BARANGAY ALAPAN – 2A, IMUS CITY, CAVITE HEALTH CENTER SYSTEM WITH DATA ANALYTICS SYSTEM AND EMAIL NOTIFICATION

Undergraduate Thesis
submitted to the faculty of the
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In partial fulfillment
of the requirements for the degree
Bachelor of Science in Computer Science

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ABSTRACT

**CEREZO, JOVANY T., MAGDUA, JEZEL A., MARASIGAN, KATRINA ALEXA Q.
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This study aimed to develop a Barangay Alapan – 2A, Imus City, Cavite Health
Center System with Data Analytics System and Email Notification. It aimed to
provide a digitalized system which could be easily managed by the barangay health
workers and doctors in recording patient's medical information. In collecting and
analyzing data, as well as designing and developing the system, the researchers used
a qualitative approach with the collaboration of a quantitative approach using
descriptive based research and using the data analytics report. The purpose of this
study is to address a solution to the difficulty that has been occurring in a barangay
health center. The idea was to introduce a database management system with data
analytic report and email notification to help solve the problem. This paper provides an
efficient and effective way to record, manage, and disseminate announcements that is
needed for the entire barangay. It also delivers data analytics on a monthly basis.
Patients in Barangay Alapan – 2A will be aware about the record of medicines, most
frequent illnesses in the area as well as the month's highest rate of illness.

In order to achieve this goal, the researchers conducted a face-to-face interview
and studied the current flow that the barangay has in order to define the problem. The
data needed were also collected by using documentation.

Microsoft Visual Studio 2019 with the partnership of MySQL as an environment
to produce this type of Database Management System. We also used Gmail service
and lastly, the Visual Basic.Net as the main programming language to build this system.

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INTRODUCTION

In this age of advanced technologies of operation, no one is left behind from using high technologies to make works or complex activities easier. Computers, specifically, serve as a general service tools and weapon in the field of information operations. Computer – based information operates through the use of system software that can offer information services for an institution or organization. It is powerful and convenient builder for simultaneous growth in society and industries. An information service with data analytics allows few barangay communities to access, monitor, and transmit information electronically.

Imus City is a third – class component city in the province of Cavite, Philippines. It has 97 barangays and one of these barangays is Barangay Alapan – 2A. According to the 2020 census, it has a population of 14,071 people. This represented 2.83% of the total population of Imus. The necessity to focus on the societal issues of every barangay is a relevant aspect that needs awareness from the person in authority. These are said to be the most essential responsibilities of every barangay official in the Philippines.

Managing and monitoring the health information in each patient in the barangay can be realized with the use of technology. Barangay Health Center in Alapan – 2A has its manual method for data processing and compiling. The health records of each patient are alphabetically kept in a file cabinet with their own envelope and index card inside of it. The doctors, nurses and barangay health workers find it tedious to manage, monitor, and track the records. Using a system to manage information makes personnel more productive and provides a better service to the community.

In Barangay Alapan – 2A's present system, the health unit, particularly the nurses, have a monthly medical report to give to the patient, such as the maintenance of associated illnesses like hypertension and diabetes. This system features data analytics that will help workers in the barangay see the information and health updates in the entire area. Even after how many years in the filing cabinet, the patient records did not dissolve. Recording and disseminating the health details manually will be a burden. With the use of data analytics, it will improve the operational efficiency of the health center in Barangay Alapan – 2A. The patients' health records were categorized and arranged systematically. The data analytics reveal the number of patients' health records for each common condition, The barangay health worker, doctor, and nurse attendants, and the system's functionality, which is to disseminate medical updates through email. Since the pandemic catastrophe caused by the massive transmission of the COVID-19 virus, the majority have been concerned about the state of our healthcare development. The researchers continue their analysis by interviewing a range of people about how modern technology impacts their daily lives. One of these places is a health center, which provides a range of activities every day.

The system focuses on how barangay health center personnel can provide effective service to their patients in a reasonable amount of time. It also emphasizes continual circulation of health announcements, as well as Email notification, so that they may be readily informed about their appointments, schedule changes, and follow-up reminders. Furthermore, with the help of the system, health center workers can effortlessly manage their time and provide effective and efficient satisfaction to their patients.

Statement of the Problem

For the past years, barangay health workers in the Barangay Health Center of Alapan – 2A have been struggling to maintain and manage their patients' records. The manual process of citing and keeping the patients' data is their usual method of activity inside the work area. In additional to that, health – related reports and announcements in Alapan – 2A community are not updated.

Generally, this study aims to develop Barangay Alapan – 2A, Imus City, Cavite Health Center System with Data Analytics System and Email Notification

Specifically, this study attempts to answer the following problems:

Upon entering the Barangay Health Center, you will notice the file cabinets where their patient records are kept. When the patients arrive, they are given an index card to enter their information. The Barangay Health Worker will put it in an envelope and store it in the file cabinet for future purposes. Patient records are alphabetical, so they only search for them by last name. It can take a lot of time to look for just one patient. To save time and effort, we came up with the question of *"How to help the Barangay Health Workers organize and manage easily the patients' medical records?"*