CHAPTER III

Technical Background

This chapter discusses how the Profiling System should be created, including physical system design, ensuring that the Profiling System is operational and usable that fulfills the quality standard through quality assurance. That acts as a guideline for those who wish to investigate the problem of the Baliwasan Health Center Profiling System.

3.1 Technicality of the Project

During this phase, the researchers performed studies and acquired data in preparation for the creation of the Baliwasan Health Center Profiling System. The problem created from the data is utilized as the foundation for project development. The goal of this project is to develop "Baliwasan Health Center Profiling System "software to fulfill the demands of the personnel and people of Barangay Baliwasan in Zamboanga City. Baliwasan Health Center Profiling System as designed specifically for health center.

The technology will automate the activities and transactions of the health center It is a method for workers to add and update new patients to reduce human errors and inefficient service to residents. The proponents develop an automated profiling system that Baliwasan Health Center will use. The system built using the Agile Software Development Life Cycle (SDLC) technique, which includes numerous iterations as software developers repeat their processes to refine their product and build the best software possible. These iterations are, in essence, smaller cycles within the larger agile life cycle. The MySQL Database, Vscode, composer, xampp, node.js, and Operating Systems are some of the technologies used by the developers, the proponents present the system to the panel of IT experts for assessment. The proponent uses the following device and component's LAN (Lan Area Network) connection that we use to data transfer each devices UPT-cable is the one that use to connect each device, and layout on the health center to have proper managements of wiring the end of the UPT-cable is RJ45- make the switch hub is to link the user computer and central data server to have a connection them, desktop is the components to use the system that install in them the desktop have the device install inside first the Motherboard with CPU the body and the brain of computer second the hard drive where the operating system install without it cannot run third ram- random access memory is to make it faster the data transferring for CPU fourth the fan and power supply to make cooler and boot up the computer and the last is monitor to show the display on computer. The requirements to use the system or the following first the desktop needed install latest AppServ software or xampp to run on offline mode

Devices	Software
Desktop/Laptop	**Xampp, web Browser**
Wifi (if applicable)	**Composer,node.js**
Mobile devices (if hosted)	**vscode**

3.2 Details of Technology to be used

Software

Xampp was chosen by proponents because it would perform dependably, much like the official Apache, PHP, and MySQL versions. Xampp purpose is to make installation as simple as possible. You can set up a web server and a database server in less than a minute. Depending on the circumstances, Xampp might be a real-time web server or a database server. Programming languages are used by proponents. Using various elements and components to create and arrange sections, headers, links, paragraphs, and more on a website, HTML code allows you to do almost anything you want on a web page.

Devices

- **Desktop and Laptop** - In this approach, the desktop and laptop is quite useful since it facilitates information organization, searching, and sorting. And this is what we employed in order to program the codes and design the system that we did.

3.3 How the Project Will Work

The developers do research and gather data for the construction of Baliwasan Health Center Profiling System during the Requirements phase. The problem derived from the collected data is used to create the project. The purpose of this project is to develop a program called Baliwasan Health Center Profiling System to satisfy the demands of Barangay Baliwasan Health Center residents and staff. The developers prepared the Design of the project by offering thoughts on how the system should appear after gathering the requirements and before going on to create the system project. The system programmer removed any extraneous code from the bootstrap and began working on the system's development, which included creating the log-in page and other features. Following the completion of the system project, the developers run a set of tests in each module to see whether there are any bugs, errors, or unneeded functions in the system that the system programmer failed to identify and delete. The developers refined the process of creating schedules and defined the system's general operation. The developers deploy the system project in the deployment phase to check and assess the system's durability, adaptability, and range. Users are actively involved in the system's improvement by offering regular feedback, comments, and suggestions. The developers perform another round of testing based on the feedback from the users. Following the conclusion of all phases, the developers review and study the project system to see if any remaining problems or flaws exist, which be addressed as soon as feasible. The program be evaluated by the developers to ensure that it is functioning properly.

CHAPTER IV

METHODOLOGY

This chapter describes the system's flow as well as the system analysis and development methods employed in this research. The implementation of each approach, as well as the system development process, are covered. The System Development Life Cycle was established to allow jobs to be stacked on top of one another, with framework-defining activities completed at each stage of the software development process

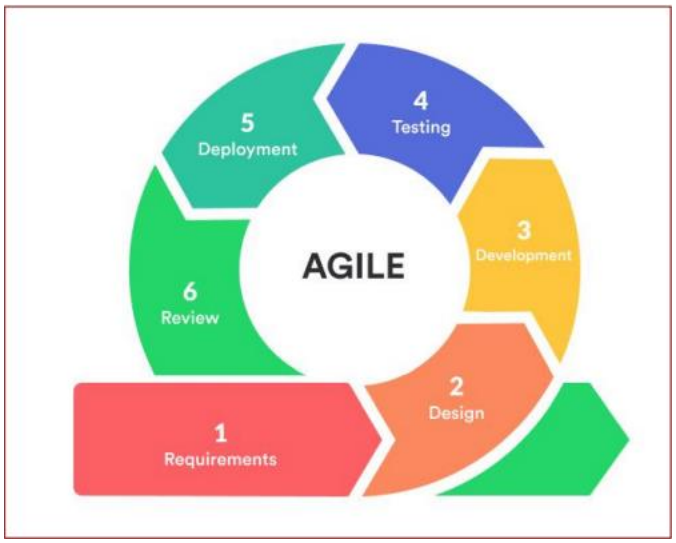

Figure 1: Agile Methodology Life Cycle

The developers used the agile technique to construct this project. Agile methodology is a management strategy used in software development, in which demands and solutions arise from the collaborative efforts of self-organizing and cross-functional teams, as well as their clients. The Agile method is a collection of ideas that emphasizes adaptability and flexibility. This Agile Methodology was chosen by the developers because it allows teams to produce in manageable increments and enables improved response to changing business demands. The prototyping model is a systems development process in which a prototype is developed, tested, and changed until it achieves an acceptable outcome, after which the entire system or product may be built. When not all of the project's needs are understood in detail ahead of time, this paradigm works well. Between the developers and the users, it's an iterative, trial-and error process

REQUIREMENTS

The proponents must do the essential research and investigation in order to construct A Baliwasan Health Center Profiling System. This phase entails acquiring critical information and suggestions from the client.

DESIGN

After determining the requirements, the proponents proceed to the next phase, which is the design. The developer then browses several ideas for a good design and ensures that the design is distinct from other systems and superior to the present system

DEVELOPMENT

The proponents convened and discussed ways to make the process simpler. In addition, proponents gathered various techniques and potential solutions to the problem. Thus making a Gantt chart to assist, manage and track the period of development for the system which is part of the planning process.

TESTING

After completing the requirements, design, and development, the proponents test the “Baliwasan Health Center Profiling System”, and identify any potential errors or bugs that the user may face. After which the proponents gathered some remedies.

DEPLOYMENT

The system was implemented successfully after development and testing, and the proponents have deployed the system entitled “Baliwasan Health Center Profiling System”.

REVIEW

The developer continues to monitor and test the system's performance throughout this period. The client's input will be used to enhance the system. The responses from this phase will be evaluated and analyzed in order for the system to be readily maintained and upgraded. The cycle continue till the proponents are satisfied with the improvement and concept.

4.1 Requirements Analysis

The researcher obtained information from the health center midwife. The proponents develop a solution to the present manual procedure. At this stage, the developers went on-site to the target helth center to discuss the criteria. A formal written permission was sent one (1) week before the study was conducted to Baliwasan Health Center. Before the intended visit, as established by the 2020 census, Baliwasan Health Center Zamboanga City had a population of 28,829 people, which represents 2.95 percent of the total population of the Philippines. This is why the researcher chose this health center as the target for the system's implementation and development. After doing a one-on-one interview with the midwife of health center staff, which was made by the researchers in collaboration with health center staff, functions served as the starting point for designing the modules of the project.

4.2 Requirements Documentation

Some requirements may just define high-level stakeholder requirements, while others may specify skills, traits, or functionalities. A good requirements document explains the problem to be solved, who wants it done, and why it has to be solved. Business requirements and high-level business goals are intertwined in this approach such as the organization's reason for pursuing the project, and the benefits to the company or customers. These details might be included in other documents such as project charters, vision statements, or scope documents. Budgets, resources, dates, and objectives may be included, but no information on how to build a product will be provided.

Functional Requirements

System features or functions must be implemented by developers in order for users to complete their duties. For the development team as well as the stakeholders, it is crucial to make them apparent. Functional requirements often explain how a system behaves under particular circumstances.

1. Baliwasan Health Center Profiling System
   - 1.1 The system allowed managing the services needed by the patient.
   - **1.2** The system automate the transaction and process in the health center.
   - **1.3** The System allow to store patients record.
2. Generate Patients Record
   - 2.1 The System facilitate the processing of the Baliwasan Health Center for the patients.
   - **2.2** The system enabled the management of the consultation types of the patient in baliwasan health center.
   - **2.3** The system allowed managing report for the patients record.

Non-Functional Requirements

A set of guidelines intended to increase the functioning of the system by describing its limitations and operational capabilities. In essence, these define how well it will function, encompassing aspects like speed, security, dependability, data integrity, etc

1. **Operational**
    - **1.1 The system should run on laptop and desktop to be used by the health center staff.**
    - **1.2 The system should install xampp to run the system for local server.**
2. **Security**
    - **2.1 Unauthorized staff cannot access any confidential files of the patients records.**
    - **2.2 Midwife and nurse are authorized person to access the system**

4.3 Use Case Analysis

The use-case illustrate demonstrates how the patients, nurse and midwife interact with the system. The Midwife who is also the system administrator, manages the system users . She will authorized the patients consultation and other medical assistant.

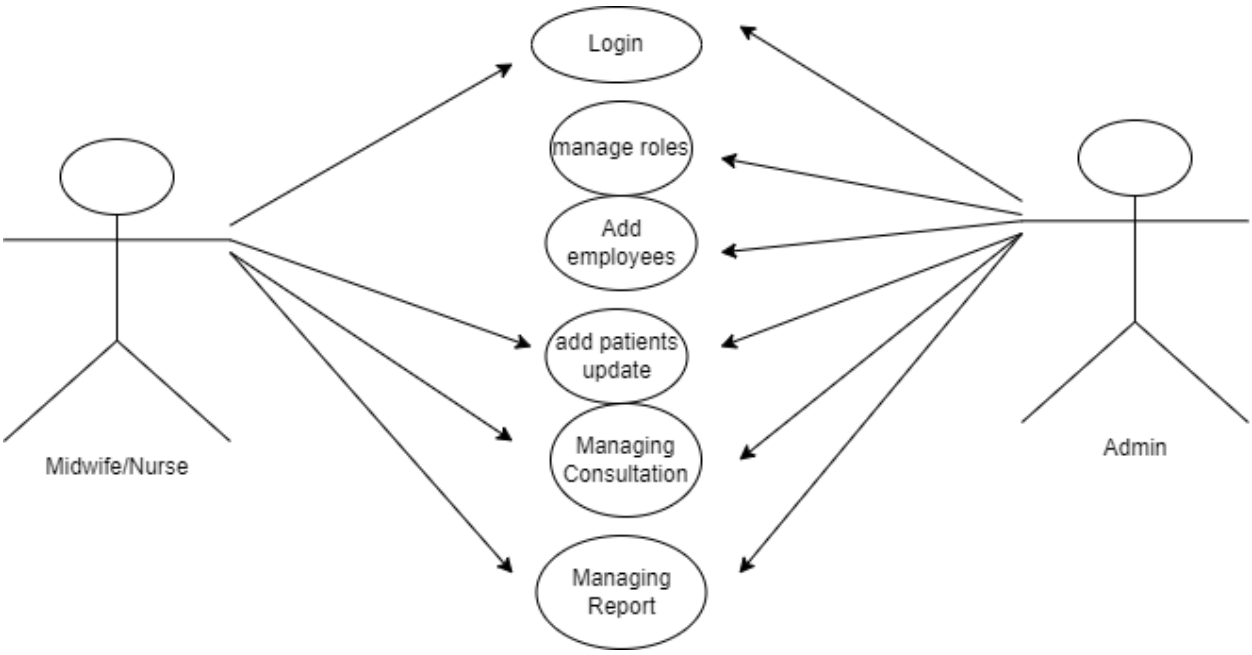

Figure 2: Use Case Analysis Diagram

Context Diagram

To begin, let us study about the level 0 of Baliwasan Health Center Profiling System Level 0 of the Health Center is known as the context diagram. It is meant to be an abstract point of view, with the mechanism portrayed as a single process involving third parties. The complete structure is represented as a single bubble in this DFD for Baliwasan Health Center Profiling System. It has incoming and outgoing data input and output indicators. This data flow diagram depicts the whole capabilities of the Baliwasan Health Center Profiling System. This will also come in handy when you go through the data flow diagrams for Baliwasan Health Center Profiling System. As can be seen, the links between transactions are robust.

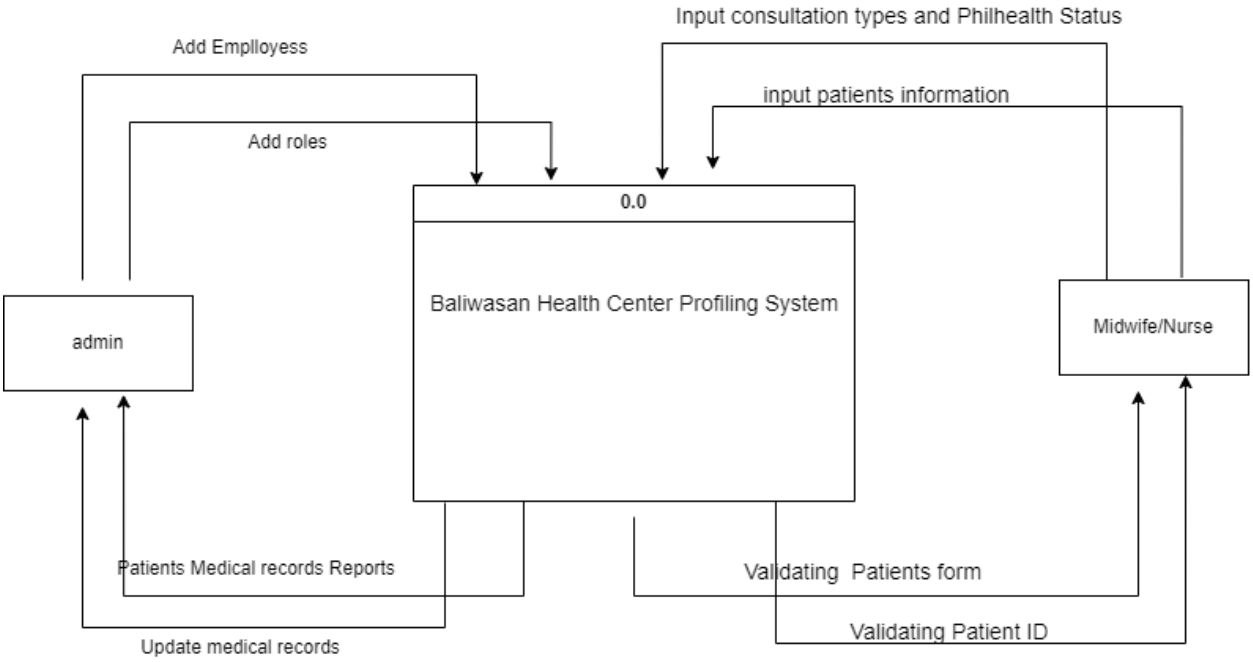

Figure 3: Context Diagram