

A proposal

Presented to Mr. Ian Kenneth I. Pilien of the  
College of Information and Computing Science  
Zamboanga Peninsula Polytechnic State University

In Partial Fulfillment of the Requirements  
For ITCC 106 Information Management

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**Chapter I**

## 1.1 Introduction

The world is facing a virus called COVID-19, including our country. We are engaged in computerized technology to make our lives easier and to avoid crowds of people as well as viruses. Nowadays, people cannot imagine their lives without computers. Online systems may be accessed from any computer with an Internet connection, anywhere in the world. We are developing this vaccination encoded system. For us to be able to access our community, we wanted to know who those people were who had gotten vaccinated and who had not yet vaccinated. In this simple way, we can assist the DOH in identifying those who did not receive vaccines. Getting vaccinated nowadays is essential for the reason that getting vaccinated causes an antibody response, which protects you from contracting the disease without having to go through it.

"We are encouraged by the rollout of safe and effective vaccines, but the truth is simple: No person is safe until everyone, everywhere, is safe, and no country is safe until all countries are safe. Only by working together can we ensure that no one is left behind. Only by working together can we recover better and build a world where everyone thrives in peace, dignity, and equality on a healthy planet. It is possible, together. " According to Amina Mohammed, Deputy Secretary-General of the United Nations,

Experts are looking into both natural immunity and vaccine-induced immunity as essential aspects of COVID-19. It's crucial to have equitable access to safe and effective vaccines if the COVID-19 pandemic is to be stopped, so seeing so many vaccines being tested and developed is quite encouraging. DOH is working relentlessly to discover, manufacture, and distribute safe and effective vaccinations. Safe and efficient vaccines are a game-changing tool, but we must continue to wear masks, wash our hands, ensure proper ventilation indoors, and physically distance ourselves from crowds for the foreseeable future. Being vaccinated does not exempt us from exercising caution and putting ourselves and others at risk, especially because research into the extent to which vaccines protect not only against disease but also against infection and transmission is still underway. But it is immunization, not vaccinations, that will put an end to the epidemic. We must ensure that vaccines are distributed fairly and equally and that every country receives them and is able to use them to safeguard its citizens, beginning with the most vulnerable.

As information technology students, we wanted to help the community fight back against COVID-19. Somehow, in our simple way, with the ability and knowledge that we learn in ZPPSU, we wanted to use it even though we are just students. And concretely, our system is concentrating on the current concerns. According to Amina Mohammed, Deputy Secretary-General of the United Nations, "if we work together, nothing is impossible." It always seems impossible until it's done.

## **1.2 Project Context**

The present vaccination system in Camino Nuevo involves manually registering the citizens for vaccines. With the vaccination encoding system, we indicate the particular barangay of Zamboanga City, and it is the Barangay of Camino Nuevo. The Vaccination Encoding System helps the barangay officers easily and safely register citizens in order to prepare and schedule them for vaccines.

## **1.3 Purpose and Description**

The purpose of this system is to provide and help the administrators who can access it. The system shows information in a clear way, and the administrators can easily find the people's information. Only administrators and staff are permitted to use this system and input data about vaccinations. Therefore, it is easy to access, convenient, and fast.

## **1.4 Objective of the Study**

The primary focus of the system is to store data for vaccines for the Barangay Camino Nuevo. Administrators can keep track the data of the vaccines and can minimize manual paper works. The Vaccination Encoding System focuses on the input data of COVID-19 fully vaccinated people.

## **1.5 Main Objective**

The main objective of this system is to give a clear, efficient, and effective data or information about COVID-19 Vaccination. Explicit goals should be used to direct information. Therefore, in this document, we discuss the potential goals of the COVID-19 vaccination encoding system: To empower the healthcare system, provide a schedule of vaccination dates and times, as well as clear information about their vaccination stage.

## **1.6 Specific Objective**

The system will enable to:

1. To input data for those who got their vaccines.
2. Keeps track the information of vaccines.

3. Quickly identified the information for vaccines.
4. Can print the recorded vaccine cards.

## **1.7 Scope and Limitations**

### **1.7.1 Scope**

The Vaccination Encoding System offers the easiest and most convenient online system to keep track of the record of information for vaccines and for those who have been fully vaccinated.

### **1.7.2 Limitation**

The said system only supports the area of Barangay Camino Nuevo. It is limited because it cannot handle a large amount of information. Hence, the proponents are considering expanding it in the future.

## **Chapter II**

### **REVIEW OF RELATED LITERATURE AND SYSTEMS**

This chapter deals with the current study and the previous study, which is related to the propose system. In this study, it can help the proponents to rely on an example as a guide for the development of the system.

## **2.1 Related Literature**

### **2.1.1 Electronic Vaccination Data System – *National Department of Health (2021)***

The National Department of Health has developed an Electronic Vaccine Data System (EVDS) to support the COVID-19 Vaccination Roll Out in South Africa. The EVDS will be used to capture COVID-19 vaccination events digitally and provide data to the NDOH data analytics platform to monitor and report on them. This Privacy Policy explains the extent to which we collect information when you use the EVDS.

<https://sacoronavirus.co.za/evds/tscs/>

### **2.1.2 Vaccine Monitoring System – *Information Systems- Planning, Development and Project Management Divisions (IS-PDPMD) (2021)***

The Vaccine Monitoring System (VMS) is a web-based monitoring system that aims to monitor vaccination at the LGU level. Before vaccination, encode the National Vaccination Program Preparedness checklist in the city/municipality. During vaccination, encoding the vaccine supplies vaccinated per LGU and wasting vaccines in the city.

[https://www.dilg.gov.ph/PDF\\_File/issuances/memo\\_circulars/dilg-memocircular](https://www.dilg.gov.ph/PDF_File/issuances/memo_circulars/dilg-memocircular)

### **2.1.3 Online Scheduling System for Vaccinations – *Pandemic influenza, University of Minnesota (2022)***

After several walk-in clinics took place at the University of Minnesota, planners identified a need to regulate client flow and reduce wait times. Planners responded by quickly shifting to an online block scheduling system. The system allowed clients to register for a 15-minute block of time to receive a vaccination; within each time block, clients were vaccinated on a first-come, first-served basis. The system worked well. It enhanced clinic operations by shortening wait times, promoting a steady and predictable flow of patients, maximizing resources and vaccine delivered per unit of time, and ultimately increasing

the number of vaccinations provided at mass clinics. Use of the system also resulted in less stress on clients, as well as nurses and other clinic staff.

<https://www.cidrap.umn.edu/practice/online-scheduling-system-vaccinations-mn>

#### **2.1.4 Vaccination Management System – *Department of Health (2020)***

When the development of VMS was first considered, consideration was given to the adoption of existing HSC systems such as Child Health and NIECR. However, there was a series of technical difficulties and in addition, the design and development work that would have been required to ensure existing systems would meet the capabilities required in booking, clinical workflow reporting and analytics was extensive.

<https://www.health-ni.gov.uk/vaccines-anagement-system-response-covid-19>

#### **2.1.5 System and Tools Implemented to Track COVID-19 Vaccine Data – *Department of Veterans Affair Office of Inspector general (2021)***

As a federal agency administering COVID-19 vaccines, VA is required to report directly to the Centers for Disease Control and Prevention (CDC) on its COVID-19 vaccine supply and on all administered doses.<sup>1</sup> The VA Office of Inspector General (OIG) conducted this review to determine if the Veterans Health Administration (VHA) implemented the data collection and reporting systems needed to fulfill this role—specifically, to report on the supply of vaccines to VA medical facilities and clinics, and doses administered to veterans enrolled in VA’s healthcare system and to VA employees. Developing systems to track and report on the supply and administration of the COVID-19 vaccines presented distinct challenges for VHA. One challenge was that VHA does not have a centralized pharmacy inventory management system to track vaccine supply at facilities. Another was the scale of the effort: the two populations that were the immediate focus—veterans enrolled in VA’s healthcare system and VHA employees—numbered some 9.5 million. To vaccinate these populations, VA had to quickly modify separate tracking systems. VA also had to be able to track vaccinations for unenrolled veterans (around 10 million as of June 2021), veterans’ spouses and caregivers, and other federal agency employees to prepare for providing vaccinations to these or others as needed.

<https://www.va.gov/oig.pubs.VAOIG>

## SYNTHESIS

With the above studies are being mentioned Review Related Literature (RRL), with the concept of Vaccination Encoding System, is being integrated with internet, and other devices that use to implement of the system that can possible being connected to a GPS and SMS to communicate with the owner or user. As a result, it can assure that the user can give security and safeness for their employee, tenants, and other workers. Below is the table indicating the contribution of the study.

Source/Study	Title	Purpose	Tools used
<a href="https://sacoronavirus.co.za/evds/tscs/">https://sacoronavirus.co.za/evds/tscs/</a>	<b>Electronic Vaccination Data System</b>	The EVDS will be used to capture COVID-19 vaccination events digitally and provide data to the NDOH data analytics platform to monitor and report on them.	<ul style="list-style-type: none"> <li>• Internet, laptop, desktop and android.</li> </ul>
<a href="https://www.dilg.gov.ph/PDF_File/issuances/memo_circulars/dilg-memocircular">https://www.dilg.gov.ph/PDF_File/issuances/memo_circulars/dilg-memocircular</a>	<b>Vaccine Monitoring System</b>	The Vaccine Monitoring System	<ul style="list-style-type: none"> <li>• Internet, laptop,</li> </ul>

<p><a href="https://www.health-ni.gov.uk/vaccines-anagement-system-response-covid-19">https://www.health-ni.gov.uk/vaccines-anagement-system-response-covid-19</a></p>	<p><b>Online Scheduling System for Vaccinations</b></p> <p><b>Vaccination</b></p>	<p>(VMS) is a web-based monitoring system that aims to monitor vaccination at the LGU level.</p> <p>The system allowed clients to register for a 15-minute block of time to receive a vaccination ; within each time block, clients were vaccinated on a first-come, first-served basis. The system worked well. It enhanced</p>	<p>desktop and android.</p> <ul style="list-style-type: none"> <li>• Internet, laptop, desktop and android.</li> </ul>
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<a href="https://www.va.gov/oig.pubs.VAOIG">https://www.va.gov/oig.pubs.VAOIG</a>	<p style="text-align: center;"><b>Management System Implemented to Track COVID-19 Vaccine Data</b></p>	<div>clinic operations by shortening wait times, promoting a steady and predictable flow of patients, maximizing resources and vaccine delivered per unit of time, and ultimately increasing the number of vaccinations provided at mass clinics.</div> <div>This document provides information on the decisions made</div>	<ul style="list-style-type: none"> <li>• Internet, laptop, desktop and android.</li> </ul>
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		<p>around the procurement, development and deployment of the Vaccination Management System to facilitate mass public access to an Appointment Booking Portal to support Covid vaccines delivery in Northern Ireland.</p> <p>Developing systems to track and report on the supply and administrati</p>	<ul style="list-style-type: none"><li>• Internet, laptop, desktop and android.</li></ul>
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		on of the COVID-19 vaccines presented distinct challenges for VHA. One challenge was that VHA does not have a centralized pharmacy inventory manageme nt system to track vaccine supply at facilities.	
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*Table 1. Matrix of the Review Study*

### **Chapter III**

#### **Technical Background**

In this chapter it describes the project's technical aspects: the technicality of the project and the technology that will be used in creating this system.

## **Technicality of the project**

The users must first log in with their username and password, but only authorized users, such as the administrator and staff are allowed to do so because the information stored here is confidential. After that, it will direct the user to the encoding page where they can enter vaccine information and save it with a click of the save button. If the user only wants to look at the records, they can do so with a click of view all records button. The user will be directed to the Record of Vaccines page after clicking the save or view all records button, where they can search for a specific name of vaccine, edit information, print vaccination cards, or delete information. The authorized user can change or edit information by clicking the edit button. The print button will take the user to the vaccination card page, where they can print the vaccine's information. The delete button, on the other hand, delete vaccines information. The user can now log out of the system once they have finished using it.

## **Details of technology to be used**

In this system, the developers will use MySQL is a popular choice of database for use in web applications, phpMyAdmin database for data storage to develop the websites' server-side functionalities and it is a free and open-source tool written in PHP intended to handle the administration of MySQL with the use of a web browser, and Hypertext Preprocessor (PHP) for server-side back-end programming. For designing the web system, the developers will use Cascading Style Sheets (CSS), Hypertext Mark-up Language (HTML), and JavaScript, and also Bootstrap for preference. The project will be built using Sublime Text 3, an open-source text editor for a variety of programming languages, including HTML, PHP and CSS etc., as well as a free and open-source cross-platform web server solution that will allow the project to run without the need for an internet connection or web hosting server.

## **Chapter IV**

### **Methodology, Results and Discussion**

This chapter discusses the methodology in the development of a model for Vaccination Encoding System. This includes a detail discussion on literature background of the research method chosen. Also discuss the detail process of developing the methodology of this study. The developer will be utilizing the work plan, analysis strategies and the requirement documents.

## 4.1 SDLC Model

On system development, the proponents will be using the System Development Life Cycle (SDLC) methodology for development to achieve the project. The proponents will use the Agile model to explain further the software for the study in order to develop the whole project, as shown in Figure 1.



*Figure 1. Agile Model*

### 4.1.1 Requirements

The proponents will need to undergo research and gather information for the development of Vaccination Encoding System. It needs more time and ideas in order to develop the whole project.

### 4.1.2 Design

The admin bootstrap was utilized by the proponents once they had acquired all of the necessary information as well as a concept design of how the user interface for constructing the system.

#### **4.1.3 Development**

After gathering the necessary data and designing the system, the system's first development begins. All of the first two steps would be included into the final product after acquiring the appropriate data and building the system. The vaccine encoding system is a web-based system that is coded in HTML, PHP, Java, and MySQL.

#### **4.1.4 Testing**

Following the building of the system, the proponents conducted a series of tests using a browser to see whether the system was up and running, to monitor for errors, and to see if the function worked properly. Developers can navigate the system's problems and simply debug, if necessary, by testing.

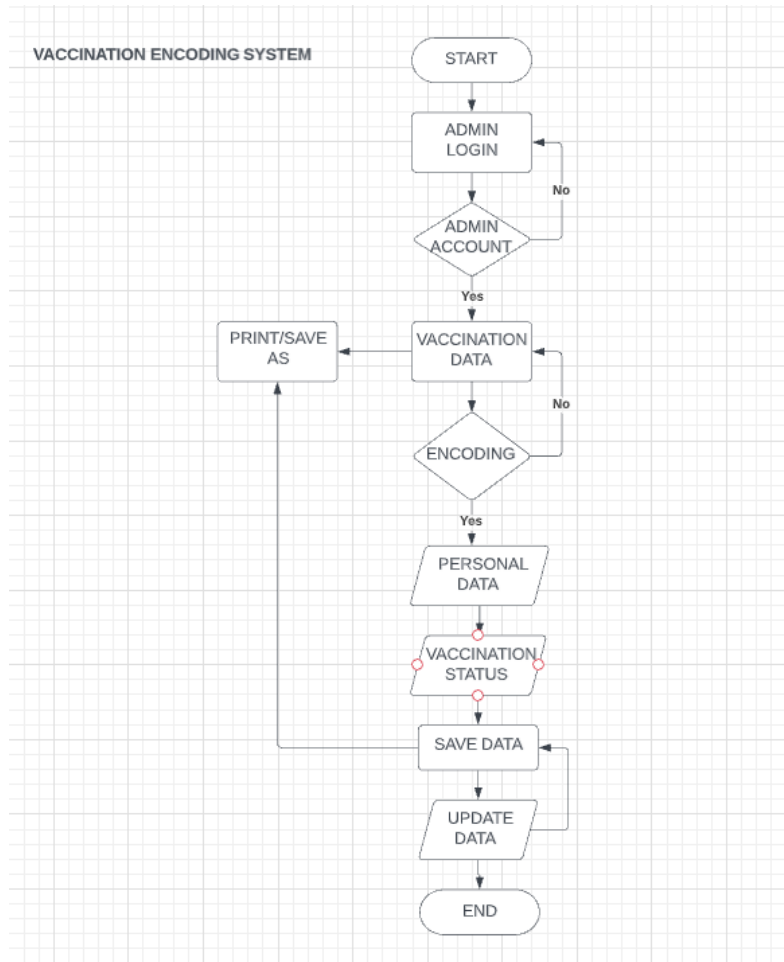
#### **4.1.5 Deployment**

Following extensive testing, the proponents implemented the system on Appserv using PHP, JavaScript, HTML, and Bootstrap.

#### **4.1.6 Review**

The proponents double-checked and debugged the issues after performing all the phases. To keep the system clean and properly structured, several modifications were made and some unneeded parts that were no longer needed were eliminated. During this phase, the proponents examined the system to ensure that it was performing as intended.

### **4.2 Flowchart**



**Figure 2. Flowchart**

### 4.3 Requirements Specification

#### 4.3.1 SOFTWARE

- Appserv 9.3
- Chrome/Microsoft Edge
- Sublime 3.1
- Windows 10 Pro 64bit

### 4.4 Project Work Plan

Task ID	Task Name	Assigned To	Estimated		
			Duration	Start	Finished

			Days	Date	Date
Chapter 1					
1.1	Introduction	Panton, Kristel Jane U.	1 day	February 20, 2022	February 20, 2022
1.2	Project Context	Valencia, Marc Angelo L.	1 day	February 21, 2022	February 21, 2022
1.3	Purpose and Description	Quijano, Althea Cassandra G.	1 day	February 19, 2022	February 19, 2022
1.4	Objectives	Tan, James Lorenzo F.	1 day	February 21, 2022	February 21, 2022
1.5	Scope and Limitation	Moreno, John Kennith T.	1 day	February 21, 2022	February 21, 2022
Chapter II					
2.1	RRL	Moreno, John Kennith T. Panton, Kristel Jane U. Quijano, Althea Cassandra G. Valencia, Marc Angelo L.	3 days	March 13, 2022	March 15, 2022
2.2	Synthesis	Panton, Kristel Jane	1 day	March 15, 2022	March 15, 2022
Chapter III					
3.1	Technical Background	Tan, James Lorenzo F.	2 days	March 14, 2022	March 15, 2022
Chapter IV					



4.1	SDLC	Quijano, Althea Cassandra G. Panton, Kristel Jane U.	2 days	March 14, 2022	March 15, 2022
4.2	Flowchart	Valencia. Marc Angelo L.	2 days	March 13, 2022	March 14, 2022
4.3	Requirements Analysis	Moreno, John Kennith T. Tan, James Lorenzo F.	1 day	March 15, 2022	March 15 2022
4.4	Project Work Plan	Quijano, Althea Cassandra G.	1 day	March 15, 2022	March 15, 2022

***Table 2. Gant Chart***