# CHAPTER II

# PROJECT CHARTER

In this chapter, discussion of the project objectives, project conception, problem statement, the initial scope of the project, project vision, business constraints, technology, project strategy, project documentation, and communication, project organization, and staffing. This chapter deals with the overall standing and the goals of the project. Two constraints will also be discussed in this section: Business and technological limitations. The business constraint focuses on how the group would deal with the improvement including management & economic factor of the system. The technical constraint deals with the technologies used by the said organization. These technologies that will be used may vary depending on the request of the organization. This chapter will help the group in the development of the proposed system.

## 2.1 Project Objectives

In this subchapter, the objectives of the project will be thoroughly discussed on how the proposed system would benefit the said organization. It will also discuss on why the project is being developed and how it would benefit the organization. The project objects will show the purpose of delivering the said system within the agreed timeframe and identified resources.

### 2.1.1 Provide a web-based intranet system

The team sets to create a web-based intranet system that can automate specific departments to make it easy for the organization to pass data from one

department to the other as well as correcting and improving the network problem of the organization from the laboratory to the registration.

2.1.2 Automated recording of patient data.

The team aims to create an automated system that can store data from patient information, health issues, consultation details, laboratory study, laboratory results and other healthcare concerns. With this feature, the organization can efficiently manage their data with just a few clicks.

2.1.3 Reduce Data Redundancy

The team will implement a system that can avoid data redundancy of patient information. Reducing data redundancy can allow the system to save storage spaces that are meant for other upcoming unregistered patients.

## 2.2 Project Conception

In this chapter, the actual scope is defined, and it is also an event that will allow the client's attention to turn to an automated system. Saint Ezekiel Moreno Health Center has already an existing system but is limited to one department which is the registration. The current system features simple inputs and generation of reports. The automated system will improve the current system's efficiency regarding acquiring of patient information and accurate reports that are being generated as well as monitoring of the patient's progress during a particular period. A network setup will also be implemented in the organization to connect other departments and further utilize the features of the said system.

### 2.2.1 Efficient Service

Implementing an automated system can improve the productivity of the organization. The proposed system can be a big help to the organization when it comes to the functionalities. With the proposed system implemented, the organization can a

### 2.2.2 Data Organization

The proposed system is a management system which can capture and store patient information as well as the generation of accurate reports every month. With this benefit, the organization can manage patient information without being damaged or tampered due to the system's ability to store the data.

### 2.2.3 Technology Deployment

The proposed system will be developed using technologies like PHP and CSS (Cascading Style Sheet). The advantages of using this technology are because it is open-source as well as its accessibility. Also, it is a tool that is used in developing dynamic web pages.

## 2.3 Problem Statement

This sub-chapter discusses the problem of the company. Each problem statement should correspond to the objective statements. Objectives are the answer to the existing problems such as security, management, and business processes complexity. Having a solution to these problems will greatly benefit the organization.

### 2.3.1 Network Problem

The organization has only two departments connected which is the registration and the consultation as well as a network problem with the laboratory and the registration.

### 2.3.2 Lack of Immediate Retrieval of Data

Most departments of the organization still use a semi-automated system with manual processes. Patient information is stored in a database, but other data is still stored in a folder like the lab results and is manually sorted by name.

### 2.3.3 Data Redundancy

The current system is prone to data redundancy due to some instances that the patient would forget that they already have an existing record. The current system is still accepting patient records that already exist due to the fact that the system does not have error trapping features when it comes to this problem.

## 2.4 Initial Scope of the Project

The scope of the team will be thoroughly discussed in this section. The Saint Ezekiel Moreno Healthcare Management System focuses on the health of all the patent of the entire department in the health center. The system is a web-based application that can allow the user to store and view data as well as generating of monthly reports. There are three functions namely patient profiling, health services and inventory.

### 2.4.1 Patient profiling

This feature allows the system to record patient information to be viewed by the doctor during consultation. This feature also allows the organization accurately monitor patients that are registered in the system. With this function, the organization can access patient records and perform necessary changes.

### 2.4.2 Services rendered

The health center offers services which include the consultation where the doctor gets the patient's health information. The distribution of medicine and receiving of payments is handled by the pharmacy and other services which include dental services but is only offered once every week.

### 2.4.3 Inventory

The health center monitors the amount of medicine arriving in the organization. This feature can allow the organization to track incoming medicines upon ordering.

## 2.5 Project Vision

The team created a system that can contribute and maximize the use of technology of the organization in a short period. With the help of the web-based intranet system, the organization can monitor and manage the activity in the health center that is more accurate and detailed. The organization increases its monitoring of health progress of the patients, generates updated reports graphically, and compile all these records into the database provided by the system.

### 2.5.1 Schedule and Service Monitoring

The proposed system can improve the system and automate the scheduling of patients to track services rendered. This function allows the organization to track and monitor patient activities with ease.

### 2.5.2 Reports Generation

The proposed system has a feature that can enable the organization to generate accurate reports. These reports include summary, comparative and statistical report. Generation of reports can be sorted from simple to detailed reports of medical supplies.

## 2.6 Business Constraints

In the development part of the system in the organization, there is an existence of issues that may hinder the team to gather all the available data fully due to its confidentiality. The team may encounter some time constraints because other members have a different schedule that causes a delay in gathering data. Another one is that the organization had limited forms to disperse to.

### 2.6.1 Data Confidentiality

One of the reasons the team cannot fully get the information is that some of the data are considered to be confidential. Some information in the organization is protected and is not to show to other people. It will prevent data from being exposed to the wrong people.

### 2.6.2 Organization Sponsorship

The organization doesn't have any problems with their budget because the government of Spain funds them. Implementing the proposed system in the said organization should not have any problem as long as the system can generate necessary outputs.

## 2.7 Technology Constraints

This section discusses the following challenges that hinder the team from implementing the system when it comes to technological limitations is stated as follows:

### 2.7.1 System Design

One of the problems that delay the team regarding developing the system is that the group must meet the expectation or the essential needs of the organization on how the system must look and function.

### 2.7.2 Development Tools

When it comes to the development tools that the team will use to develop the system. The team is having difficulty on familiarizing MySQL and PHP programming languages because the team must still consolidate to improve and gain more knowledge on how it works.

### 2.7.3 Platform

The team is developing a system in a web-based platform for the system to run its processes. Currently, the team is having a problem on how to make the system run and execute the process that needs to be done using this platform.

### 2.7.4 Connectivity

One of the concerns that the team must solve is the connectivity of the system to the following department where the data must be available and accessible to each user of the system for them to make their process more efficient.

## 2.8 Project Strategy

The team distinguishes an appropriate strategy to answer the difficulties that the organization is dealing. The approach that the team used is the Rapid Application Development (RAD) as a project methodology for SEMHCMS.

The team decided to use the Rapid Application Development because user involvement is needed to provide more feedback if it is gathered as early as possible; the team enhances some of the significant changes for the development of the system. In this way, the team can provide a system that will satisfy the company's problems. For several representations of the partial prototype of the system, the team helps the organization to spend less cost for the system implementation because the system is productive and helps measure the quality and difficulty of the system. The development of the project is composing of four phases which involve planning, Analysis, Design, and implementation phase of the system.

### 2.8.1 Planning Phase

The team conducted an interview and gathered necessary data by knowing their process in the organization, then summarize and analyze the relevant data that have been collected to create a data flow diagram.

### 2.8.2 Analysis Phase

In this phase, the team analyzes the following forms that had been collected from the organization, the following forms are used as a basis to construct an Entity Relationship Diagram (ER-D), and then after creating the ER-D, the team prepared the Data Dictionary for the system. The team also created the Use Case Diagram to determine the function of the system. Lastly, the team constructed Activity Diagram for the system for the navigation or process on how the user interacts with the system.

### 2.8.3 Design Phase

In this phase, the team prepared the system functionalities to be implemented in the initial prototype of the system. Then, the team created an initial prototype to be shown or presented in the organization, to gather their feedback and to know if there are still some requirements that need to be implemented so that it will be included in the finalization of the system prototype to enhance the layout of the system.

### 2.8.4 Implementation Phase

In the implementation phase, the team started coding the system; then the team tested the following hardware component to be used for the system to determine if there are any defects. The group undergoes a system testing to be able to know if the system run and execute properly. Finally, as a result, the new system is built, delivered, presented, and placed in operation.

## 2.9 Project Documentation and Communication

In developing a project, the presence of documentation enables monitor all parts of an application, and it enhances the nature of a product item. A successful documentation will make data effectively open or accessible and enable new clients or user to learn rapidly. The team used some tools because as the project progresses, team members can forget about what others are doing. They are centered around their particular undertakings yet without significant correspondence.

### 2.9.1 Documentation

The team share ideas of what questions are needed to be asked during the interview in the organization. During the interview from the company, the team gathers all necessary data and forms that are required to build the system. After the meeting, the group observed on how the organization process is done.

### 2.9.2 Communication

The team submitted a letter of intent to gather confidential data from the company, and then informs the company ahead of time if the project team is going to conduct an interview. Regarding communication, Trello is used as the project management tool of the team to communicate and collaborate with each other.

## 2.10 Project Organization and Staffing

Organization and Staffing are arranged according to the skills and knowledge of each member of the team. Different members have been assigned that can be applied to the development of the system based on their unique specialties. A delegation of the task to each member is a must in developing the system because the improper delegation of task

affects the development of the project regarding time management. The following are the tasks that the group performs in developing and organizing the project.

### 2.10.1 Analysis

After all the data are gathered in the company during several interviews, each member of the team collaborated to analyzes the collected data and how the process is done in the organization to be able to create the data flow diagram. The following forms are also analyzed by the team to create the ERD which helps the team serves as a basis for the logical database design of the system. Finally, the team constructed an Activity diagram and Use Case Diagram to know the navigation of how the system process is done and to identify the role of each user in the system.

### 2.10.2 Design

The project team created an initial prototype of the system to gather feedback from the organization. All members of the team help to create the screen layout that will fit and meet the expectation of the organization. Then, the team member created a decomposition chart for the system to identify the functions to be included in the system.

### 2.10.3 Implementation

All team members collaborated to develop and implement the system. The team undergoes coding and conducting several tests to the system to ensure that it runs and execute processes correctly. Then, the team presents the system to the organization to identify if there are still some missing function that needs to be included in the system.

This chapter shows the overall standing and the goals of implementing the system as well as the constraints during its development. Project objectives show the benefits of applying the system and should be an answer to the problem statements. The initial scope of the project discusses the primary functions of the proposed system as well as project strategy being discussed on how the system was developed during its early stages especially during the gather of data, discussion, and the decision of what methodology should be used. The project communication and documentation section show how the team coordinated with each other during the creation of the documentation while in the project staffing, it lists the roles of every team member in the development of the proposed system. Each member plays a crucial role in the design and implementation of the proposed system.