b>Actual Result</b>	Prompt shows a new household added
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks a household on the table in Households	<b>Expected Result</b>	Prompt shows the details of the household
		<b>Actual Result</b>	Prompt shows the details of the household

		<b>Assertion</b>	TRUE
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<b>Test Case</b>	User clicks Set Marker button in household	<b>Expected Result</b>	Prompt asks to set the location of the household
		<b>Actual Result</b>	Prompt asks to set the location of the household
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks any location in the map after the Set Marker button prompt	<b>Expected Result</b>	Prompt shows the new household location
		<b>Actual Result</b>	Prompt shows the new household location
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks Cancel Marker set button after the Set Marker button prompt	<b>Expected Result</b>	Set marker prompt disappears
		<b>Actual Result</b>	Set marker prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks a resident in the household details prompt	<b>Expected Result</b>	Update Resident prompt appears
		<b>Actual Result</b>	Update Resident prompt appears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Update Resident	<b>Expected Result</b>	Update Resident prompt disappears
		<b>Actual Result</b>	Update Resident prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Confirm button in the Update Resident prompt	<b>Expected Result</b>	Prompt shows changes saved
		<b>Actual Result</b>	Prompt shows changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Add Resident button in the household detail	<b>Expected Result</b>	Prompt shows new resident added
		<b>Actual Result</b>	Prompt shows new resident added
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Add Resident	<b>Expected Result</b>	Add Resident prompt disappears
		<b>Actual Result</b>	Add Resident prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any detail of the resident then clicks the Confirm button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on return button on Household details	<b>Expected Result</b>	Prompt goes back from the household list
		<b>Actual Result</b>	Prompt goes back from the household list
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Business button	<b>Expected Result</b>	Prompt shows a businesses list
		<b>Actual Result</b>	Prompt shows a businesses list
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User types an input in the input box matching the details in the Resident List	<b>Expected Result</b>	Matching results appear in the table below
		<b>Actual Result</b>	Matching results appear in the table below
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks a resident in the Resident List table	<b>Expected Result</b>	Update Resident prompt appears
		<b>Actual Result</b>	Update Resident prompt appears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Update Resident	<b>Expected Result</b>	Update Resident prompt disappears
		<b>Actual Result</b>	Update Resident prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the Confirm button in the	<b>Expected Result</b>	Prompt shows changes saved
		<b>Actual Result</b>	Prompt shows changes saved

	Update Resident prompt	<b>Assertion</b>	TRUE
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<b>Test Case</b>	User clicks the Add Resident button in the Resident List table	<b>Expected Result</b>	Prompt shows new resident added
		<b>Actual Result</b>	Prompt shows new resident added
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Add Resident	<b>Expected Result</b>	Add Resident prompt disappears
		<b>Actual Result</b>	Add Resident prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any detail of the resident then clicks the Confirm button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

#### Admin

<b>Test Case</b>	User clicks on Admin on navigation bar	<b>Expected Result</b>	Current page goes to the Admin page showing the Barangay Officials, Roles and Permissions, and User Accounts
		<b>Actual Result</b>	Current page goes to the Admin page showing the Barangay Officials, Roles and Permissions, and User Accounts
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Barangay Officials button	<b>Expected Result</b>	Prompt shows a table of the Officials List
		<b>Actual Result</b>	Prompt shows a table of the Officials List
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Barangay Officials button	<b>Expected Result</b>	Prompt shows a table of the Officials List
		<b>Actual Result</b>	Prompt shows a table of the Officials List
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Add Official	<b>Expected Result</b>	Prompt asks for official details
		<b>Actual Result</b>	Prompt asks for official details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any official detail then clicks the Confirm button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Update Resident	<b>Expected Result</b>	Add Official prompt disappears
		<b>Actual Result</b>	Add Official prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Edit Official	<b>Expected Result</b>	Edit Official prompt appears
		<b>Actual Result</b>	Edit Official prompt appears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User inputs details with correct format then clicks the Confirm button	<b>Expected Result</b>	Prompt shows changes saved
		<b>Actual Result</b>	Prompt shows changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the x button in the Update Resident	<b>Expected Result</b>	Edit Official prompt disappears
		<b>Actual Result</b>	Edit Official prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Archive Official	<b>Expected Result</b>	Archive Official prompt appears
		<b>Actual Result</b>	Archive Official prompt appears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any official's name in the Archive User input box	<b>Expected Result</b>	Prompt asks for official's name
		<b>Actual Result</b>	Prompt asks for official's name
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the cancel button in the Archive Official	<b>Expected Result</b>	Archive Official prompt disappears
		<b>Actual Result</b>	Archive Official prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the archive button in the Archive Official	<b>Expected Result</b>	Prompts shows changes saved
		<b>Actual Result</b>	Prompts shows changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Return button on Barangay Officials	<b>Expected Result</b>	Prompt goes back from the main Admin page
		<b>Actual Result</b>	Prompt goes back from the main Admin page
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Roles and Permissions button	<b>Expected Result</b>	Prompt shows a table of the roles and role permissions of users
		<b>Actual Result</b>	Prompt shows a table of the roles and role permissions of users
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a role	<b>Expected Result</b>	Prompt shows a list of permissions
		<b>Actual Result</b>	Prompt shows a list of permissions
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on the Save Changes button	<b>Expected Result</b>	Prompt shows changes saved
		<b>Actual Result</b>	Prompt shows changes saved
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Return button on Roles and Permissions	<b>Expected Result</b>	Prompt goes back from the main Admin page
		<b>Actual Result</b>	Prompt goes back from the main Admin page
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on User Accounts button	<b>Expected Result</b>	Prompt shows a table of User Accounts
		<b>Actual Result</b>	Prompt shows a table of User Accounts

			Accounts
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on drop down list in Search by in the User Accounts	<b>Expected Result</b>	List of type of attributes drop down
		<b>Actual Result</b>	List of type of attributes drop down
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on an attribute in the drop down list on the Users table	<b>Expected Result</b>	The clicked type of attribute appears beside the input box
		<b>Actual Result</b>	The clicked type of attribute appears beside the input box
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on Add User	<b>Expected Result</b>	Prompt asks for user details
		<b>Actual Result</b>	Prompt asks for user details
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User does not input any user detail then clicks the Add User button	<b>Expected Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Actual Result</b>	Prompt asks to fill in the field with no detail in it
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks the X button in the New User	<b>Expected Result</b>	Add User prompt disappears
		<b>Actual Result</b>	Add User prompt disappears
		<b>Assertion</b>	TRUE

<b>Test Case</b>	User clicks on a user to Edit User	<b>Expected Result</b>	Edit User prompt appears
		<b>Actual Result</b>	Edit User prompt appears
		<b>Assertion</b>	TRUE

## Logout

<b>Test Case</b>	User clicks on Logout on navigation bar	<b>Expected Result</b>	Confirm Logout prompt appears
		<b>Actual Result</b>	Confirm Logout prompt appears
		<b>Assertion</b>	TRUE

## APPENDIX E: CURRICULUM VITAE

# Victor Lorenzo Ancheta

## IT Undergraduate

Ciudad Grande, Baguio City . 0945-803-6908. 2215347@slu.edu.ph

### Work Experience

#### University of Baguio MIS 2020

##### Key responsibilities:

- Assembly and disassembly of PCs
- Networking
- Troubleshooting printers and System Units

### Technical Skills

- Assembly and Disassembly of System Units
- Networking
- Virtualization
  - Oracle VM VirtualBox
- Web Development
  - HTML
  - CSS
  - Javascript
  - Wordpress
- Programming Languages
  - Java
  - Python
  - PHP
- Design
  - Canva

### MBTI Personality

- ISTP-T

### Education Background

- Tertiary  
*Saint Louis University*  
2020-Current
- Senior High School  
*University of Baguio*  
Graduated 2019-2020
- Junior High School  
*Westmont School Montessori*  
Graduated 2018-2019

### Seminars

- IMMERS Orientation (2019)
- Basic Desktop and Printer Troubleshooting (2019)
- Handling Stress and Pressure in the Workplace (2019)
- Seminars Hosted by:
  - Infor
  - Trend Micro
  - Accenture Philippine Hub (2023)
- Pedicda:Teknokomersyo A Fireside Chat (2023)
- Generation AI:Next Generation Chatbot AI (2023)
- Generating Traffic, a Shoppee and Foodpanda Experience (2023)
- Asia Pacific Regional Internet Governance Forum (2023)

### University Projects

- BAOS: Barangay Automated Office System
  - Capstone Project
- Machine Learning Model to Assist Home Exercise Treatment in Physiotherapy
  - Data Analytics Project
- Multisite Vendor
  - E-Commerce Website using Wordpress
- COVID Information Center
  - Android Studio

### Awards/Recognition

- Dean's Lister
  - 2020-2021
  - 2021-2022
- Top 6 in Class, Grade 11

### Disclaimer:

The information in this resume is accurate to the best of my knowledge

# ANRI BRUCE L.

# APILIS

📞 09616165852  
✉️ anriapilis@gmail.com  
📍 Gibraltar Rd. Purok 2  
Baguio City

## DESCRIPTION

An aspiring IT professional determined to be competent in creating quality software and hardware solutions. I am passionate about learning how computer systems/hardware/software work and how to improve them. An earnest learner eager to grow my skills to reach higher levels.

## ABOUT ME

Date of Birth: March 21, 2002  
Place of Birth: Baguio City  
Gender: Male

## EDUCATION

Saint Louis University  
2020- Present  
Bachelor of Science  
information Technology

Saint Louis University  
Senior Highschool  
2018 - 2020  
STEM Strand

Saint Louis University  
Junior Highschool  
2012 - 2018  
Secondary

## AWARDS/MISC

DOST Merit Scholar 2020  
Deans Lister  
1st year - Present

## SKILLS

### Programming

- Java
- Python
- C

### Web development

- HTML, CSS, JavaScript
- Node.js, PHP

### Rough Japanese Skills

- MINATO A1  
Self-Study Course  
(Katakana & Hiragana)
- Moderate Kanji  
Comprehension

### Analytics

- Machine Learning
- Natural Language  
Processing

### Database

- SQL
- MongoDB

### Content Management System

- WordPress

### Version Control

- Git

### Mobile Development

- Flutter & Dart

## UNIVERSITY PROJECTS

### Predicting the Maintenance of Hexa Sprint Machines using Machine Learning and Classifying Good or Rejected Integrated Circuits

2023 Saint Louis University

Adviser: Beverly Ferrer

Role: Programmer

Python with Data Analytic Libraries

### BARANGAY AUTOMATED OFFICE SYSTEM

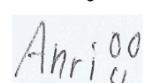
2023 Saint Louis University

Role: Programmer

Node.js with Express

I hereby declare that the contents of my resume are accurate to the best of my knowledge and verify their authenticity

Place: Baguio City  
Date: October 4, 2023

  
Signature: Anri Bruce L. Apilis

# RAITHEON FARED ASTUDILLO

B S I T   S T U D E N T

📞 +62 977 194 5130

✉️ 2214026@slu.edu.ph

📍 20 SLU SVP Housing Village,  
Bakakeng Old Site, Baguio City,  
Benguet

## PROFILE

A Fourth Year IT Student aspiring to become a software developer. I have great confidence in my proficiency with programming languages and is always willing to learn additional languages should there be a need for it. My experience and skills also allow me to consider pursuing web development.

## SKILLS

- Web Development: NodeJS and PHP
- Backend Development: Java, Python, C/C++/C#
- 3D Rendering, Animation, and Digital Arts
- Good Communication Skills: English and Filipino
- Database Design: SQL
- Passionate to learn unfamiliar technologies
- Slight experience with Deep Learning Algorithms

## ACHIEVEMENTS

- DOST Merit Scholar 2020
- Dean's Lister (2020-Present)
- With Honors (Junior-Senior High)

## ACADEMIC PROJECTS

### BARANGAY AUTOMATED OFFICE SYSTEM

SLU SVP Barangay

2023

- Backend Developer for the web application
- Project Manager

## EDUCATION

### SECONDARY SCHOOL

Saint Louis University Laboratory High School  
2014-2020

### BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

Saint Louis University  
2020-Present

## REFERENCE

Benedict Bacani  
Saint Louis University  
BSIT Instructor  
[bpbacani@slu.edu.ph](mailto:bpbacani@slu.edu.ph)

# Dave Joshua R. Godoy

## PROFILE

- ✉ 2212374@slu.edu.ph
- 📞 09274218905
- 📍 #583 San Vicente, Tenerace,  
Baguio City 2600 Benguet  
Philippines

As a driven IT student and prospective intern, my ability to thrive under pressure underscores my dedication to achieving results. I bring a diverse skill set encompassing technical proficiency, critical thinking, attention to detail, and effective communication. These attributes enable me to contribute effectively when tackling complex challenges, while my ability to foster strong working relationships enhances teamwork in collaborative environments.

## TECHNICAL SKILLS

- **Programming Languages**  
Java, Python
- **Web Development and Design**  
HTML, CSS, Javascript, PHP, Wordpress
- **Virtualization**  
Oracle VM VirtualBox
- **Project Management Tool**  
Trello, Bitrix24
- **Code Editors**  
Visual Studio Code, Notepad++, IntelliJ
- **Operating System**  
Windows, Linux, Ubuntu (Virtual Machine)

## SOFT SKILLS

- Can work under pressure
- Willing to learn
- Communication
- Time - Management
- Attention to detail
- Adaptability
- Critical Thinker
- Analytical Skills

## SEMINARS AND WORKSHOP

- Blueprint-Heimdall Philippine Local Hub of the 2023 Asia Pacific Regional Internet Governance Forum(APrifGF)  
August 29 - 31, 2023
- Seminars hosted by:
  - Infor
  - AWS
  - Trend Micro
  - Accenture - Philippine HubMay 4-6, 2023

## PROFESSIONAL REFERENCES

In compliance with Republic Act No. 10173 (Data Privacy Act), I am unable to include professional references in my resume. However, I am happy to provide references upon request, ensuring strict adherence to privacy regulations. Thank you for your understanding.

## EDUCATIONAL ATTAINMENT

### SECONDARY

*University of Baguio Science High School (2014 - 2020)*  
General Luna Road, Baguio City 2600 Benguet  
Graduated with High Honors

### TERTIARY

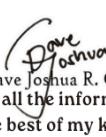
*Saint Louis University (2020 - 2024)*  
Mary Heights Road, Baguio City 2600 Benguet  
Dean's Lister: 2020 - 2022

### ORGANIZATIONS:

- Member of Responsible and Intelligent Governance Highlighting Transparency and Studentry (RIGHTS)
- Member of Integrated Confederacy (ICON)

## UNIVERSITY PROJECTS

- BAOS : Barangay Automated Office System
  - Capstone Project
- Machine Learning Model to Assist Home Exercise Treatment in Physiotherapy
  - Data Analytics Research
- Deep Learning in Exercise Assessment: An Augmentation to Traditional Physical Therapy Practices
  - Data Mining Research
- GRAMD
  - E-commerce website hosted in Wordpress.com
  - Multi-website hosted in WPCS

  
Dave Joshua R. Godoy  
I hereby declare that all the information is true and correct  
to the best of my knowledge

## My Contact

Phone  
(+63) 917-186-8562

Email  
2212462@slu.edu.ph

## Personal Details

Date of Birth  
September 29, 2001

Place of Birth  
Baguio City, Philippines

Gender  
Male

Nationality  
Filipino

## Languages

English  
Filipino

## Education

University of the Cordilleras  
Science, Technology, Engineering,  
and Mathematics  
(August 2018 - May 2020)

Saint Louis University  
Bachelor of Science in Information  
Technology  
(August 2020 - Present)

## Seminars

Pabida Teknokomyo: A Fireside  
Chat  
(May 2023)

Generation AI: Next Generation  
Chatbot  
(May 2023)

# Lim, Andre Adam M.

## Projects

### BAOS: Barangay Automated Office System

Front-End Programmer & Technical Writer

(February 2023 - Present)

Currently developing the front-end for our clients' website and writing the documentation and test cases for our IT Project. The technologies I am currently using are Pug, CSS, JavaScript, and Google Docs.

### Victor's Secret

UI/UX Designer

(April 2022 - May 2022)

Designed the UI for our E-commerce application project and led the team in charge of the UI Design to ensure it is designed as intended and fits the product functionalities in our Human Computer Interaction class. The technologies I used for the project were Figma and Google Docs.

## Hard Skills

- Prototyping
- Interactive Design
- UI Design
- Figma
- Technical Writing
- Research
- Google Suite
- Slack
- Troubleshooting
- Networks
- Python
- Wireframing
- Responsive Design
- UX Design
- UX Writing
- MockFlow
- Content Creating
- Bitrix24
- Microsoft Suite
- MySQL
- HTML/CSS
- Canva

## Soft Skills

- Communication
- Collaboration
- Creativity
- Critical Thinking
- Time Management
- Emotional Intelligence
- Detail-Oriented
- Active Listening
- Teamwork
- Multi-Tasking



Lim, Andre Adam M.

I hereby declare that all contents here are true

# EETHAN DOMINIC S. MERCADO

0917-591-3464

eethanmercado61301@gmail.com

#113 Bakakeng Old Site, Baguio City

## PROFILE

Dedicated and motivated IT student with a strong passion for technology and a desire to learn from a dynamic company. Seeking an internship opportunity to apply and enhance my technical skills while contributing to the success of a forward-thinking organization. Eager to work collaboratively with experienced professionals to gain practical knowledge and make a meaningful impact.

## SOFT SKILLS

- Adaptivity
- Communication
- Teamwork
- Passionate
- Hardworking
- Willingness to Learn
- Troubleshooting and Problem-Solving

## TECHNICAL SKILLS

- Operating Systems
  - Windows
  - Linux
- Programming Languages
  - Java
  - Python
  - C++
  - Rust
- Networking
  - TCP/IP
  - DNS
- Web Development
  - HTML and CSS
  - JavaScript
  - UI/UX Design
- Database Management
  - SQL
  - MySQL

## RELEVANT COURSEWORK :

- Systems Administration
- Database Management
- Web Development
- Cybersecurity Fundamentals
- Software Engineering
- Data Analytics

## LANGUAGES

- Fluent in English and Tagalog

## EDUCATION

- Primary
  - Phases learning Center
    - Graduated with honors (2014)
- Secondary
  - University of Baguio Science High School
  - University of Baguio Senior Science High School
    - Graduated with high honors (2020)
- Tertiary
  - Saint Louis University
    - Dean's List 2021-2022
    - Member of the SLU Integrated Confederacy (ICON)

## UNIVERSITY PROJECTS

- Barangay Automated Office System (BAOS)
  - Capstone Project
- Using Machine Learning to Determine Manila Traffic Incident Patterns
  - Data Analytics Project
- Olympus
  - Ecommerce website made using WordPress
- Created a paper on the testing tool, testRigor
  - Software Engineering Project
- Utilizing MySQL Workbench
  - Information Management Project

## SEMINARS AND WORKSHOPS

- Generation AI: Next Generation Chatbot (May 2023)
- Generating Traffic: A Shopee & Food Panda Perspective (May 2023)
- PADICDA TEKNOKOMERSYO: A Fireside Chat (May 2023)
- Asia Pacific Regional Internet Governance Forum (August 2023)
- Attended seminars hosted by:
  - Trend Micro (MAY 5, 2023)
  - Advanced World Solutions (AWS) (MAY 5, 2023)
  - Accenture (MAY 5, 2023)
  - Enchanted Kingdom (MAY 5, 2023)
  - Infor (MAY 4, 2023)

# RAEAN S. RILLERA

## INFORMATION TECHNOLOGY UNDERGRADUATE

131 SLU-SVP HOUSING VILLAGE LIMBURG STREET, BAGUIO CITY

+63 976 1492 200 | 2212017@slu.edu.ph

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### OBJECTIVE

To be a part of a company where I can use my education and continue to enhance my knowledge and skills. I also aim to help in achieving the aims of the company.

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### EDUCATION

Saint Louis University (2020-Present)

- Dean's List 2020-2021
  - Dean's List 2021-2022
- 

### KNOWLEDGE AND SKILLS

- |                             |   |
|-----------------------------|---|
| • Data Analysis             | • Basic Networks Knowledge              |
| • Management skills         | • Basic Programming Knowledge           |
| • UI/UX Design and Concepts | • System Administration and Maintenance |
- 

### PROJECTS

- *Barangay Automated Office System (B.A.O.S) - UI/UX Designer, Documentarian, and QA Tester*
- *GRAMD web store - UI/UX Designer & System Administrator*
- *Machine Learning Model to Assist Home Exercise Treatment in Physiotherapy -Data Analyst*

### SEMINARS & TRAININGS

- *Generating Traffic, A Shopee & Food Panda Perspective* (May 2022)
- *Varonis Automated Data Security* (August 2023)
- *Evolving Internet Governance For The Next Phase Of The Internet* (August 2023)

### REFERENCES

**Benedick Bacani**

SLU Faculty

bpbacani@slu.edu.ph

**Lambert Famorca**

SLU Faculty

lpfamorca@slu.edu.ph

# MARK TJ T. PERMISON

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## ABOUT ME

📞 09196987886  
✉️ permisonmark17@gmail.com  
📍 Lower Kitma Bakakeng Central, Baguio City

Date of Birth: **August 17, 2001** Height: **185 cm**  
Place of Birth: **Baguio City** Weight: **85 kg**  
Age: **22** Blood Type: **O**

## EDUCATION

- Senior Highschool  
University of Baguio
- Secondary  
Baguio City National High School
- Elementary  
Mabini Elementary School

## AWARDS

- Loyalty Award  
Mabini Elementary School  
2014
- Drum and Lyre Award  
Mabini Elementary School  
2014

## EXPERTISE

- Programming
- Java
  - Python
  - PHP
  - HTML
- Networking
- Packet Tracer
- Software Testing
- Linux Commands
  - Database /SQL

## WORK EXPERIENCE

- EDGE Computer Technologies  
Hotel Veniz, Session, Session Rd  
On the Job Trainee

## SEMINARS

- October 26, 2019  
CAP Building 5th Floor  
Spiritual Values Upliftment in the Workplace
- October 22, 2019  
Centennial Hall  
Pre-Employment Seminar
- October 18, 2019  
UB B702  
Handling Stress and Pressure in the Workplace
- October 12, 2019  
UB D104  
Basic Desktop and Printer Troubleshooting
- September 4, 2019  
UB Library Centennial Hall  
Library Orientation
- August 1, 2019  
UB Gym  
Senior High and Immersion Orientation

