



University of Cabuyao

(PAMANTASAN NG CABUYAO)

COLLEGE OF COMPUTING STUDIES

Electronic Patients Medical Records API Driven Data Analytics for Heart Diseases

A Capstone Project

Submitted to the Faculty of
The College of Computing Studies
PAMANTASAN NG CABUYAO
City of Cabuyao, Laguna

In Partial Fulfillment
Of the Requirements for the Degree
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

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APPROVAL SHEET

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Approval Sheet

This research paper titled "Electronics Patient Medical Records API Driven Data Analytics for Heart Diseases" prepared and submitted by John Kenneth L. Aquino, Carl Lawrence M. Castillo, Reymar B. Dugan, and Liezel P. Larracas has been accepted and approved as a final requirement for Institutional Research Program / Student Research Program of the Pamantasan ng Cabuyao.

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CERTIFICATE OF ORIGINALITY AND AUTHENTICITY

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CERTIFICATION OF ORIGINALITY AND AUTHENTICITY

Research Title: Electronic Patient Medical Records API Driven Data Analytics for Heart Disease
Department: College of Computing Studies

I hereby declare that this submission is my own work, original, and authentic and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which, to a substantial extent, has been accepted for the award of any other degree or diploma of a university or other institute of higher learning, except where due acknowledgment is made in the text. The author takes full responsibility for the accuracy of the data and the interpretation of findings.

I hereby confirm that all the data collected, analyzed, and interpreted in this submission are original and of high quality.

I certify that I followed all ethical guidelines and research protocols, and that the research methodology used is valid and reliable.

I also declare that the intellectual content of this research is the product of my work, even though I may have received assistance from others on style, presentation, and language expression.

Pamantasan ng Cabuyao (University of Cabuyao) is hereby granted the right to publish the research work, either in full or in part, in any academic or scientific publication.

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EXECUTIVE SUMMARY

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Title: Electronics Patient Medical Records API Driven Data Analytics for Heart Diseases

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Degree Program: Bachelor of Science in Information Technology

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The primary objective of this research was to create and implement an **Electronic Patient Medical Records System featuring API-driven Data Analytics for managing heart disease** at the Global Medical Center of Laguna. The system was designed to tackle issues in handling patient information, evaluating risks, ensuring prompt referrals, and offering real-time analytics for healthcare professionals.

This research utilized **descriptive research** and implemented purposive sampling to collect input from healthcare personnel and IT experts. Information was



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gathered via surveys and usability tests that evaluated the system's performance, user experience, and its effectiveness in enhancing heart disease management.

The results indicated that the system greatly enhanced patient data handling by delivering immediate updates and enabling healthcare personnel to oversee heart disease risk more efficiently. Moreover, users expressed great satisfaction with the system's security, performance efficiency, and general usability, with IT professionals specifically acknowledging the system's possibility for wider adoption. The system fulfilled the required standards for user contentment and data precision, and its performance was confirmed through evaluations.

According to these results, the research determined that the **Electronic Patient Medical Records System** serves as an effective solution for the Global Medical Center of Laguna, enhancing heart disease management and patient care. The researchers suggested additional improvements to the system, such as integration among hospital departments, enhancements in task management, and the incorporation of advanced data analytics capabilities to facilitate more thorough care.

Keywords: Electronic Patient Medical Records, API, Data Analytics, Heart Disease Management, Risk Assessment, Referral System, Real-Time Updates, System Development



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We express our appreciation to the **IT Experts** who shared their valuable technical insights that greatly improved our research. We extend our special gratitude to our **questionnaire validators, Dr. Ramiro Z. Dela Cruz, Mr. Darwin Cyril C. Turingan**, and **Mr. Marvin L. Atanacio**, for their comprehensive evaluation and validation of our research tools, which guarantees the reliability of our results.



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We also want to recognize the contributions of our **Capstone 1 panelists**, Dr. **Ramiro Z. Dela Cruz**, Mr. **Darwin Cyril C. Turingan**, and Mr. **Marvin L. Atanacio**, along with our **Capstone 2 panelists**, Prof. **Marvin H. Bicua**, Asst. Prof. **Arcelito C. Quiatchon**, and Mr. **Darwin Cyril C. Turingan**, for their insightful feedback and important advice, which significantly influenced and improved our project.

We are profoundly grateful to our **client**, **Global Medical Center of Laguna**, for placing their trust in us and allowing us the chance to enhance their organization with this project. We genuinely thank our **respondents** for their time, collaboration, and candid feedback, which were essential for the success of our research.

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Finally, we convey our affection and appreciation to our **families and friends**, whose constant support, patience, and motivation have been our foundation of strength. This accomplishment belongs to you just as much as it belongs to us.

To all those who have played a role in the successful completion of this capstone project, either directly or indirectly, we express our sincere gratitude.



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DEDICATION

This capstone project is wholeheartedly dedicated to our families, whose unconditional love, patience, and support have been our foundation throughout this journey. Your encouragement gave us the strength to overcome challenges and reminded us to keep going, even during the toughest times.

We also dedicate this project to our research advisers and professors, whose guidance, wisdom, and faith in our capabilities have been crucial in influencing this work and our development as individuals. Your dedication to guiding us toward excellence has made a significant impression, and we are sincerely appreciative of that.

This project is dedicated to those who offered their time and knowledge—our client, validators, panelists, and participants. Your faith and cooperation have enabled us to build something significant and provided us with the assurance to tackle real-world challenges through this effort.

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"Thank you very much"

J.K.L.A
C.L.M.C
R.B.D
L.P.L

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CHAPTER I

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THE PROBLEM AND ITS SETTING

Introduction

An Electronic Health Record (EHR) is an advanced form of an Electronic Medical Record (EMR), a computerized record of a patient's medical history within an organization, utilized by specialists, pharmacists, and laboratory services in that specific organization. This model grants patients access to their medical history, enabling them to share it with other healthcare providers. Today, Electronic Medical Records (EMRs) are created through various technologies, such as sensors, wearables, and other devices. The integration of EHRs with big data—for instance, by combining current medical records with inherent data in EMRs—is highly promising. This combination of EHRs can provide a valuable, comprehensive, and consistent foundation of data for medical studies [1].

Our study focuses on the processes and services at the Global Medical Center of Laguna, particularly in monitoring and collecting data from patients to assess their risk of heart disease. Heart disease is a leading cause of death worldwide, accounting for 16% of global deaths [61]. In the Philippines, heart disease remains a significant health concern, with ischemic heart diseases being the top cause of death, representing 19.1% of total deaths in 2023 [60]. Medical records are essential documents containing a patient's history, clinical findings, diagnostic test results,



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progress, and medication. At the Global Medical Center of Laguna, patient information is still recorded on paper, a method that has become outdated in the modern era.

The Global Medical Center of Laguna currently faces challenges in accommodating both inpatients and outpatients, specifically in the Cardiology department. Cardiologists at GMC have limited availability in their area, causing frustration among patients desperately seeking assistance from healthcare professionals. Each day, the cardiologists at GMC have only a specific schedule to attend to patients, and the paper-based system slows down the process of assessing those at risk for heart disease.

This research aims to develop a web-based electronic patient medical records system with API-driven data analytics and a referral system to provide timely and accurate insights for managing patients at risk of heart disease. Leveraging advanced data analytics will enable healthcare professionals to better identify, monitor, and treat individuals at various risk levels, ultimately improving patient outcomes and reducing mortality rates associated with heart disease. Our referral system will facilitate immediate contact with other hospitals if referrals are needed due to a patient's condition, allowing for the swift transmission of patient details to ensure timely care.

These challenges highlight the need for innovation in patient data collection processes at the Global Medical Center of Laguna. Implementing pie and bar graphs to filter patient age and gender will further categorize records into low, medium, and high-risk categories for heart disease. This research will provide a comprehensive analysis of the effectiveness of an Electronic Patient Medical Records System with API-Driven Data Analytics for heart diseases at the Global Medical Center of Laguna.



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Through rigorous data collection and analysis, the study aims to contribute valuable insights and recommendations to enhance data collection, maintain real-time updates, and better manage heart disease risk among patients.

Objectives of the Study

General Objectives

The general objective of the study is to develop an Electronic Patient Medical Records API-Driven Data Analytics system for Heart Diseases at the Global Medical Center of Laguna. This system will focus on improving the monitoring of patients who may be at low, medium, or high risk of having heart disease, providing real-time updates, and implementing a referral system.

Specific Objectives

1. To develop a web-based system that will monitor the level of risk of a patient with heart disease using Google API driven data analytics charts

2. To develop and design a system using API driven data analytics to monitor a patient's medical records with the following functionalities:
 - 2.1. Using 2D echocardiography report for Monitoring the percentage of patients at low, medium, or high risk of heart disease.



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- 2.2. Implement a referral system that can transfer patients to other hospitals if the Heart Station is unable to handle the patient due to equipment limitations or the patient's condition.
- 2.3. Assign employees based on their profession related on heart diseases and risk levels effectively.
3. Determine the assessments of the end-users regarding the proposed system in terms of:
- Functional suitability;
 - Reliability; and
 - Performance efficiency;
4. Determine the assessments of the IT experts with regards to the proposed system in terms of:
- Functional Suitability;
 - Reliability;
 - Performance efficiency: and
 - Security;



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Scope and Limitations

The proposed project aims to develop a web-based Electronic Patient Medical Records (EPMR) system with API-driven data analytics, specifically focused on managing heart disease cases at the Global Medical Center of Laguna. To ensure patient data privacy, the system will restrict access to authorized users only, including administrators, physicians, nurses, medical assistants, and other necessary healthcare staff. This system will be implemented at the Global Medical Center of Laguna, located at National Highway, Barangay Banlic, Cabuyao City, Laguna 4025.

The following were included as features of the proposed system:

1. Assigning employees to the Cardiology Department at Global Medical Center of Laguna Based on the physician's and medical staff's profession.
2. Assessing individuals with clinical symptoms and categorizing their risk of heart disease as low, medium, or high risk.
3. The percentage of individuals with heart disease offers insight into the situation at the Global Medical Center of Laguna, emphasizing how many people may be impacted by this condition.
4. The referral system will streamline the process of transferring patients to other hospitals when essential equipment is either unavailable or undergoing maintenance
- .



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5. Register patient, View, Manage, Discharge and transfer the patient to other Hospital.
 6. Generates reports about the patient including the pharmaceuticals records.
 7. Pharmacy category which the user can add, view and manage Pharmaceuticals.
 8. Add Prescriptions to give basic treatment from the Doctor.
 9. Transfer medical staff and physicians within the cardiology department's sub-departments, including areas such as patient registration, laboratory, cardiothoracic surgery, cardiac anesthesiology, and other medical staff roles..
 10. Implementing laboratory reports and patient vitals for more accurate data.
 11. Password reset allows users to recover a forgotten password through their email.
 12. Backup and restore functions allow users to recover specific data or entire sets of information that may have been lost, unintentionally deleted, or affected by system issues.

The Electronic Patient Medical Records API-Driven Data Analytics for Heart Diseases system has several limitations that affect its overall performance and its ability to support the healthcare institution effectively. The system's primary focus on heart disease is useful for addressing specific needs related to cardiac care, but it



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restricts the system's ability to manage or support other medical conditions. Additionally, access to the system is restricted to healthcare professionals within Global Medical Center of Laguna, meaning it can only be utilized within this facility. The system also relies solely on laboratory tests and 2D echocardiography reports to generate patient symptoms, with no capability to input imaging studies or other types of reports. This restriction limits the data available for patient assessment and may make it challenging to provide a comprehensive view of the patient's overall health.



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Significance of the Study

The study conducted by the researchers is expected to be beneficial to the following:

1. **Patients** – Patients will benefit a lot from this system because it can help doctors detect heart disease earlier whether low, medium, high-risk chance of having heart disease and provide treatments that are specifically suited to each patient. This means patients can get better care and have better health outcomes. They will also spend less time waiting and have more personalized interactions with their doctors
2. **Healthcare Professionals** - Doctors, nurses, and other healthcare workers will find their daily tasks easier and more efficient. The system will reduce the amount of paperwork they need to do and provide a simple, user-friendly interface. This will allow them to spend more time caring for patients and less time on administrative duties. It will also keep them up to date with the latest information on treating heart disease.
3. **Healthcare Administrators** - Hospital and clinic administrators will be able to use accurate and easily accessible data to make better decisions about staffing and resources. They can track trends and patient outcomes to improve overall care quality. This will lead to higher patient satisfaction and more efficient healthcare operations.



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4. **Future Researchers** - This study will provide valuable information for other researchers working on healthcare technology. They can use the findings to build even more advanced systems and continue improving how we manage and treat diseases. The methodologies and insights from this research will be a useful reference for developing new innovations in medical data analysis and patient care.

5. **Global Medical Center of Laguna** - This system will greatly benefit the Global Medical Center of Laguna by improving how heart disease is managed and treated. It will support the clinic's mission to provide high-quality care by giving doctors the tools they need to make better decisions and reduce the amount of time spent on administrative work. This will enhance the overall experience for patients and staff, solidifying the clinic's position as a leader in healthcare.



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Definition of Terms

Conceptual Terms

Electronic Patient Medical Records (EPMRs)

Digital versions of patients' health information, including medical history, diagnoses, medications, treatment plans, immunization dates, allergies, radiology images, and laboratory test results, are stored in electronic format [24].

API (Application Programming Interface)

An API is a set of rules, protocols, and tools for building software and applications. It defines how different software components should interact with each other [25].

Data Analytics

The process of examining large datasets to uncover patterns, correlations and insights that can inform decision-making and improve business outcomes [26].



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Heart Disease	A general term for various conditions affecting the heart's function and structure, including coronary artery disease, heart attacks, heart rhythm problems, and more.
Risk Categories (Low, Medium, High)	Classifications are used to evaluate the likelihood of a patient developing heart disease based on clinical assessments, demographic data, and diagnostic tests.
Patient Demographics	The statistical characteristics of a patient population, including age, gender, ethnicity, and other relevant factors that influence health outcomes
Clinical Symptoms	The observable and reported signs and symptoms of a patient's condition, used by healthcare professionals to diagnose and treat medical issues.



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Technical Terms

Data Visualization

Refers to the graphical representation of data and information, it involves the use of charts, graphs, maps and other visual elements to communicate complex data in a clear and understandable manner [28].

2D Echocardiography

A medical imaging technique that uses ultrasound waves to create two-dimensional images of the heart, providing detailed information about its structure and function.

User Interface (UI)

The part of a software application through which users interact with the system, designed to be intuitive and easy to navigate.

Real-time Updates

The process of continuously updating data as it is collected, ensuring that the most current information is available for decision-making and patient care.



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Google API

A set of application programming interfaces developed by Google, allowing access to Google services, often requiring internet connectivity to function.



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CHAPTER II

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REVIEW OF RELATED LITERATURE AND STUDIES

This chapter summarizes the body of literature and research related to the use of electronic medical records (EPMR) and API-driven data analytics in cardiac diseases, incorporating findings from academic articles, books, journals, and other published and unpublished materials to provide a comprehensive understanding of the theoretical and empirical foundations underlying this research.

Conceptual Literature

Technologies are continuously evolving in EPMR. To seamless the process of EPMR, AHRQ and The National Alliance for Health Information Technology [1] illustrate that authorized clinicians and healthcare professionals may create, collect, manage and consult an electronic record of health information on everyone. In addition, these systems may facilitate the flow of information and improve the quality and safety of patient care. In contrast, as discuss by True North [2] that paper medical records need physical space for storage purposes, lack of backups and security limitations, manual written process, inconsistent layouts and lastly, paper records don't have built in version histories and audit trails affecting the overall patient experience. The EPMR as highlighted by Divya [3] are beneficial for both patients and hospitals by saving physical space, boosting patient care, reducing errors, enabling outreach, check treatment conflicts and avoid duplicate tests. Additionally, Apolo Telehealth [4] considers the implementation of electronic medical records reduces



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costs, protects patient data and facilitates transparent communication between healthcare professionals. Plus, it's flexible enough to adapt to the changing needs of healthcare. Moreover, EMRs may be used to track a patient's medical history, diagnosis, prescription, treatment schedule, immunization records, dates of allergy shots, radiology photos, laboratory and test results as essential components for health information technology [5].

The transition to electronic medical records adapts quickly to the changing needs of healthcare, making it easier for the hospital to manage and store patients' data. Xenia says that PROMIS stands for Patient Reported Outcomes Measurement Information System emerge to generate a patient's electronic record to let third party verify the doctor's diagnosis. Dr. Lawrence Weed, who invented the earliest version of EMR wants to address and enhance clinical data management via interactive, touchscreen systems. In addition, the Regenstrief Institute, a research organization based in the USA developed the first electronic medical record in 1972. Wherein it has a significant development in the healthcare sector, particularly in health care and practice. However, only public hospitals were able to use it because of the high costs involved in its implementation and maintenance during this period. Furthermore, later in the 1990s, along with the spread of the internet and the world wide web, computers became more accessible and cheaper to the public. The 2 USA Presidents which are George Bush who promoted the need for industry wide adoption of electronic medical records system and Barrack Obama further pushed and supported the former President by writing a law aimed to provide more funding and incentives for healthcare professionals who use EMRs in their activities. Because of these actions, companies worldwide started developing more and more EMR systems and packages [6].



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Data Analytics, highlighted by Cprime [7] identifies how to improve the delivery of healthcare services in line with each patient's individual approach. Analytics allow your staff to be more efficient, coordinate care better and reduce administrative workload. Also, Zakharov et al [8] and Rostamzadeh et al [9] says that electronic medical records, including medical history and laboratory results, are like a treasure chest of patient information. These data are used by researchers to predict the risk of cardiovascular disease before symptoms appear. For valuable information, they have come up with clever ways of extracting these records. In addition, key indicators for risk models can be identified using special tools. It helps generate a digital image of the patient's health, which is essential for detecting potential problems before they occur. Visual Analytics tools, allowing physicians to track symptoms and test results over time and detect diseases before they occur, help us understand all this data.

Standard functions for the management of heart disease are incorporated into EMRs to ensure efficient and comprehensive treatment. These include features like recording patient symptoms, tracking vital signs, scheduling appointments for cardiac tests or consultations, ordering and reviewing diagnostic tests such as ECGs or echocardiograms, prescribing medications like blood thinners or beta-blockers, and monitoring changes in cardiac health over time. Each of these functions plays a role in ensuring timely and personalized care for patients with heart disease by physicians and nurses [10].



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Review of Related Literature

Electronic Medical Records. Electronic Medical Records (EMRs) are fundamental aspects of modern healthcare experiences and operations, with the EMR system serving as the initial point of interaction between patients and healthcare providers. EMRs digitize patient charts, capturing medical and treatment histories in one practice, enabling doctors to track data over time. An electronic medical record is a computer database of health information about a person that is linked to a person identifier, with the application environment being a hospital and including all healthcare services being the responsibility of the health care provider [11]. EMRs are another set of unstructured, structured data stored in digital format at healthcare providers' offices and hospitals. This data, once curated, is a very good source of information to build patient timeline comprising of medical and treatment history of patients. In the doctor's or hospital's office, it's a digital copy of the paper charts [12].

Benefits of Electronic Medical Records. Another study says that electronic medical records are widely regarded as a key factor to improve healthcare quality and safety, reduce adverse events for patients, decrease costs, optimize processes, increase patient outcomes through better scientific research and achieve best results [13]. EMRs are important to implement because they reduce the workload, costs and errors of doctors. Easy access to patient information, which ultimately contributes to improving the safety of patients and decision making as regards diagnosis, allergic reactions or drug duplication, is also provided by electronic medical records for physicians and healthcare professionals.

In addition, because of the efficiency of the health care process, electronic medical records are beneficial to patients. Therefore, the literature on the use of electronic

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medical records in terms of service quality and patient satisfaction was examined in this study [14]. Also, through electronic medical records, the health industry in Indonesia has adopted technology and digitalization. Patients' records and documents containing information on the identity, examination, treatment or other health care services of patients are medical records. It is implemented as a type of administrative regulation in healthcare facilities. research, educational resources, care and treatment of patients may be based on medical records, among other things. To ensure optimal provision of health services, the implementation of information systems and electronic medical records can be maximized by increasing user acceptance of the system [15]. Additionally, Electronic Medical Records (EMRs) are one of a range of digital health solutions that are key enablers of the data revolution transforming the health sector. For health professionals, patients, researchers and other key stakeholders, they offer a wide range of benefits [16].

Challenges in Electronic Medical Records. In contrast, factors that influence the acceptance of hospital information systems and electronic medical records include perceived usefulness, perceived ease of use, human related factors such as demographics and a person's environment, technological factors, organizational and environmental factors, effort expectancy and longevity [17]. Furthermore, most common challenges highlighted were high cost of EMR implementation, lack of training, insufficient information technology personnel support, poor acceptance of new technology, confidentiality, and privacy concerns [18]. To address the economic and human factors challenges to improve EMR use and acceptance, it is necessary for decision makers to understand the difficulties of using EMR technology in health care settings [19]. Nevertheless, there are also challenges in the field of electronic medical records, e.g. dysfunctional working processes and



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obstacles to using them, including insufficient training and lack of user awareness [20]. Furthermore, these challenges included feature completeness and reliability, as well as poor communication from IT regarding feasibility of achieving required program features and in addressing EMR issues once implemented. Interestingly, the clinical team implementing the EMR had no control over the main challenges of the implementation of the EMR. According to the literature, a major obstacle to the use of electronic medical records by staff and to making health data more accessible is the lack of infrastructure and technical support. [21].

Functions of Electronic Medical Records. They contain a wide range of information on the patient's medical history, past diagnoses, medicines, vital signs, treatment records and other important data that are used to make health decisions and develop potential therapy options. EMRs are used in primary care, public hospitals and healthcare facilities [22]. Furthermore, EMR, which is created by electronically recording routine procedures, such as laboratory procedures, imaging, nursing, billing, and pharmacology, related to diagnosis and treatment procedures carried out in the healthcare organization or by manually entering data, is one of the basic components of the DHS. Created in different departments, at different times, and by different healthcare professionals, electronic medical records provide multidisciplinary and multiuser access to the storage and use of health records, play an important role in providing treatment services, follow up or remote care for patients with chronic conditions; identifying diseases and improving clinical decision making; and increasing healthcare efficiency [23].

Application Programming Interface. The application programming interfaces in electronic medical records are fundamental to healthcare experiences and operations



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and serve as the first point of contact between healthcare providers and patient data. They improve the efficiency of data collection and analysis, making it easier for patients to access their medical records and integrate them. APIs help improve the delivery of healthcare and support comprehensive patient care through simplification of data flows.

This connectivity helps doctors quickly gather patient information, make informed decisions, and provide better care. As federal and nongovernment stakeholders seek solutions to interoperability challenges, interest in application programming interfaces is growing as a means of making it easier for patients, health care providers and payers to access and share medical data [24].

Characteristics of Application Programming Interface. Data standardization, ensuring information is in a consistent format regardless of its source, has been the starting point for effective API integration into EMR systems. This standardization facilitates the integration process and allows seamless communication between various systems, such as a unified translator of data. EMR APIs must also work well with EHR systems, creating a complete patient record so doctors have all the information they need. Moreover, to adapt to the evolving healthcare landscape, and ensure that they continue to be strong as organizations develop, those APIs should be scalable and flexible. To protect patient data, security is paramount, as APIs comply with regulations such as the Health Insurance Portability and Accountability Act. Finally, access to real time data is essential in providing healthcare professionals with the most up to date information so that they can make more informed decisions for improving patients' care [25].



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Benefits of Application Programming Interface. Moreover, the integration of EMRs with APIs is crucial for the transformation of patient care and healthcare documentation in the healthcare technology sector. To ensure that vital patient information is transmitted quickly and securely, this technological bridge promotes the smooth exchange of data between EMRs. In the healthcare sector, the integration of electronic medical records is having a profound impact, improving efficiency and streamlining processes for healthcare providers [26]. Integrating electronic medical records into an API is not just a technical solution; it's the catalyst that drives HealthTech ecosystem evolution [27].

Challenges in Application Programming Interface. There are several issues related to the integration of API's into EMR systems, including interoperability. Due to differences in data formats and coding standards, different EMR software are often unable to communicate effectively. In addition, because healthcare data must be kept private and compliant with regulations such as the Health Insurance Portability and Accountability Act, it is important to ensure their security and compliance. In view of the unique needs of healthcare organizations and the need to cope with growing data volumes without losing efficiency, customization and scalability add another layer of complexity. In addition, the adoption of this method may be slowed down by resistance from health professionals who are accustomed to conventional methods. Furthermore, the implementation and maintenance of these integrations can entail substantial costs which may be a barrier for small practices that have limited resources [28].

Function of Application Programming Interface. In the field of health care, APIs allow for the sharing of data of mutual interest between different health IT systems,



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regardless of the vendor, the region, the health system, etc. In addition, they allow for virtually immediate access to data, e.g. right place, right time for health care providers; and they create an opportunity for third party developers to develop interoperable solutions that supplement or complement traditional vendor health IT [29]. Moreover, the electronic medical records integration API is a dynamic interface that facilitates the exchange of medical information between different platforms. Its main features include the different types of data, making it possible for a variety of activities to exploit its interconnectedness [30]. Furthermore, implementing strong authentication and authorization mechanisms to secure API access, in order to guarantee that patients' data are safe and protected, robust authentication and authorization mechanisms need to be put in place for integration with the API [31]. Providing comprehensive documentation and developer support for seamless integration by guiding developers to use APIs effectively, clear and detailed documentation is helping ensure a smooth integration [32].

Data Analytics. Analytics turn raw data into actionable information. A number of tools, technologies and processes used to identify trends and solve problems through the use of data are included. Business processes can be shaped by data analysis to improve decision making and promote growth of companies. Data Analytics allows companies to see more clearly and better understand their processes and services. They will gain a deeper understanding of the customer experience and their problems. By shifting the paradigm beyond data to connect insights with action, companies can create personalized customer experiences, build related digital products, optimize operations, and increase employee productivity [33]. Data Analytics is the science of analyzing data in order to arrive at conclusions about information. In many data analysis techniques and processes, mechanical methods and algorithms were



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automated to work with raw human consumption data. In order to optimize performance and maximize profitability, data analysis can be used by a variety of entities like enterprises. To that end, the collection and analysis of raw data is carried out using software or other tools. Several sectors, e.g. the travel and hospitality sector, have taken advantage of data analytics to speed up their turnaround times. Another area where the use of large volumes of structured and unstructured data can be combined is healthcare, and data analysis can help to make quick decisions. In order to meet the ever-changing needs of consumers, the retail sector also relies on large quantities of data [34].

Benefits of Using Data Analytics. There is a great deal of data generated by the healthcare sector. However, until healthcare professionals and experts are able to refine and analyze the data in order to deliver reliable forecasts, it is of limited relevance. The importance of big data and analytics in health care has been underlined by the COVID-19 outbreak. Various types of healthcare analyses, such as risk assessment analytics, operational analysis and prediction Analytics, were highlighted in the report. Analytics of healthcare data have become very important today [35]. Clinical decisions are transformed by data analysis in healthcare, and high-risk patients are quickly and accurately identified.

This will increase the efficiency and cost effectiveness of healthcare, by improving electronic health records with precise information about patients. It enables a personalized approach to care and preventive treatment through the integration of data from fitness devices and patients' sources, as well as real time alerts. This approach, in the end, promotes a proactive, patient centered care environment by ensuring timely and informed responses from healthcare providers [36].



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Challenges in using Data Analytics. Due to the variety of sources and formats, it is difficult to capture accurate health data. Only 23.5% of the EHR data were compatible with patient reports in an ophthalmologist's clinic. 80% of serious medical errors are caused by failure to communicate during care transitions. It is essential to ensure clear, safe and comprehensive data while balancing the manually or automatically updated versions. It is also essential that organizations have effective data visualization and seamless document processing, but too many are struggling to do this which could result in potential errors or frustration for patients [37]. It is essential to understand the difficulties of applying patient data for clinical analysis, with a view to maximizing possible benefits while ensuring privacy and security. There is often a lack of structured and fragmented data in the healthcare sector, which makes it difficult to aggregate and analyze. The accuracy of the information is further hampered by the lack of data and data sparsity. Due to the delicate nature of medical information, security concerns are very important. Also, this complexity is exacerbated by a lack of standardization and data inconsistencies, which make it difficult for information to be shared and analyzed between systems. Moreover, considerable obstacles exist around data distortion and high costs for storage and transfer. To achieve effective and secure data analysis in healthcare, it is essential to address these challenges through robust techniques and standards [38].

Function of Data Analytics. For the purpose of determining trends and making better decisions, data analysis is a process to analyze raw data. All types of organizations, in particular health care organizations, are affected. Moreover, it's vital to analyze data in health care. According to Harvard Business School, it's helping health care organizations assess and develop professionals, spotting anomalies in scans that could indicate outbreaks of disease. In addition, healthcare organizations can reduce



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the cost of data analysis and improve their business intelligence. It will help health care providers make more informed decisions on the treatment of patients [39]. Patients' access to services and reduced costs can be greatly enhanced by data analysis in the healthcare sector. Hospitals achieve significant cost savings through the digitization and updating of patient health records in real time. Analytics can help predict operating room demand, optimize staffing by anticipating challenges based on trends and prevent costly 30-day hospital readmissions. It also predicts no-show appointments, improving scheduling and reducing wait times. Tracking metrics makes it easier to manage costs in the supply chain, while at the same time improving security prevents fraud by detecting irregularities. Analytics, in addition, reduce the incidence of medical errors by detecting anomalies and improving safety and quality of care [39].

Heart Disease. A disease that affects the heart and blood vessels. The risk of certain heart diseases may be increased by smoking, high blood pressure, high cholesterol, unhealthy diet, lack of exercise, and obesity [36]. Also, heart disease is a general term that includes many types of heart problems. It's also called cardiovascular disease, which means heart and blood vessel disorders [37]. Heart disease encompasses various conditions that affect the heart, including blood vessel diseases like coronary artery disease, irregular heartbeats (arrhythmias), congenital heart defects, diseases of the heart muscle, and heart valve disease. Healthy lifestyle choices such as a balanced diet, regular exercise and avoidance of smoking can help to prevent or control these diseases. Individuals can significantly reduce their risk of heart disease and lead a healthier life by taking proactive steps [37]. Additionally, a variety of conditions that affect the cardiovascular system are associated with heart disease, each affecting different parts of the heart and blood vessels. A clogged artery, which reduces the flow of blood to the heart, is a common cause of cerebral artery disease.



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Congenital heart defects are present from birth, including issues like atypical valves or septal defects. Arrhythmias cause irregular heartbeats, while dilated cardiomyopathy weakens the heart muscle. Myocardial infarction, or heart attack, occurs when blood flowing to the heart is blocked. Heart failure, hypertrophic cardiomyopathy, mitral valve regurgitation, mitral valve prolapses, and aortic stenosis further illustrate the range of heart diseases. Despite these different conditions, healthy lifestyle choices and early medical intervention can manage or prevent many types of heart disease [38].

Review of Related Studies

Utilization of EMR. The potential for transforming healthcare in terms of saving costs, reducing medical errors and improving data quality could be achieved by the adoption of electronic medical records systems in health services. Nevertheless, these systems have not been put in place and used at the expected scale despite a large effort to use electronic health records. Also, EMR is computerized medical information systems that collect, store and display patient information. Many information, such as socioeconomic characteristics, insurances, medication details of the present and history, Allergies, Lab and Test Results; Immunization, Medical Treatment and Hospitalization History; Progress Assessment & Others can be considered. under the protection of security, patient privacy and confidentiality. They're a means of making legible and organized recordings, as well as accessing clinical information about individual patients [39]. It is important for the future of electronic health services to determine the attitudes of physicians and nurses towards electronic medical records (EMR) in communication and sharing information (CSI), the type of medical record they prefer and the main problems they experience. To this end, a study was carried



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out in a university hospital with a capacity of 963 beds in Trkiye in 2022 to collect data on this subject [40]. To reduce costs, increase efficiency and improve the quality of care, the adoption of ICT systems in the field of health care in the form of electronic medical records has been promoted. In Kenya, EMR is rapidly being implemented in healthcare facilities of both Government and Private sectors. For example, partial success has been achieved in the implementation of electronic medical records as a patient billing component is now fully utilized, the patient clinical data capture of the system remains underperforming in the context of holistic healthcare, questions arise as to its usability and usefulness management functions [40].

Application of API. New applications are integrated with existing software systems using application programming interfaces. This will speed up the development process because you don't have to write every feature on its own. API can be used for leveraging the current code base [41]. The US policy initiatives are focused on improving health data interoperability through application programming interfaces (APIs) and could have a profound impact on many aspects of the delivery of healthcare, e.g. innovativeness, operational efficiency as well as patient centered care [41]. Healthcare APIs improve patient outcomes by increasing cooperation between healthcare professionals and patients, which leads to a better user experience, more care, and feasibility in accessing medical data. In addition, this should be particularly born in mind for patients with complex health histories or illnesses that may make it hard to track their healthcare information and frequently see a wide range of providers. Patients do not want to be passively involved in the treatment. To allow patients to take part more actively, APIs are essential. They can eliminate the enigma of our health care system through providing patients with access to medical records. When patients have more information about the process, they are likely to take greater care



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of their own health. A major part of data integration strategies is access to patients' health information provided by healthcare organizations [42].

Deployment of Data Analytics. Over the last decades, data analysis has seen a rapid increase in its use in healthcare. Health care areas including image analysis, disease recognition, outbreak monitoring and clinical decision support have been automated mostly using several Data Analytics solutions. Healthcare data analysis studies are often using four popular databases in their initial study search, with a typical selection of 25 to 100 basic studies and the use of research guidelines like PRISMA is increasingly used. The results could, in turn, contribute to relevant and timely literature reviews and systematic mappings as well as the corresponding empirical studies for both data analysts and healthcare researchers [43]. For healthcare executives who are considering data analysis, the journeys of Cleveland Clinic, Kaiser Permanente and NorthShore University Health System provide invaluable lessons to be learned. [44]. Also, the sequence of care may include consultations with your doctor or nurse, recording a diagnosis, performing diagnostic procedures like blood tests and other invasive diagnostics, outpatients or in hospital surgeries, as well as prescription drugs or emergency treatments. The majority of care events are related to health care used by the patient. Patient data is collected in the ambulatory care setting, which reflects their behavior and treatment based on advice from a doctor. This information allows us to analyze the paths of health care and provide important insight. The study of these routes reveals trends that help providers, researchers and policy makers [45].



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Conceptual Framework

An online system of medical records for hospitals is essential for enhancing patient care, improving operational efficiency, and ensuring data security. Such a system facilitates real-time access to comprehensive patient information, allowing healthcare providers to make informed decisions quickly and coordinate care effectively, especially in emergency situations. In relation with the study, by developing a Web-Based system for managing patient data and percentage data of patient that having low, medium or high chance of having heart disease will address the problems encountered by Hospital in recording, monitoring, and keeping track of patients' information specially for those have heart disease.

Using Patient Record and Information System can manage the health care for the patient. It also provides prescribed medication that is needed by the patient in any kind of illness as long as the nurse can handle it. And if not, the laboratory, x-ray, etc. can be requested if necessary. This system is not only to save time or reduce costs, but also a way to improve health care information. On the other hand, the system works to interact with the database. It should be built according to what is expected to implement the system. The data should be accurate when recorded in the database. Therefore, to get the best implementation, the system should be able to interact with the nurse which is a good insight into how Patient Record and information System work efficiently and effectively. The system is directly looking at patient, to represent their information history to provide flexible and accessible information to be more reachable by the school nurse.[46]

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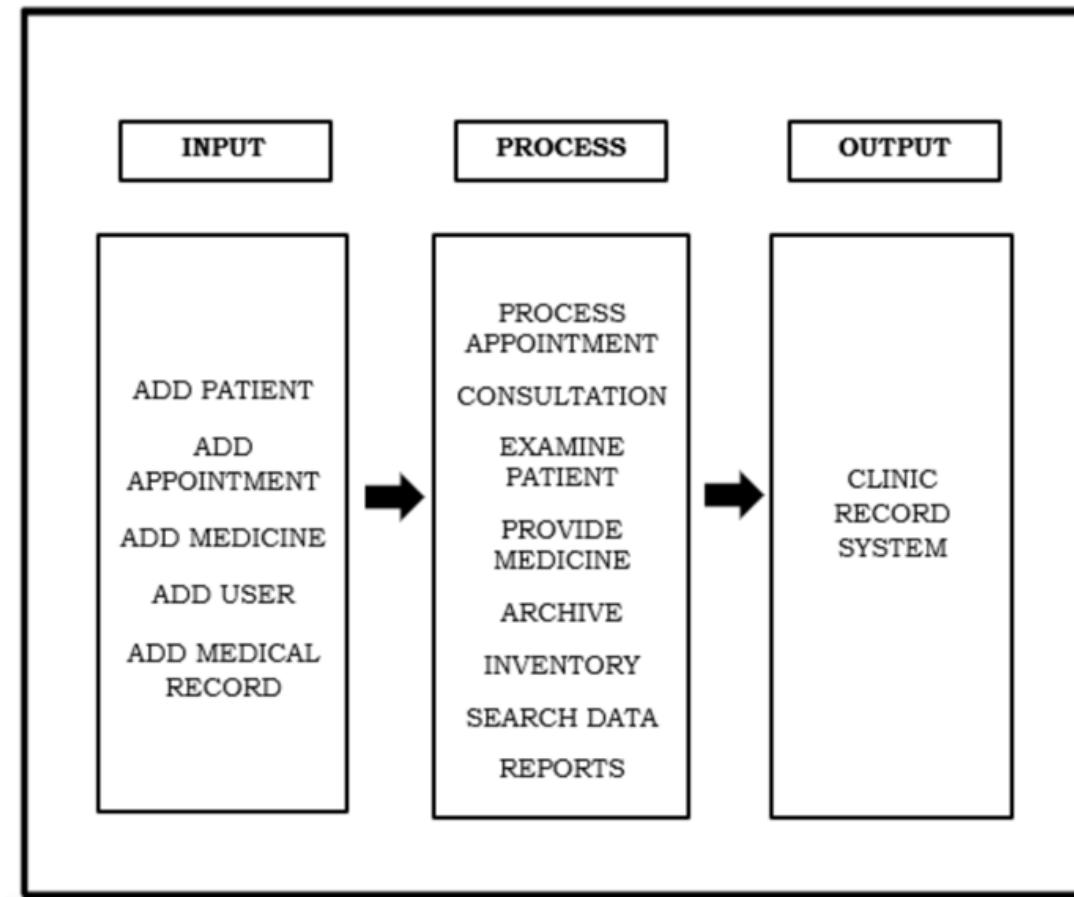


Figure 1. Conceptual Framework

The system user should interact with the patient. Once the patient arrives at the clinic, they must register the information needed and the health history in the system. The system will automatically update the patient information and indicate patient consultation. The nurse will specify if the case is an emergency or not. After the check-up, the system will provide a prescribed medication for the patient. The



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system also has an inventory to monitor the medicines, and a table that shows the illness of patient per month.

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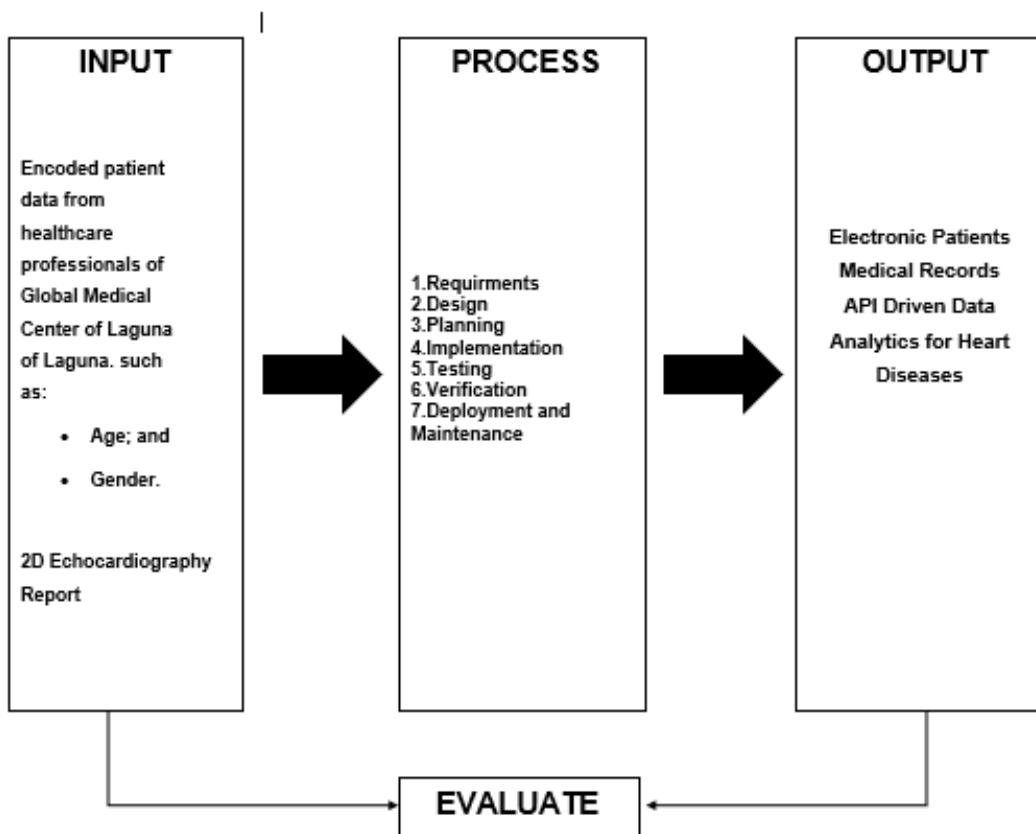


Figure 2. The Conceptual Paradigm of the Proposed Study

Figure 2 illustrates a conceptual paradigm that leverages electronic medical records (EPMRs) obtained from various healthcare institutions and uses API-driven data analysis tools to process and analyze the data to gain insights into cardiac diseases. This paradigm includes three main components: input, process, and output.

The input phase includes the collection of data from patients at the Global Medical Center of Laguna, including necessary information such as their age and



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gender. In addition, when the patient has completed all the requested laboratory tests, specifically the 2D echocardiography report, the healthcare professional will input all the details into the system to determine the patient's risk of having heart disease.

At the process stage, the table shows the entire process from patient check-in to receiving proper healthcare. First, the patient will be asked to complete all necessary data by answering the Digital Forms for Efficient Data Entry, then have their appointment scheduled and wait in the lobby. Second, staff coordination is paramount. Real-time communication and efficient task allocation ensure a smooth workflow, reducing constraints in the patient's journey. This is followed by a proper consultation with their doctor, who will review all present clinical symptoms and request laboratory tests to confirm the diagnosis. One of the necessary tests is the 2D echocardiography, a medical imaging technique used to visualize the heart.

Lastly, the doctor will read the 2D echocardiography report, encode it into the system, and diagnose the patient as being at low risk, medium risk, or high risk of having heart disease. Once the diagnosis is confirmed, the doctor will recommend a possible solution for the patient.

After data integration and cleaning, descriptive analysis techniques are applied to the processed data to provide insights into heart disease prevalence, patient demographics, and treatment patterns. These analytical methods help uncover trends, patterns, and correlations within the data, leading to a deeper understanding of the factors that influence the development and treatment of heart disease.



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Moving into the output phase, the results of the data analysis process emerge in the form of actionable insights and recommendations for healthcare professionals. Through the system, healthcare professionals are able to determine the risk level of heart disease using integrated data analytics. The system provides real-time information on the percentage of people in each age group who are at low, medium, and high risk of having heart disease, presented using a bar graph.

Synthesis

The analysis of literature and studies on electronic medical records (EMRs) and API-driven data analytics in cardiac illnesses identifies key trends and obstacles, underlining the need for additional research. Key issues include EMRs' revolutionary influence, with a focus on technological developments and legislative interventions that drive universal use. EMRs provide considerable benefits, such as improved patient care and simpler data management, but they also face challenges such as high prices and data security concerns. APIs also play an important part in healthcare interoperability, allowing for smooth data sharing while maintaining compliance with standards such as HIPAA. Also, data analytics show promise for early disease identification and individualized patient care, emphasizing the significance of comprehensive data use.

The literature on advanced analytics in Electronic Medical Records (EMR) systems is limited, limiting its full use in clinical practice. Implementation issues like high costs and insufficient training require innovative approaches to improve EMR usability and adoption. The lack of research on the real-world impact of EMR and API integration on patient outcomes underscores the need for empirical evidence.



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API scalability and flexibility are underexplored, emphasizing the need for adaptable frameworks.

The study aims to integrate advanced predictive analytics into Electronic Medical Records (EMR) systems for early disease identification and prevention. It will examine the real-world impact of EMR and API integration on patient outcomes and make evidence-based recommendations. The study will also create and analyze scalable API frameworks to improve healthcare interoperability and data interchange efficiency. The goal is to improve knowledge and application of EMRs and API-driven data analytics in cardiac care.



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CHAPTER III

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METHODS AND PROCEDURES

This chapter provides an overview of the methods and procedures employed in the study. It outlines the design, the rationale for selecting the specific approach, and the procedures followed to achieve the study's objectives.

Research Design

To thoroughly examine and present the processes and requirements for the development of a web-based electronic patient medical records system at Global Medical Center, the researchers adopted a descriptive research methodology. This approach was selected for its capacity to offer a clear and precise representation of the current state and needs related to managing heart disease risk through API-driven data analytics.

Descriptive research facilitates the collection of detailed and reliable data using structured tools such as surveys. By employing these methods, the study aims to gather precise and objective data from healthcare professionals and stakeholders. This approach supports a comprehensive analysis, allowing for the identification and characterization of patterns, relationships, and variations in the data to inform system development.



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Data collection used primary sources such as questionnaires, interviews, and observations to gather important information. Secondary data from credible web sites and scholarly articles augmented this with statistical and contextual information.

Descriptive research methodology was employed to gather essential information about the system. This approach is beneficial for identifying challenges and effectively utilizing the data provided. The insights gathered will help define the system's functionalities and guide its development.

Respondents of the Study

The research took place at the Global Medical Center of Laguna, specifically in the Cardiology Department. The researchers designed questionnaires to evaluate the system's usability, reliability, efficiency, and effectiveness in managing patients with heart disease data. We administered the questionnaires to the health professionals at GMCL. They provided feedback on the system's performance, while patients assessed their satisfaction with the electronic records system and its perceived impact on care quality.

The research population consists of all the professionals in the Cardiology Department at the Global Medical Center of Laguna, which is a multidisciplinary team responsible for managing and treating heart disease patients. The department employs 2 administrative staff members who coordinate records and activities, 6 nurses who provide direct patient care and assist with procedures, 5 cardiac doctors who specialize in diagnosing and treating cardiovascular conditions, 2 cardiac anesthesiologists who focus on anesthesia and perioperative care for cardiac



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surgeries, and 2 cardio surgeons who perform advanced surgical procedures. This broad group provides important insights regarding the system's functionality, usability, and potential to improve patient care through effective data management and integration.

Category	Number of Respondents
Administrative Staff	2
Nurses	6
Cardiac Doctors	5
Cardiac Anesthesiologists	2
Cardio Surgeons	2

Table 1. Respondents of the Study

Statistical Treatment of Data

The researchers will use a purposive sampling technique to properly meet the appropriate and qualified individuals within the whole population of the specified locality. In Purposive sampling technique is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research. [47]



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Evaluation and Scoring

In gathering the data needed for this study, the researcher used a questionnaire-checklist to determine the effectiveness of Hospital Management Information System on Heart Diseases for patients. The rating was used to evaluate the response of medical practitioners of the heart diseases in the survey as follows:

Scale	Range	Description
5	4.20-5.00	Strongly Agree
4	3.40-4.19	Agree
3	2.60-3.39	Undecided
2	1.80-2.59	Disagree
1	1.00-1.79	Strongly Disagree

Table 2. Five-point Likert scale

Ethical Considerations

In our research, we apply the ethical principle of protecting the privacy of each patient's information. It is critical that patient data be protected as we build an electronic patient medical records system with API-driven data analytics. In order to guard against unwanted access and preserve the integrity of the data, we employ stringent security measures, such as encryption, access controls, and frequent audits. Respecting data privacy regulations, such as the **Republic Act No. 10173**, also known as the **Data Privacy Act of 2012 (DPA)**, contributes to the safekeeping of patient data and increases system confidence.



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It is essential that ethical standards be followed in this study to safeguard the welfare and rights of the patients. Because health data is delicate, improper treatment of it can have major repercussions, including invasions of privacy. Patients may make educated decisions and have faith in the privacy of their information thanks to ethical principles that guarantee openness in data collection and safe handling procedures. We promote an ethical and accountable healthcare environment by upholding these principles.

Data Gathering Procedures

The researchers used a range of methods and instruments, such as document reviews, interviews, observation, internet research, library research, and questionnaires, to gather precise data that served as the foundation for their conclusions in the study "Electronic Patients Medical Records API- Driven Data Analytics for Heart Diseases."

Data Gathering Tools

A questionnaire intended to obtain quantitative input on the proposed electronic medical records system for heart disease risk assessment at Global Medical Center of Laguna will serve as the main data collection tool in this project. Respondents can use a rating scale ranging from Strongly Agree to Strongly Disagree to express their ideas in response to structured, closed-ended questions in this survey. This format offers a straightforward, quantifiable method for collecting data that can be statistically examined to assess the system's overall influence on patient care as well as its dependability and usability.



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The survey will be made available online and in print to improve accessibility. For participants who would rather reply in person, printed copies will be provided; for those who are unable to respond in person, an online format will be available via platforms such as Google Forms. This two-pronged strategy will help guarantee efficient data collecting from many participants.

The quantitative research design that underpins this data collection strategy will enable an analytical review of the responses. Better management of patient data related to heart disease at Global Medical Center of Laguna will result from the findings, which will provide insightful information on system performance, user experience, and possible areas for improvement.

Data Analysis Plan

To ensure a thorough understanding of system performance and user satisfaction, the data analysis method for assessing our electronic medical records system for Global Medical Center of Laguna will include several crucial elements. Preparing the data, applying statistical techniques, displaying the results, and analyzing the data to get actionable insights are important phases.

To ensure data accuracy, the questionnaire responses will first be safely assembled and examined to eliminate any discrepancies. To clearly show trends and user input on aspects like usability and reliability, the structured data will next be represented using a variety of charts and graphs. Any new patterns can be easily identified with the help of this visualization.



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The next step will be descriptive analysis, which will emphasize key user opinions of the system's effectiveness and evaluate responds using averages and other important metrics. This study will be aided by statistical tools such as Microsoft Excel, which will enable us to notice general feedback and pinpoint areas of success and possible improvement. By following these procedures, the research will give a comprehensive picture of how effectively the system meets the requirements of Global Medical Center of Laguna healthcare professionals, which will eventually inform suggestions for system improvement. The descriptive analysis includes weighted mean and standard deviation to determine the level of Functional Suitability, Performance Efficiency, Interaction Capability and Compatibility. Also, inferential statistics particularly ANOVA will be used to test the Health Management Information System impact to patients and medical practitioners of heart diseases.

System Development

The design phase of system development is critical for laying a solid basis for the planned electronic medical records system at Global Medical Center of Laguna. The study team will use the Waterfall Methodology, a linear and sequential method for software development. The Waterfall model requires that each step be completed before going on to the next, resulting in a predictable progression through the stages of requirement collecting, design, implementation, testing, and maintenance.



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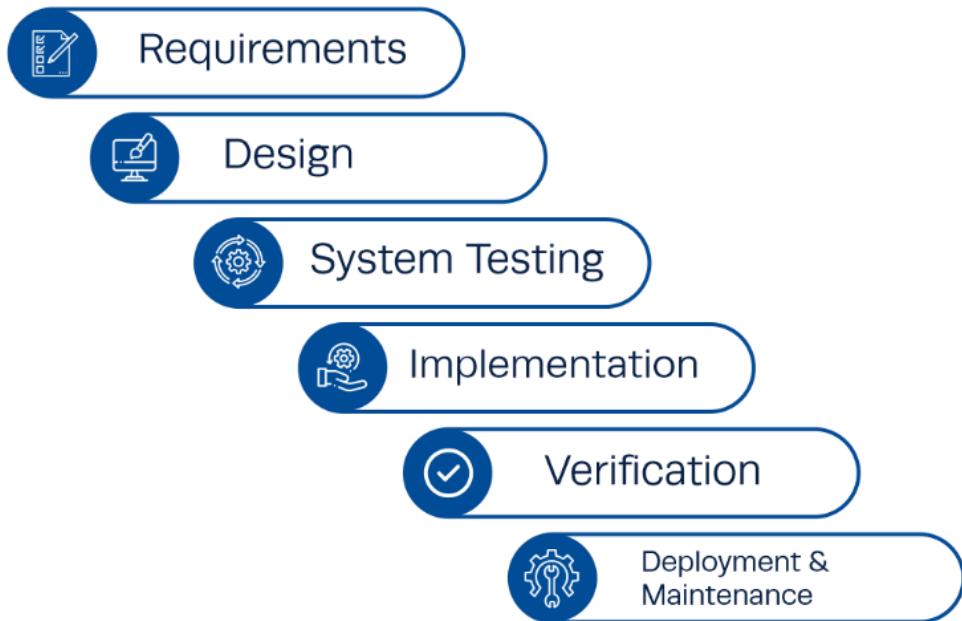


Figure 3. Waterfall System Development Methodology

The Waterfall Model allows for a clear focus on one step at a time, making development more manageable and ensuring that all functional requirements are adequately documented and met. Each phase will provide specified deliverables, such as clear functional specifications, design diagrams, and a fully tested system, allowing for effective communication and coordination among team members. To structure and visualize the system's functionalities, the Waterfall methodology recommends using UML diagrams such as Data Flow Diagrams (DFDs) to depict the flow of information within the system and Entity Relationship Diagrams (ERDs) to define the relationships between various data entities. These visual tools help to clarify procedures, connections between data, and workflows, which leads to more effective planning and implementation. The implementation of the Waterfall model will ensure that the



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electronic medical records system is methodical and orderly. This technique guarantees that the system is constructed in accordance with the defined criteria and design standards, resulting in a reliable and user-friendly solution that meets the needs of Global Medical Center of Laguna healthcare personnel and patients.

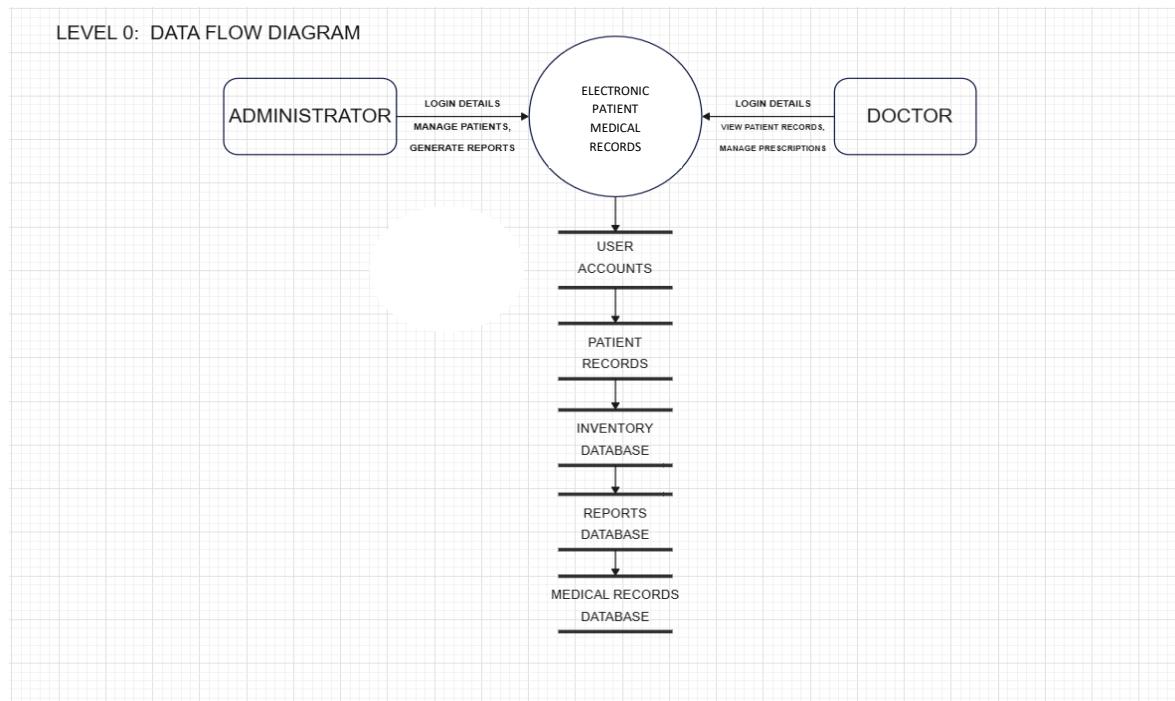


Figure 4. Level 0 DFD

The Level 0 data flow diagram shows the high-level interactions of a Hospital Management System. This graphic shows two primaries, the Administrator and the Doctor, who interact with the central Hospital Management System for a variety of procedures. The Administrator manages patient information, generates reports, and provides login credentials, while the Doctor uses the system to check patient records and handle prescriptions after logging in. The system communicates with a number of critical data storage components, including User Accounts for credential



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management, Patient Records for storing patient data, an Inventory Database for tracking medical supplies, a Reports Database for storing generated reports, and a Medical Records Database for comprehensive patient medical histories.

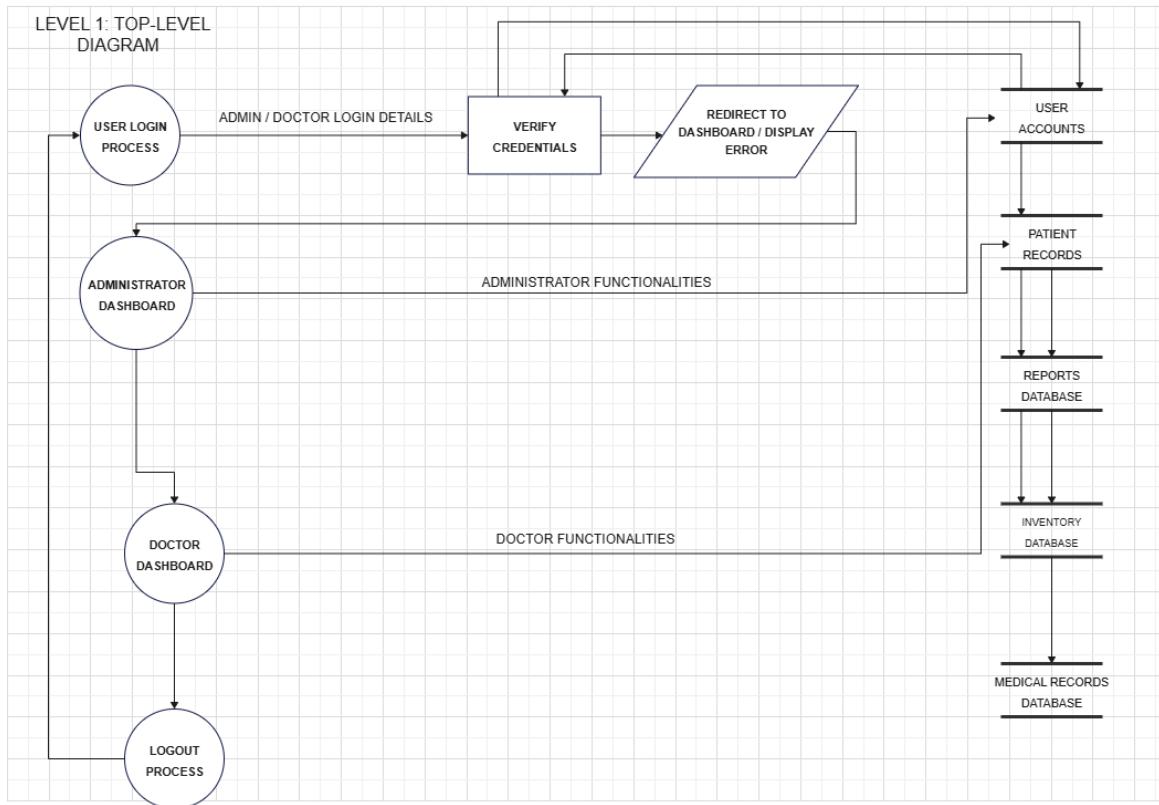


Figure 5. Level 1 DFD

The Level 1 top-level diagram provides a more detailed view of the interactions within the Hospital Management System. The process begins with the User Login Process, where administrators or doctors input their login details. These credentials are then verified by the system. If the credentials are valid, the user is redirected to their respective dashboard; otherwise, an error message is displayed. The Administrator Dashboard provides access to a variety of capabilities, including



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maintaining patient information and creating reports, while the Doctor Dashboard is designed for checking patient records and managing prescriptions. Both dashboards communicate with critical data repositories such as User Accounts, Patient Records, Reports Database, Inventory Database, and Medical Records Database, guaranteeing that users can access and manage data efficiently. The graphic also provides a Logout Process for safely terminating the user session.

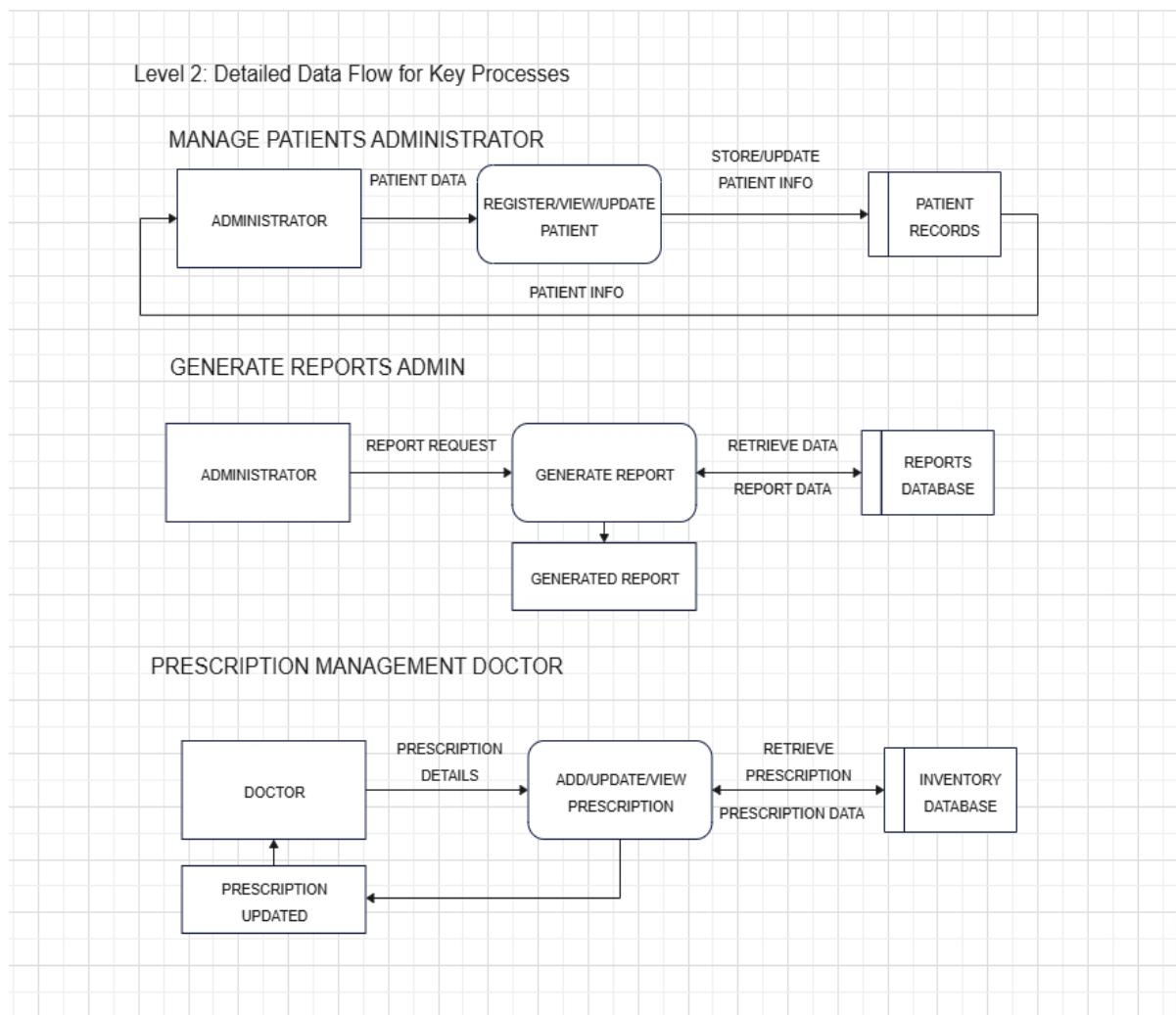


Figure 6. Level 2 DFD



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This Level 2 data flow diagram provides a detailed breakdown of key processes within the Hospital Management System. It shows the interactions involved in managing patients, generating reports, and handling prescriptions. In the Manage Patients process, the Administrator registers, views, or updates patient information, which is stored in the Patient Records database. This ensures that patient data is kept current and accessible. The Generate Reports process begins with the administrator requesting a report. The system retrieves relevant data from the Reports Database and compiles it into a generated report, which is then provided to the administrator. For Prescription Management, the Doctor adds, updates, or views prescription details. The system accesses the Inventory Database to retrieve and update prescription data, ensuring that the medical inventory is properly managed, and prescriptions are up to date. These detailed data flows highlight the specific roles and interactions between users and databases, enhancing the efficiency of hospital operations.



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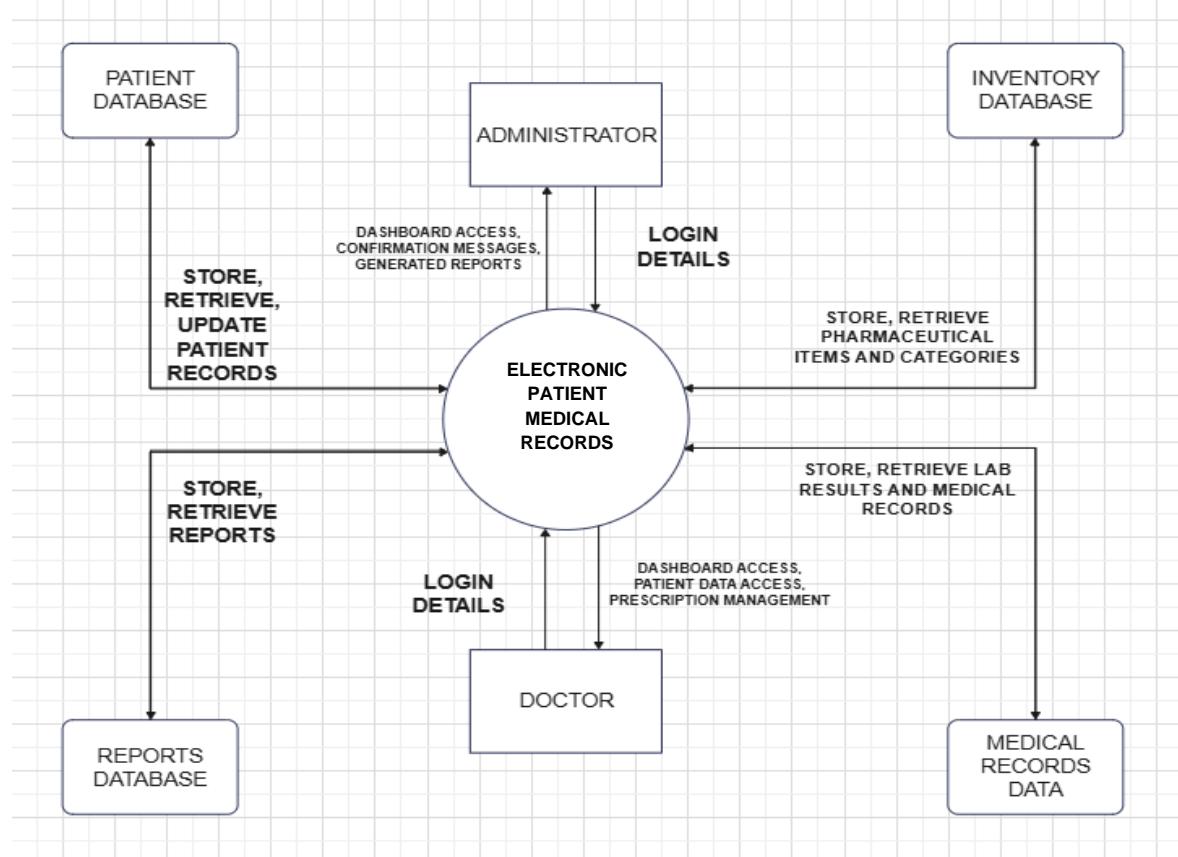


Figure 7. Context Diagram

The Hospital Management System (HMS) represented in the diagram functions as a central platform for linking numerous databases and users in a hospital setting. This system streamlines hospital operations by integrating important components such as the Patient Database, Inventory Database, Medical Records Data, and Reports Database. Key users, like Administrators and Doctors, utilize login credentials to access the HMS and execute certain functions. Administrators manage dashboard access, issue confirmation messages, and generate reports, as well as handle



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pharmaceutical inventories via interactions with the inventories Database. Doctors, on the other hand, use the system to obtain patient information, manage prescriptions, and check lab results and medical records, which are maintained in the Medical Records Database module.

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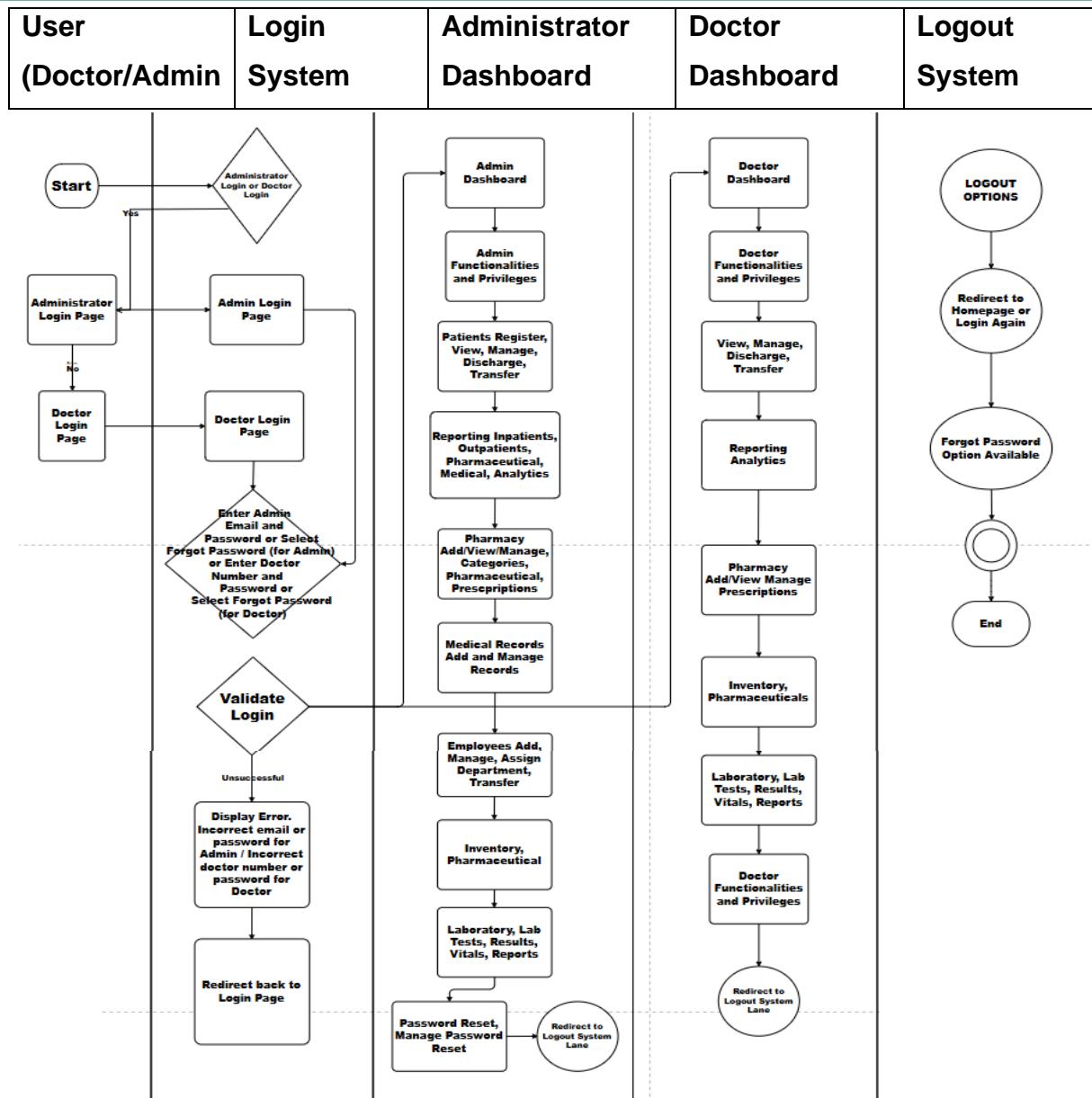


Figure 8. Swimlane Flowchart of the Electronics Patients Medical Records Proposed System



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The flowchart illustrates a digital hospital management system using a swimlane structure to define processes for doctors and administrators. It begins with the User section, where individuals identify themselves as either doctors or administrators before proceeding with the login process. The Login System is responsible for authenticating users by verifying credentials based on their roles. Successful login redirects users to the appropriate dashboard, while unsuccessful attempts prompt an error message and a return to the login page. Once logged in, users access either the Administrator Dashboard or the Doctor Dashboard.

The Administrator Dashboard provides administrators with tools to manage patient records, including registering, viewing, discharging, and transferring patients. It also includes features for reporting and analytics, pharmaceutical inventory management, employee assignment, and oversight of medical records. The Doctor Dashboard enables doctors to access patient information, manage medical histories, discharge or transfer patients, conduct reporting and analysis, handle prescriptions, and request or review lab tests and results. The Logout System offers users options to log out of their accounts, redirecting them to the homepage or login page. Additionally, a "Forgot Password" option is available for password recovery or reset, ensuring secure access management. Overall, the flowchart outlines a structured, role-based approach to hospital management, with each section tailored to the specific needs and permissions of doctors and administrators.



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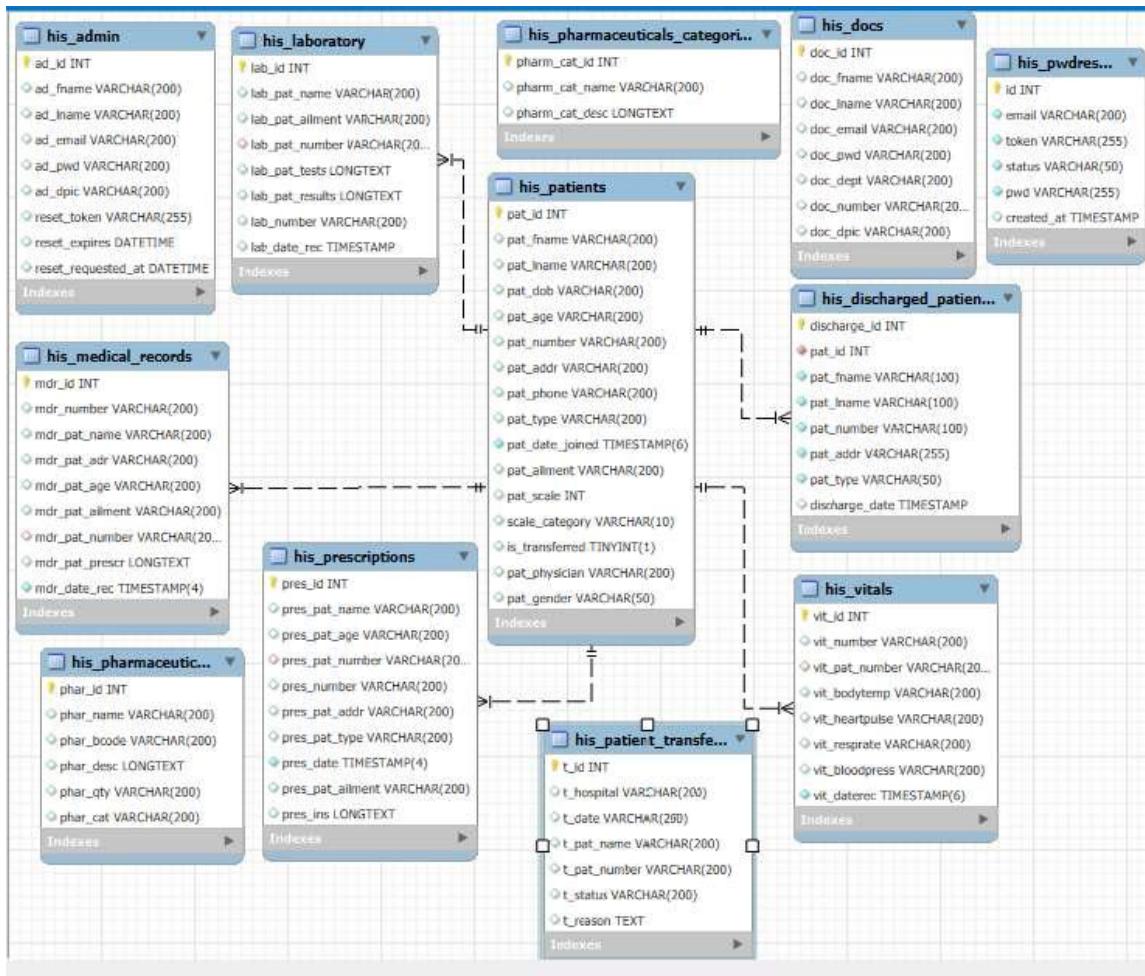


Figure 9. Entity Relationship Diagram for Electronic Patients Medical Records API Driven Data Analytics for Heart Diseases

Figure 9 shows the database structure for the system, including all the tables and fields needed to store data. This setup helps developers and researchers plan the system by showing how different parts of the database connect and interact.



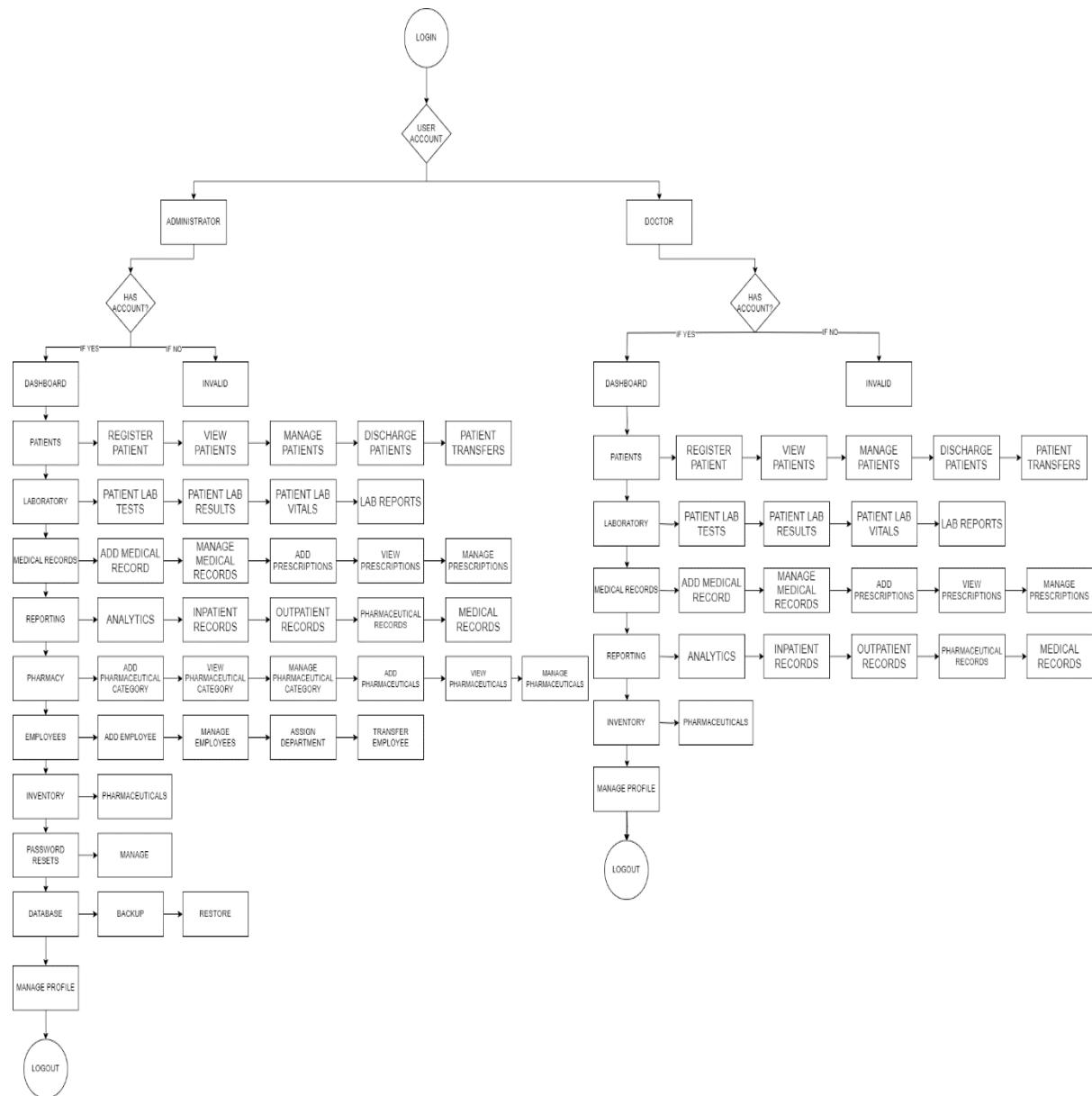
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By laying out this structure ahead of time, the diagram gives a clear picture of how data will move through the system and what's needed to make it work smoothly. This early visualization is helpful for identifying key functions and making sure everything fits together before the actual development starts.





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Figure 10. Activity Diagram of Proposed System

The activity diagram illustrates the workflow of Electronic Patient Medical Records, emphasizing the roles of administrators and doctors and their respective actions within the system. Users begin with an authentication process where they log in. Administrators oversee key system functions, including patient management where they can register, view, manage, discharge, and handle patient transfers. Laboratory operations manage tests, results, vitals and reports and complete medical records oversight. They also handle analytics, pharmacy management including pharmaceutical categories and inventory, employee administration covering tasks like adding new, managing existing employees and handling department transfers, password resets and database backups. On the other hand, Doctors primarily focus on managing patient such as register, view, manage, discharge, patient transfers, laboratory access such as lab tests, lab results, vitals, reports, medical records such as adding, managing medical records, adding prescriptions, view and manage handling analytics and view medical record in reporting and inventory view all the pharmaceuticals.



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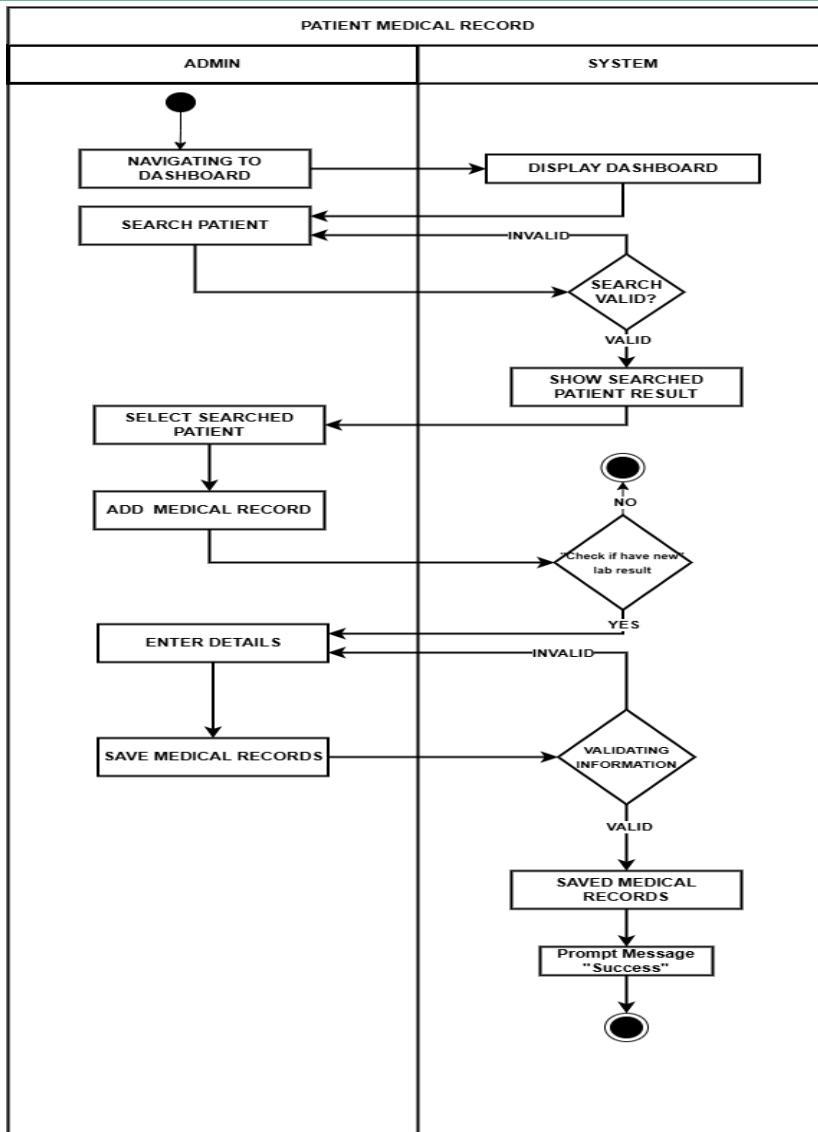


Figure 11. Adding a Medical Records

In the admin section, this feature allows administrators to add patient medical records. It stores detailed information based on laboratory reports.



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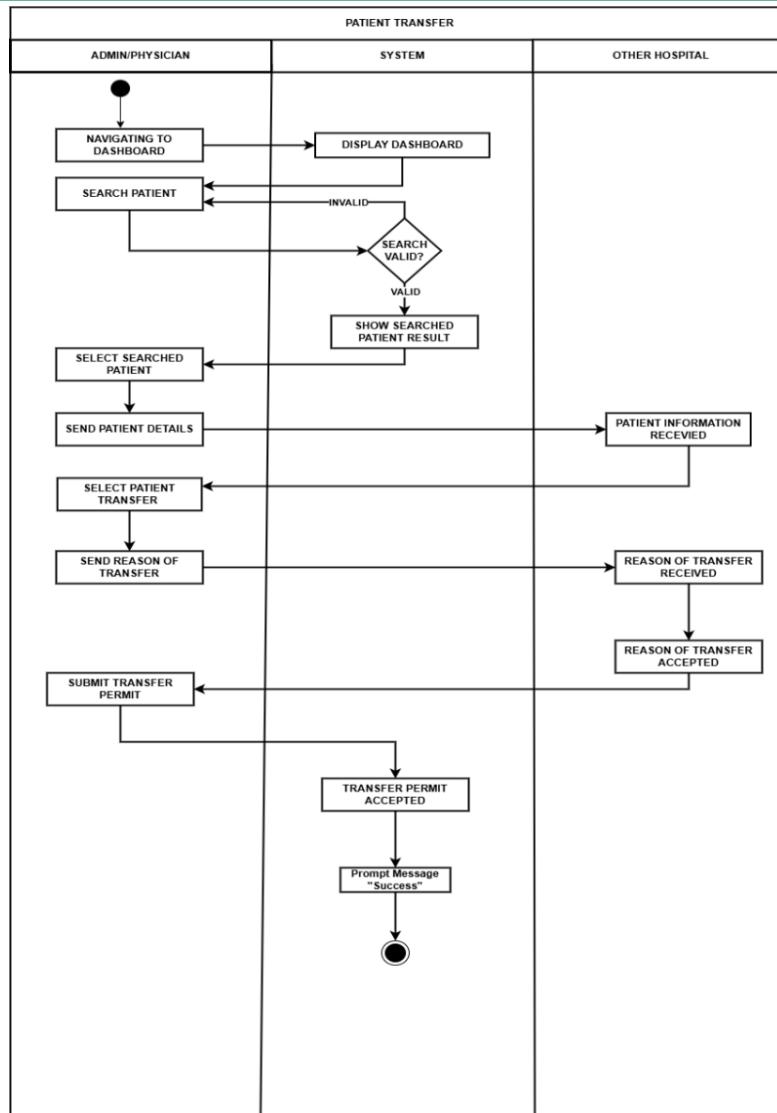


Figure 12. Transfer Patient

The Transfer Patient allows the admin to initiate the process of transferring a patient to another hospital, ensuring smooth coordination and documentation.



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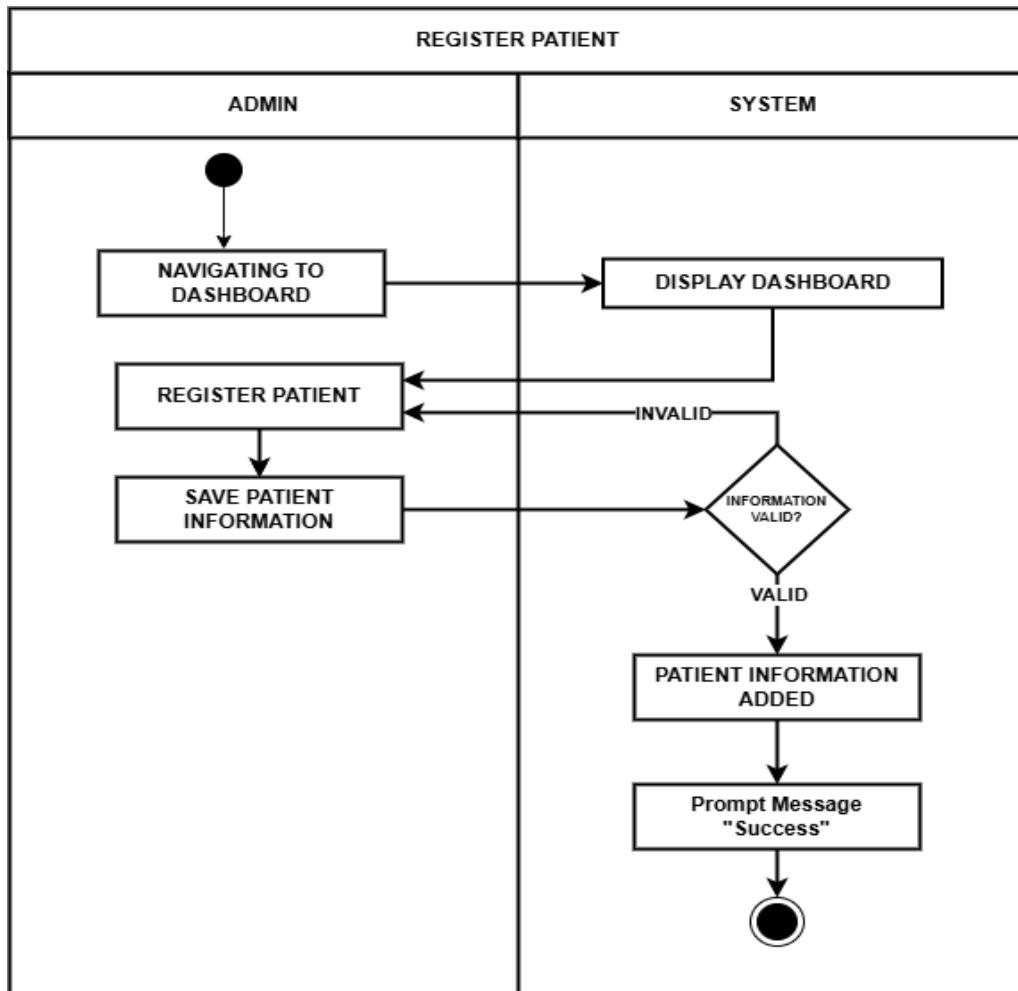


Figure 13. Registering a Patient

In the admin section, this feature allows administrators to input and save a patient's details, such as name, age, contact information, address, and other relevant data from the patient. This ensures accurate record-keeping and easy access for future reference or updates.



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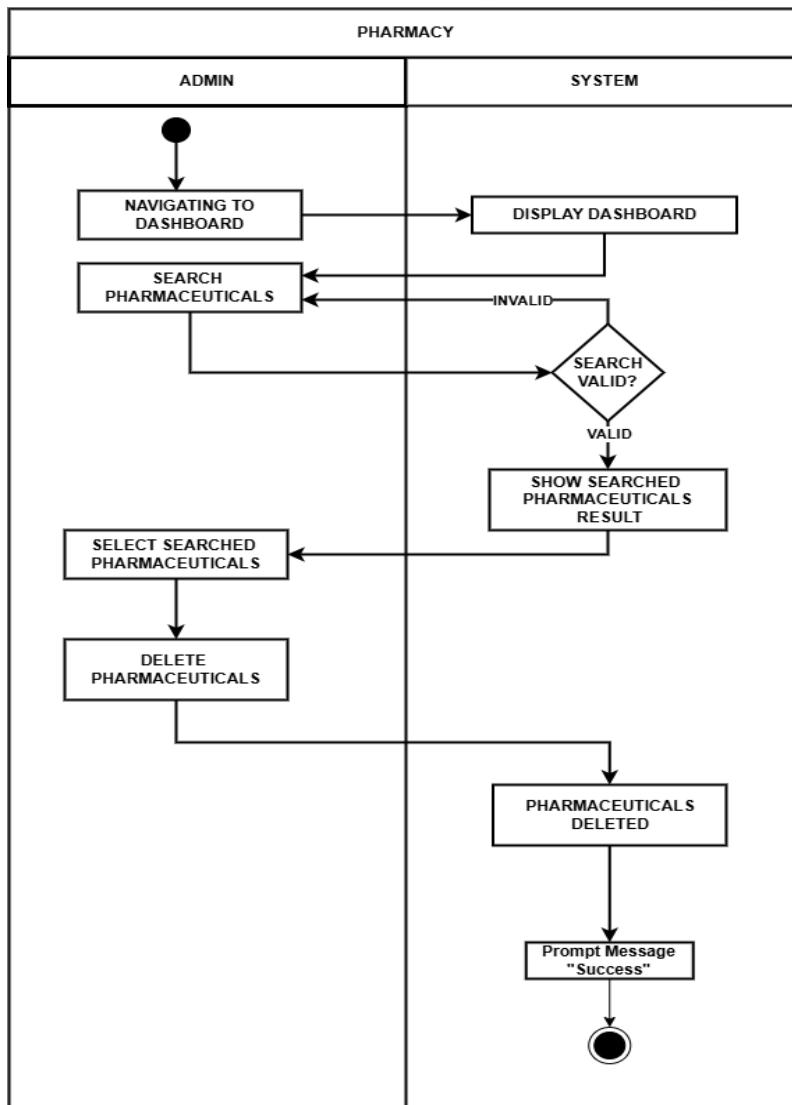


Figure 14. Deleting Pharmaceuticals

Deleting medicines involves deleting all information about the medicine from the system.



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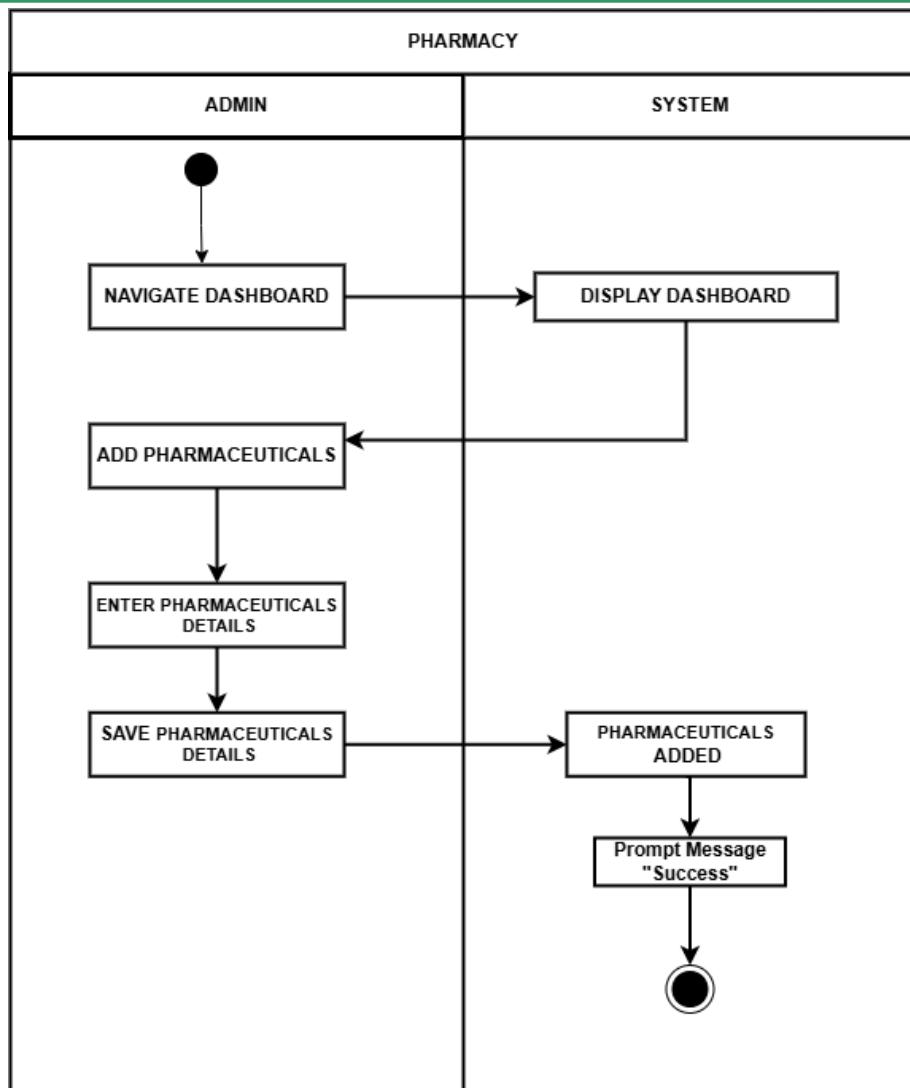


Figure 15. Adding a Pharmaceuticals

In the admin section, the pharmaceuticals section allows the addition of medicines for quick relief or treatment for patients.



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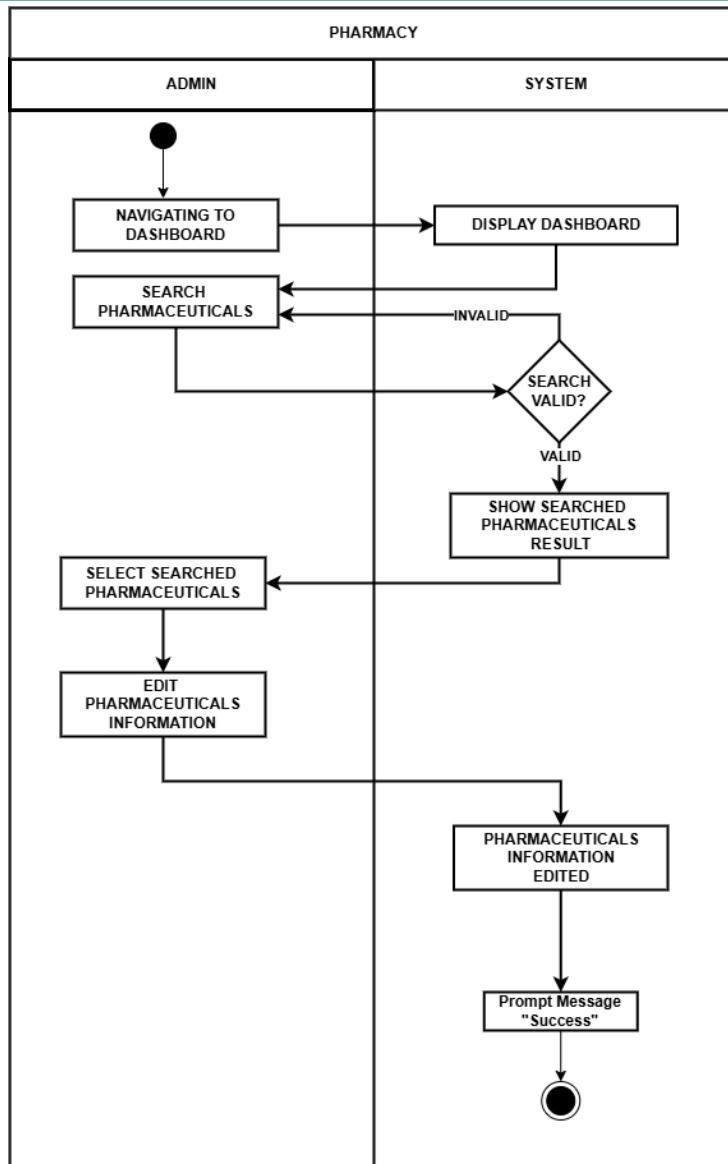


Figure 16. Update Pharmaceuticals Information

Editing pharmaceuticals means updating or changing information about the medicine to assure its accuracy.



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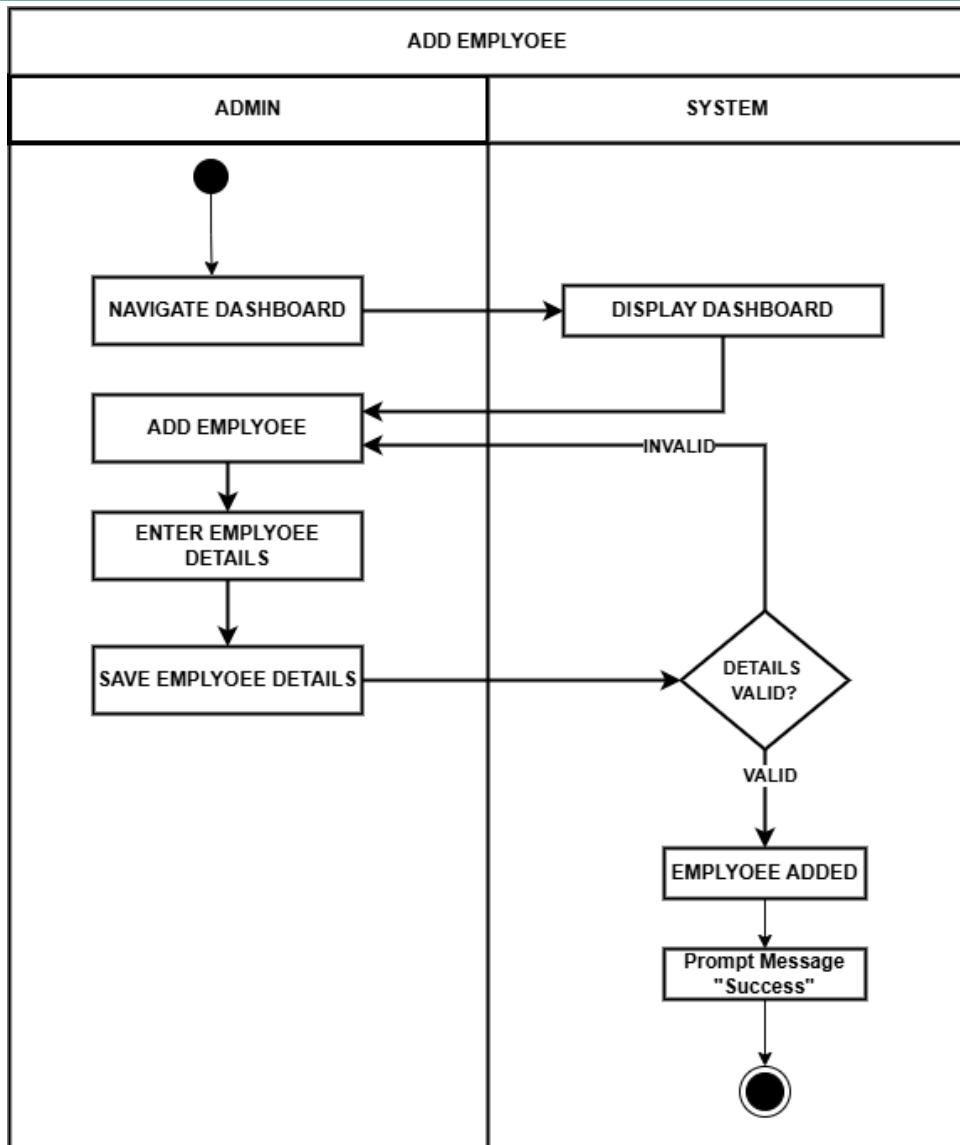


Figure 17. Adding Employee

The Add Employee feature allows the admin to register new employees by inputting necessary details such as name, position, and password.



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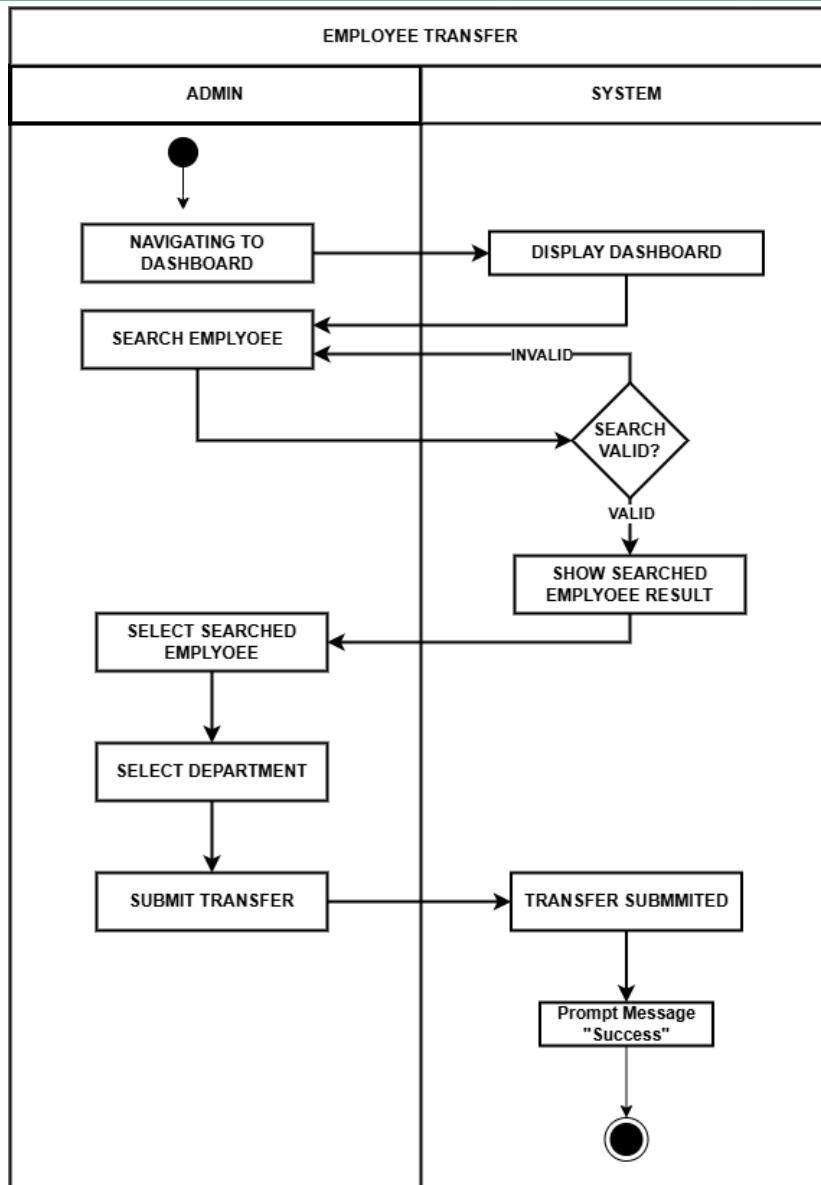


Figure 18. Transfer Employee

The Transfer Employee feature allows the admin to reassign an employee to a different department, updating their role and responsibilities accordingly.



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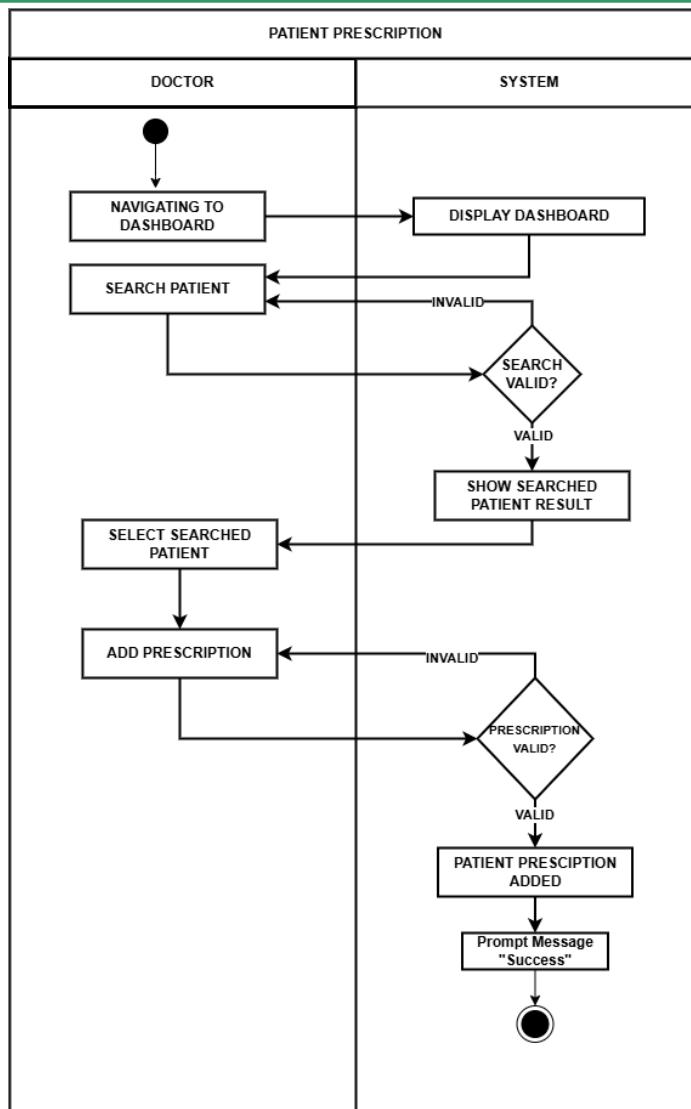


Figure 19. Adding Patient Prescription

In the doctor section, this feature allows doctors to add patient prescription based on the patient medical record.



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CHAPTER IV

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

The research focused on Electronic Patients Medical Records API Driven Data Analytics for Heart Diseases in Global Medical Center of Laguna. Presented in this chapter were the presentation of data, analysis and interpretation.

Problems Encountered at Global Medical Center of Laguna

The Global Medical Center of Laguna encounters considerable difficulties in its healthcare procedures and systems, particularly within the Cardiology department. These issues affect the efficiency and precision of patient care, especially for individuals at risk of heart-related conditions. The following challenges have been noted:

The hospital continues to depend on paper-based patient records, which is an outdated approach that complicates the efficient management and retrieval of records. Manual data entry is susceptible to mistakes, resulting in inaccuracies in patient information. Moreover, paper records are not readily accessible to various stakeholders, which impedes collaboration among specialists, pharmacists, and laboratory services.

The Cardiology department also struggles with a limited number of available cardiologists, whose restricted schedules reduce their capacity to attend to patients. This often results in extended waiting times and dissatisfaction among patients

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seeking prompt consultations. The scarcity of cardiologists increases their workload, potentially compromising the quality of care provided.

Risk assessment for heart disease is cumbersome due to manual, time-intensive processes that postpone diagnosis and treatment. The lack of a streamlined system hinders the swift identification of high-risk patients, delaying the implementation of preventive or therapeutic measures.

The failure to adopt an electronic medical records system obstructs the smooth integration of patient data. Without sophisticated analytics, the facility is unable to produce actionable insights for more effective monitoring and management of heart disease risks. Additionally, referrals to other hospitals are postponed due to the manual transfer of patient information, which affects timely care. The current system also lacks visual tools like pie and bar graphs for analyzing patient data based on age, gender, and risk levels. This creates challenges in classifying patients into low, medium, or high-risk categories, complicating targeted interventions.

Feature of the Proposed System

This section outlines the features of the developed web-based Electronic Patient Medical Records API Driven Data Analytics for Heart Diseases designed to address the problem encountered by the client. The system must be capable of doing the following functions:

- Assigning employees to the Cardiology Department at Global Medical Center of Laguna Based on the physician's and medical staff's profession.



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- Assessing individuals with clinical symptoms and categorizing their risk of heart disease as low, medium, or high risk.
- The percentage of individuals with heart disease offers insight into the situation at the Global Medical Center of Laguna, emphasizing how many people may be impacted by this condition.
- The referral system will streamline the process of transferring patients to other hospitals when essential equipment is either unavailable or undergoing maintenance.
- Register patient, View, Manage, Discharge and transfer the patient to other Hospital.
- Generates reports about the patient including the pharmaceuticals records.
- Pharmacy category which the user can add, view and manage Pharmaceuticals.
- Add Prescriptions to give basic treatment from the Doctor.
- Transfer medical staff and physicians within the cardiology department's sub-departments, including areas such as patient registration, laboratory, cardiothoracic surgery, cardiac anesthesiology, and other medical staff roles.
- Implementing laboratory reports and patient vitals for more accurate data.
- Password reset allows users to recover a forgotten password through their email.
- Backup and restore functions allow users to recover specific data or entire sets of information that may have been lost, unintentionally deleted, or affected by system issues.



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The system was designed to enhance the accuracy and security of managing patient information at the Global Medical Center of Laguna, tackling outdated procedures and inefficiencies. It simplifies the processes of patient registration, risk evaluation, and transfers while improving the referral system. The system guarantees proper assignment of medical personnel, aids in precise medical reporting, and supports patient care through the management of prescriptions. Additional functionalities include secure password recovery and data backup features, which help safeguard system integrity and ensure dependable data management.

System Evaluation

This study is geared towards achieving these specific aims to (a) To determine the age group most at low, medium, or high risk of having heart disease using 2D echocardiography reports; (b) To determine the assessments of the end users and IT experts regarding the proposed system in terms of: Functional suitability; Reliability; and Performance efficiency.

For IT Experts:

Functional Suitability - The system meets all the technical requirements to support hospital operations (e.g., managing data workflows, system integrations, and automation).

Performance Efficiency - The system's response time for various operations is stable (e.g., database read/write speeds, network latency during high-traffic periods).



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Compatibility - The HMS integrates smoothly with existing infrastructure and applications without causing conflicts or resource competition.

Usability and Maintainability - The HMS is well- aligned with IT administration tasks and responsibilities.

Security - The system requires the right account information to be able to log in.

For End Users:

Functional Suitability - The system meets all the technical requirements to support hospital operations (e.g., managing data workflows, system integrations, and automation).

Performance Efficiency - The system's response time for various operations is stable (e.g., database read/write speeds, network latency during high-traffic periods).

Compatibility - The HMS integrates smoothly with existing infrastructure and applications without causing conflicts or resource competition.

Usability and Maintainability - The HMS is well- aligned with IT administration tasks and responsibilities.

Security - The system requires the right account information to be able to log in.



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Assessment of the End Users

Table 3 presents the results of the assessment of end users regarding the proposed system in terms of **Functional Suitability**. The indicators are as follows:

- Q1 - The system allows me to customize settings or workflows to suit my individual needs which gained a mean of 3.94, interpreted as **Agree**;
- Q2 - The system provides adequate documentation or help resources for its functions which acquired a mean of 4.41, interpreted as **Strongly Agree**;
- Q3 - I was able to quickly learn and adapt to using the system's functionalities which had a mean of 4.06, interpreted as **Agree**;
- Q4 - The system can handle a wide variety of tasks or use cases within my role which had a mean of 3.12, interpreted as **Undecided**;
- Q5 - New features or updates to the system improve its usability and relevance to my work which had a mean result of 3.47, interpreted as **Agree**.

Table 3 also shows that the **grand mean** for the assessment of end users regarding the proposed system in terms of **Functional Suitability** was 3.80, interpreted as **Agree**. The results gathered conclude that the end users at Global Medical Center of Laguna agree that the system demonstrates functional suitability.



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Table 3. Assessment of End- users regarding the proposed system in terms of Functional Suitability

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	47.1 %	17.6 %	29.4%	5.9%	0	100%	3.94	Agree
Q2	58.8 %	23.6 %	17.6%	0	0	100%	4.41	Strongly Agree
Q3	41.2	23.5 %	35.3%	0	0	100%	4.06	Agree
Q4	5.9 %	29.4 %	41.2%	17.6 %	5.9 %	100%	3.12	Undecided
Q5	5.9 %	35.3 %	58.8%	0	0	100%	3.47	Agree
Grand Mean			3.80			AGREE		

Legend: 5.00- 4.21 Strongly Agree; 4.20- 3.41 Agree; 3.40- 2.61 Undecided; 2.60- 1.81 Disagree; and 1.80-1.00 Strongly Disagree

Where:

Q1 - The system allows me to customize settings or workflows to suit my individual needs.

Q2 - The system provides adequate documentation or help resources for its functions.



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Q3 - I was able to quickly learn and adapt to using the system's functionalities.

Q4 - The system can handle a wide variety of tasks or use cases within my role.

Q5 - New features or updates to the system improve its usability and relevance to my work.

A. Reliability

Table 1.1 presents the results of the assessment of end users regarding the proposed system in terms of **Reliability**. The indicators are as follows: Q1 - The system consistently produces reliable outputs or results received a mean of 4.47, interpreted as **Strongly Agree**; Q2 - The system provides helpful notifications or alerts when issues arise which acquired a mean of 1.94, interpreted as **Strongly Disagree**; Q3 - The system has reliable backup and recovery processes to prevent data loss which gained a mean of 4.41, interpreted as **Strongly Agree**; Q4 - Error messages are clear, informative, and help me understand how to resolve issues which received a mean of 4.00, interpreted as **Agree**; and Q5 - I feel confident that the system will perform reliably during critical tasks which had a mean result of 3.18, interpreted as **Undecided**.

Table 1.1 also shows that the **grand mean** for the assessment of end users regarding the proposed system in terms of **Reliability** was 3.40, interpreted as **Undecided**. The results gathered suggest that while the system is generally perceived as reliable in some areas, such as producing consistent outputs and having strong backup and recovery processes, there are areas for improvement, particularly in providing helpful notifications and alerts during issues. The end users at the assessed institution moderately agree that the system demonstrates reliability but emphasize the need for enhancements in certain functional areas.



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TABLE 1.1. Result in the assessment of End- users regarding the proposed system in terms of Reliability

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	64.7 %	17.6 %	17.6 %	0	0	100%	4.47	Strongly Agree
Q2	0	11.8 %	17.6 %	23.6 %	47.1 %	100%	1.94	Strongly Disagree
Q3	58.8 %	23.5 %	17.6 %	0	0	100%	4.41	Strongly Agree
Q4	47.1 %	23.6 %	17.6 %	5.9%	5.9%	100%	4.00	Agree
Q5	23.6 %	23.6 %	11.8 %	29.4	11.8	100%	3.18	Undecided
Grand Mean			3.40			UNDECIDED		

Where:

Q1 - The system consistently produces reliable outputs or results.

Q2 - The system provides helpful notifications or alerts when issues arise.

Q3 - The system has reliable backup and recovery processes to prevent data loss.



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Q4 - Error messages are clear, informative, and help me understand how to resolve issues.

Q5 - I feel confident that the system will perform reliably during critical tasks.

B. Performance Efficiency

Table 1.2 presents the results of the assessment of end users regarding the proposed system in terms of **Performance Efficiency**. The indicators are as follows:

Q1 - The system maintains good performance when loading or handling large files or datasets with a mean of 3.65, interpreted as **Agree**; Q2 - The system allows me to work on multiple tasks at once without noticeable delays with a mean of 3.41, interpreted as **Agree**; Q3 - The system uses memory resources efficiently and does not slow down other applications with a mean of 4.35, interpreted as **Strongly Agree**; Q4- The system performs well even with variable network conditions or lower bandwidth with a mean of 3.35, interpreted as **Undecided**; and Q5- The system's speed allows me to complete time-sensitive tasks effectively with a mean of 4.12, interpreted as **Agree**.

The **grand mean** for **Performance Efficiency** is 3.78, interpreted as **Agree**. The results suggest that users generally find the system performs efficiently in most areas, with satisfaction in memory usage and speed. However, there is room for improvement, especially in handling variable network conditions and multitasking performance.



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Table 1.2. Assessment of End- users regarding the proposed system in terms of Performance Efficiency

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	41.2 %	17.6 %	11.8 %	23.6 %	5.9 %	100%	3.65	Agree
Q2	11.8 %	35.3 %	23.5 %	17.6 %	11.8 %	100%	3.41	Agree
Q3	47.1 %	41.2 %	11.8 %	0	0	100%	4.35	Strongly Agree
Q4	29.4 %	17.6 %	17.6 %	29.4 %	5.9 %	100%	3.35	Undecided
Q5	41.2 %	41.2 %	5.9% %	11.8 %	0	100%	4.12	Agree
Grand Mean			3.78			AGREE		

Where:

Q1 - The system maintains good performance when loading or handling large files or datasets.

Q2 - The system allows me to work on multiple tasks at once without noticeable delays.



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Q3 - The system uses memory resources efficiently and does not slow down other applications.

Q4 - The system performs well even with variable network conditions or lower bandwidth.

Q5 - The system's speed allows me to complete time-sensitive tasks effectively.

Table 1.3 presents the results of the assessment of end users regarding the proposed system in terms of **Security**. The indicators are as follows: Q1- The system provides adequate measures to protect sensitive information with a mean of 4.29, interpreted as **Strongly Agree**; Q2- I feel confident that my data is safe from unauthorized access with a mean of 4.47, interpreted as **Strongly Agree**; Q3- The system notifies users in case of potential security risks with a mean of 4.41, interpreted as **Strongly Agree**; Q4- I find it easy to understand and follow the security guidelines provided for this system with a mean of 4.06, interpreted as **Agree**; and Q5- I feel that my privacy is respected and protected while using this system with a mean of 4.00, interpreted as **Agree**.

The **grand mean** for **Security** is 4.25, interpreted as **Strongly Agree**. The results suggest that end users are highly satisfied with the system's security measures, feeling confident in data protection, and privacy. However, there is a slight opportunity to enhance the clarity of security guidelines, as reflected in the lower "Agree" score for that indicator.



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Table 1.3. Assessment of End- users regarding the proposed system in terms of Security

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	35.2%	58.8%	5.9%	0	0	100%	4.29	Strongly Agree
Q2	47.1%	52.9%	0	0	0	100%	4.47	Strongly Agree
Q3	47.1%	47.1%	5.9%	0	0	100%	4.41	Strongly Agree
Q4	41.2%	41.2%	11.8%	0	0	100%	4.06	Agree
Q5	47.1%	23.5%	17.6%	5.9%	5.9%	100%	4.00	Agree
Grand Mean		4.25			STRONGLY AGREE			

Where:

Q1 - The system provides adequate measures to protect sensitive information.

Q2 - I feel confident that my data is safe from unauthorized access in this system.

Q3 - The system notifies users in case of potential security risks.

Q4 - I find it easy to understand and follow the security guidelines provided for this system.

Q5 - I feel that my privacy is respected and protected while using this system.



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Assessment of IT Experts

Table 2 presents the assessment results of IT experts regarding the proposed system's Functional Suitability. The indicators are as follows: Q1 - "The system meets all the technical requirements to support hospital operations" had a mean result of 4.0, interpreted as **Agree**; Q2 - "The system accurately delivers correct outputs" achieved a mean result of 4.6, interpreted as **Strongly Agree**; Q3 - "The architecture of the HMS facilitates efficient task completion" acquired a mean result of 4.2, interpreted as **Agree**; Q4 - "The system assigns employees based on their departments" had a mean result of 4.2, interpreted as **Agree**; Q5 - "The system accurately categorizes patients' risk of heart disease as low, medium, or high based on their clinical symptoms" gained a mean result of 4.8, interpreted as **Strongly Agree**; Q6 - "The system makes it easy to refer patients to other hospitals when equipment is unavailable or under maintenance" had a mean result of 4.0, interpreted as **Agree**; and Q7 - "The system reliably restores data after it has been lost or deleted" had a mean result of 4.0, interpreted as **Agree**.

The **grand mean for Functional Suitability** is 4.34, interpreted as **Strongly Agree**. This demonstrates that, overall, the system aligns well with hospital needs and is perceived as functionally suitable by IT experts. The system is particularly effective in delivering accurate outputs (Q2) and categorizing patient risks (Q5), both of which are critical components for healthcare operations. While the system performs well overall, areas such as patient referrals, data recovery, and task efficiency may benefit from targeted enhancements to strengthen user confidence and satisfaction.



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Table 2. Assessment of IT EXPERTS regarding the proposed system in terms of Functional Suitability

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	60%	40%	0	0	0	100%	4.6	Strongly Agree
Q2	60%	40%	0	0	0	100%	4.6	Strongly Agree
Q3	40%	40%	20%	0	0	100%	4.2	Agree
Q4	40%	40%	20%	0	0	100%	4.2	Agree
Q5	80%	20%	0	0	0	100%	4.8	Strongly Agree
Q6	20%	60%	20%	0	0	100%	4.0	Agree
Q7	20%	60%	20%	0	0	100%	4.0	Agree
Grand Mean			4.34		STRONGLY AGREE			

Where:

- Q1 - The system meets all the technical requirements to support hospital operations.
- Q2 - The system accurately delivers correct outputs.
- Q3 - The architecture of the HMS facilitates efficient task completion.
- Q4 - The system assigns employees based on their departments.
- Q5 - The system accurately categorizes patients' risk of heart disease as low, medium, or high based on their clinical symptoms.



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Q6- The system makes it easy to refer patients to other hospitals when equipment is unavailable or under maintenance.

Q7- The system reliably restores data after it has been lost or deleted.

Table 2.1 presents the assessment results of IT experts regarding the proposed system in terms of **Performance Efficiency** shows strong positive feedback across all areas. For **Q1**- "The system's response time for various operations is stable", resulting in a weighted mean of 4.8 interpreted as **Strongly Agree**. Similarly, for **Q2**- "There are no resource management issues with the system", leading to a weighted mean of 4.8 interpreted as **Strongly Agree**. For **Q3** - "The system can properly manage a large amount of data", all respondents (100%) agreed, resulting in a weighted mean of 5.0 (**Strongly Agree**).

The **Grand Mean for Performance Efficiency** is **4.87**, interpreted as **Strongly Agree**. This suggests that the system is highly regarded for its overall performance efficiency. The system is seen as stable in response times, effective in resource management, and capable of handling large volumes of data with ease. While the results reflect strong confidence in the system's performance, there may still be room for optimization in certain areas to further enhance its efficiency. Overall, the feedback indicates that the system meets the performance needs of its users, with only minor adjustments needed to optimize its functionality further.



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Table 2.1. Assessment of IT EXPERTS regarding the proposed system in terms of Performance Efficiency

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	20%	80%	0	0	0	100%	4.8	Strongly Agree
Q2	20%	80%	0	0	0	100%	4.8	Strongly Agree
Q3	0	100%	0	0	0	100%	5.0	Strongly Agree
Grand Mean			4.87		STRONGLY AGREE			

Where:

Q1 - The system's response time for various operations is stable.

Q2 -There are no resource management issues with the system.

Q3 -The system can properly manage a large amount of data.



Table 2.2 presents the assessment results of IT experts regarding the proposed system in terms of **Compatibility** and shows a generally favorable view, though with some room for improvement. For Q1 ("The HMS integrates smoothly with existing infrastructure and applications without causing conflicts or resource competition"), 40% of respondents strongly agreed, 40% agreed, and 20% were undecided. This suggests that while the majority believe the system integrates well with existing infrastructure, there is still a portion of respondents unsure about its seamless operation in all contexts. The weighted mean for Q1 is 4.4, which falls between Agree and Strongly Agree, reflecting overall positive feedback but with some uncertainty around specific integration scenarios. Similarly, for Q2 ("The HMS is highly effective in utilizing data with other hospital IT systems"), the response distribution was identical, with 40% strongly agreeing, 40% agreeing, and 20% undecided. The weighted mean for Q2 is also 4.4, indicating that the system is viewed positively in terms of data exchange and integration with other hospital IT systems, but some respondents remain uncertain about its effectiveness in all data-sharing situations. For Q3 ("The HMS can be accessed on different platforms and browsers without functional discrepancies"), the feedback was again similar, with 40% strongly agreeing, 40% agreeing, and 20% undecided. The weighted mean for Q3 is 4.4, suggesting that the system is seen as generally compatible across various platforms and browsers.

The **Grand Mean for Compatibility** is **4.4**, interpreted as **Strongly Agree**. This reflects that, overall, IT experts view the system as highly compatible with existing infrastructure, data-sharing practices, and platform access. However, the 20% undecided responses across all questions suggest there may be uncertainties or specific scenarios where the system's compatibility could be improved. To further strengthen the system's compatibility, attention could be given to ensuring smoother



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integration, more effective data sharing, and flawless functionality across all platforms and browsers.

Table 2.2. Assessment of IT EXPERTS regarding the proposed system in terms of Compatibility

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	40%	40%	20%	0	0	100%	4.2	Agree
Q2	40%	40%	20%	0	0	100%	4.2	Agree
Q3	40%	40%	20%	0	0	100%	4.2	Agree
Grand Mean			4.4		STRONGLY AGREE			

Where:

Q1 - The HMS integrates smoothly with existing infrastructure and applications without causing conflicts or resource competition.

Q2 - The HMS is highly effective in utilizing data with other hospital IT systems.

Q3 - The HMS can be accessed on different platforms and browsers without functional discrepancies.



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Table 2.3 presents the assessment results of IT experts regarding the proposed system in terms of **Usability and Maintainability** indicate a generally positive outlook, with some areas that may benefit from further refinement.

For **Q1**- "The HMS is well-aligned with IT administration tasks and responsibilities". The weighted mean for **Q1** is **4.0**, interpreted as **Agree**. Similarly, for **Q2**- "The system is easy for IT personnel to understand its functionality", had a mean result of **4.0**, interpreted as **Agree**. For **Q3** "The system is easy to operate", acquired a mean result of **4.0**, interpreted as **Agree**. In **Q4**- "The system provides sufficient mechanisms to prevent critical errors and facilitate recovery", resulting in a weighted mean of **3.8**, interpreted as **Agree**. And for **Q5**- "The system has an engaging interface designed to assist IT staff in resolving issues effectively", gained a mean result of **4.8**, interpreted as **Strongly Agree**.

The **Grand Mean** for **Usability and Maintainability** is **4.12**, interpreted as **Agree**. This suggests that the system is generally well-received in terms of its usability and maintainability, particularly in areas such as interface design and alignment with IT tasks. However, the presence of undecided responses in some areas—especially regarding error prevention and system recovery—indicates that there are still some concerns or uncertainties that may need to be addressed to further enhance user satisfaction and system reliability. The overall assessment suggests that the system is functional and user-friendly, but some refinements could further improve its usability and maintainability in critical operational areas.



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Table 2.3. Assessment of IT EXPERTS regarding the proposed system in terms of Usability and Maintainability

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	20%	60%	20%	0	0	100%	4.0	Agree
Q2	20%	60%	20%	0	0	100%	4.0	Agree
Q3	20%	60%	20%	0	0	100%	4.0	Agree
Q4	20%	40%	40%	0	0	100%	3.8	Agree
Q5	20%	80%	0	0	0	100%	4.8	Strongly Agree
Grand Mean			4.12			AGREE		

Where:

Q1 - The HMS is well- aligned with IT administration tasks and responsibilities.

Q2 - The system is easy for IT personnel understand its functionality.

Q3 - The system is easy to operate.

Q4 – The system provides sufficient mechanisms to prevent critical errors and facilitate recovery.

Q5 - The system has an engaging interface designed to assist IT staff in resolving issues effectively



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Table 2.4 represents the assessment results from IT experts regarding the proposed system in terms of **Security** indicate a high level of confidence in its security features, with all questions receiving strong approval. For **Q1**- "The system requires the right account information to be able to log in", resulting in a weighted mean of **4.6**, which is interpreted as **Strongly Agree**. Similarly, for **Q2**- "The Administrator has greater privileges compared to the physician", yielding a weighted mean of **4.6**, interpreted as **Strongly Agree**. For **Q3** "The system ensures the confidentiality of physicians' account information is protected", leading to a weighted mean of **4.6**, also interpreted as **Strongly Agree**.

The **Grand Mean for Security** is **4.6**, which falls into the **Strongly Agree**. This suggests that IT experts are highly satisfied with the security features of the proposed system, particularly in areas such as login authentication, user access privileges, and data confidentiality. The consistent high ratings indicate strong approval of the system's security measures and suggest that it is well-designed to protect both user access and sensitive medical data. Overall, the assessment reflects a strong level of trust in the system's ability to secure sensitive information and manage user access effectively.



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TABLE 2.4. Assessment of IT EXPERTS regarding the proposed system in terms of Security

Question	SA	A	U	D	SD	Total Percentage	Mean	Interpretation
Q1	60%	40%	0	0	0	100%	4.6	Strongly Agree
Q2	60%	40%	0	0	0	100%	4.6	Strongly Agree
Q3	60%	40%	0	0	0	100%	4.6	Strongly Agree
Grand Mean			4.6		STRONGLY AGREE			

Where:

Q1 - The system requires the right account information to be able to log in.

Q2 - The Administrator has greater privileges compared to the physician.

Q3 - The system ensures the confidentiality of physicians' account information is protected.



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CHAPTER V

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SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary of Significant Findings

The Global Medical Center of Laguna encounters significant obstacles in managing patient data, especially within the Cardiology department, which impacts both patient care and heart disease risk assessment. The persistent reliance on paper-based patient records complicates data retrieval and management, leading to a rise in inaccuracies and obstructing collaboration among specialists, pharmacists, and laboratory services. This outdated method prolongs diagnosis and treatment due to restricted real-time access to patient information. Furthermore, the department faces challenges with a shortage of cardiologists and limited availability, resulting in extended wait times and potential compromises in the quality of care. To tackle these challenges, the proposed system plans to implement an Electronic Patient Medical Records system with API-driven data analytics for tracking patient risk levels. This will optimize registration processes, enhance data management, and establish a referral system for specialized care. Visualization tools such as pie and bar graphs will assist in categorizing patients based on age, gender, and risk level, promoting targeted interventions. Advanced functionalities like email-based password recovery and backup and restore options will improve system reliability and data security.



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Feature of the Proposed System

The developed web-based Electronic Patient Medical Records System includes the following key features designed to resolve the identified problems:

a. Staff Management

- Assign personnel to the Cardiology Department according to their professional qualifications.
- Facilitates the relocation of medical staff and doctors within various cardiology sub-departments such as patient registration, laboratory services, cardiothoracic surgery, and anesthesiology.

b. Heart Disease Assessment

- Assesses individuals presenting clinical symptoms and classifies their risk of heart disease as low, medium, or high.
- Offers insights into the proportion of individuals affected by heart disease at the facility.

c. Referral and Patient Transfers

- Optimizes the process of patient referrals to other hospitals when essential equipment is unavailable or undergoing maintenance.



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d. Patient Management

- Oversees patient registration, monitoring, management, discharge, and transfers to other facilities.

e. Pharmaceutical and Prescription Management:

- Enables users to add, view, and manage medications within a specified pharmacy category.
- Facilitates the addition of prescriptions for fundamental treatments provided by physicians.

f. Reporting and Data Accuracy:

- Produces reports concerning patients, including pharmaceutical records.
- Implements laboratory reports and patient vitals for accurate data monitoring.

g. System Security and Backup:

- Features a password reset option via email for convenient account recovery.
- Provides backup and restore capabilities to retrieve data or entire data sets when necessary.



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Result in the assessment of End - Users regarding the proposed system in terms of the following:

Functional Suitability, resulted in a grand mean of 3.80, interpreted as Agree, which indicates that overall, the end users at Global Medical Center of Laguna agree that the system demonstrates functional suitability. While most aspects are positively regarded, particularly the availability of documentation and ease of learning, there is some uncertainty regarding the system's ability to handle a wide range of tasks and its responsiveness to new updates. These areas may warrant further development to ensure the system fully meets the needs of its users.

Reliability, resulted in a grand mean of 3.40, interpreted as Undecided, reflecting mixed perceptions of the system's overall reliability. While users generally express confidence in the system's ability to produce reliable results and protect data through backup and recovery processes, the system falls short in areas such as providing effective notifications during issues and ensuring consistent performance during critical tasks. The feedback highlights the need for improvements in these areas to enhance overall reliability and user confidence.

Performance Efficiency, resulted in a grand mean of 3.78, interpreted as Agree, reflecting that overall, the system is seen as performing efficiently in most aspects. Users are particularly satisfied with its memory usage and speed, but improvements are needed in areas such as handling variable network conditions and supporting better multitasking performance. These areas should be prioritized for enhancement to ensure the system can meet users' diverse performance needs.

Security, resulted in a grand mean of 4.25, interpreted as Strongly Agree, suggesting that users are very satisfied with the system's overall security features, especially in



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terms of data protection and privacy. However, there is an opportunity to enhance the clarity and accessibility of the security guidelines, as indicated by the relatively lower score in Q4. Overall, the results highlight the system's strong security measures while suggesting a focus on improving user comprehension of security protocols.

Result in the assessment of IT Experts regarding the proposed system in terms of the following

Functional Suitability, resulted in a grand mean of 4.34, interpreted as Strongly Agree, which reflects the system's overall alignment with hospital needs. While the system performs well in most areas, the results suggest that certain functionalities, such as patient referrals, data recovery, and task efficiency, could benefit from targeted improvements to further enhance user confidence and overall system effectiveness.

Performance Efficiency, resulted in a grand mean of 4.87, interpreted as Strongly Agree, indicating that IT experts are highly satisfied with the system's overall performance. The results suggest that the system excels in maintaining stability, effectively managing resources, and processing large volumes of data. While the feedback is overwhelmingly positive, there may still be minor opportunities to optimize certain areas further, ensuring that the system remains at peak efficiency. Overall, the system is highly regarded for meeting the performance needs of its users.

Compatibility, resulted in a grand mean of 4.4, interpreted as Agree, reflecting that the system is broadly seen as compatible with existing infrastructure, data-sharing practices, and multi-platform access. However, the 20% undecided responses across all questions suggest there are specific scenarios where the system's compatibility may not be fully assured. To further improve compatibility, attention should be given



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to refining integration processes, enhancing data sharing capabilities, and ensuring flawless functionality across all platforms and browsers.

Usability and Maintainability, resulted in a grand mean of 4.12, interpreted as Agree, indicating that, overall, the system is positively perceived in terms of usability and maintainability. The system excels particularly in its interface design and alignment with IT administration tasks. However, areas such as error prevention and system recovery, while still rated positively, may require further attention to improve reliability and user satisfaction.

Security, resulted in a grand mean of 4.6, interpreted as Strongly Agree, indicating that IT experts are highly satisfied with the system's security features. The high ratings reflect strong approval of the system's ability to securely manage user access, protect login credentials, and ensure the confidentiality of sensitive data. Overall, the assessment suggests a high level of trust in the system's security measures and its capacity to safeguard critical medical information.



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Conclusions

Following the assessment of the web-based system titled “Electronic Patient Medical Record API Driven Data Analytics for Heart Diseases”, it became clear that it effectively offered a secure and efficient framework for handling sensitive medical information within the hospital environment.

Based on the summary of the findings, the following were concluded:

1. Both users and IT professionals provided favorable opinions regarding the system's capability to safeguard data and optimize operations. Its robust security features and rapid data processing abilities were particularly appreciated, highlighting its potential to meet essential healthcare demands.
2. Nonetheless, certain areas such as functional suitability, reliability, and compatibility were noted as needing further enhancement. Users pointed out the necessity for better task management, improved recovery processes, and greater compatibility across various platforms and web browsers.
3. The mixed feedback regarding reliability indicates that the system would benefit from enhancements in its notification systems and ensuring stable performance during critical times. Implementing these improvements would foster increased trust among users and bolster the overall stability of the system.

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Recommendations

With regards to the conclusion made, the researchers propose the following recommendations:

1. The researchers suggest establishing regular intervals for maintenance and updates to tackle system bugs, enhance current features, and ensure the platform's security. These updates should come with comprehensive documentation and training sessions to help users effectively adapt to new functionalities.
2. The researchers propose that healthcare staff and IT personnel receive ongoing training. This will enable users to proficiently navigate the system, reducing mistakes and boosting overall efficiency in daily operations.
3. The researchers recommend creating a structured feedback system to allow end-users and IT professionals to share their experiences on a regular basis. Conducting frequent assessments based on this feedback will facilitate the system's evolution to effectively meet emerging requirements.
4. The researchers suggest enhancing error handling and notification systems. Actionable alerts and user-friendly error messages should help users swiftly address issues. Stress testing should also be implemented to guarantee system reliability, particularly during peak usage times.
5. The researchers propose optimizing the system for multitasking and managing high user volumes without delays. Improvements in data processing under various network conditions will ensure seamless operation, even in resource-constrained environments.



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6. The researchers recommend bolstering the system's security measures by incorporating features such as automatic log-out after a certain period of inactivity and performing regular security audits. Accessible training and pop-up guides for best security practices should also be offered to assist users in handling sensitive information responsibly.
7. The researchers advocate for extensive testing and adjustments to guarantee seamless integration with existing hospital IT infrastructures and compatibility across different platforms and web browsers. This will ensure users have a consistent experience, regardless of their chosen device or platform.
8. The researchers recommend emphasizing error prevention and simplifying recovery procedures in the event of system failures. Implementing strong and user-friendly recovery features, along with an intuitive interface, will reduce downtime and enhance user confidence.



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APPENDIX B

**LETTERS (APPROVAL FROM THE DEAN; LETTER TO
RESPONDENTS/PARTICIPANTS; DATA GATHERING TOOL VALIDATION**



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CLIENT LETTER



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Republic of the Philippines
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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



PNC: AA-LE- 362.112
November 14, 2024

MS. KAY ANN O. MARIGONDON
Hospital Admin, Global Medical Center of Laguna

Dear Ms. Marigondon:

Dangal Greetings!

We, the fourth-year BSIT students currently enrolled in the course ITP112 - Capstone 2, and the researchers behind the study titled "**Electronic Patient Medical Records API-Driven Data Analytics for Heart Disease.**" Our study aims to develop an advanced data analytics system that utilizes API technology to improve the analysis of patient medical records, ultimately enhancing the diagnosis and treatment outcomes of heart disease. Additionally, our system incorporates a referral mechanism to facilitate effective communication and coordination among healthcare providers.

As part of our research and development process, we are gathering essential data to support the design and functionality of the medical records system. We kindly request your participation in this study by providing insights, feedback, and relevant data, which will greatly contribute to the successful development of this system. This collaborative effort will ultimately lead to a more effective and user-centered heart disease management system.

The respondents are assured that the sensitive data entrusted shall be used with due diligence for the sole purpose of the research study. By participating in this data gathering, you acknowledge and agree that the information may be used and disclosed by the University of Cabuyao in accordance with any legal and regulatory standards and in compliance with the University Data Privacy Manual and **Data Privacy Act of 2012**.

We look forward to your positive response and assistance. Should you have any questions or need further clarification, please feel free to contact us.

Thank you for your time and cooperation.

Sincerely yours,


AQUINO, JOHN KENNETH L.
Researcher


CASTILLO, CARL LAWRENCE M.
Researcher


DUGAN, REYMAR B.
Researcher


LARRACAS, LIEZEL P.
Researcher

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Noted by:

PROF. MC AUSTINE PHILIP M. REDONDO
College of Computing Studies, Research Adviser

ASST. PROE ARCELITO C. QUIATCHON
College of Computing Studies, Capstone 2 Instructor

DR. GIMA B. MONTECILLO
Dean, College of Computing Studies

Approved by:

MS. KAY ANN O MARIGONDON
Hospital Admin, Global Medical Center of Laguna

ipl/11142024

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CLIENT ACCEPTANCE FORM



PNC: PRE-FO-104 rev 0 03262024

Researcher's Copy

CLIENT ACCEPTANCE FORM (FOR CLIENT-BASED RESEARCH)

Research Title:	Electronic Patients Medical Records API Driven Data Analytics for Heart Diseases
Research Objectives:	This research aims to develop and assess an electronic medical record (EMR) system integrated with data analytics functionalities tailored for real-time observation of heart disease. Conducted in healthcare facilities, the study will involve interdisciplinary collaboration to design and implement the EMR system, incorporating feedback from stakeholders. The system will then be deployed, and healthcare staff will receive training on its utilization. Data collection will follow, capturing patient demographics, medical history, and treatment outcomes, which will be analyzed using advanced analytics techniques to identify trends for heart disease. The study will evaluate the impact of real-time observation facilitated by the EMR system on in-patient and out-patient outcomes through comparative analysis and quantitative feedback from healthcare professionals. Ultimately, our system is designed to streamline healthcare professionals' workflows by reducing paperwork and minimizing the time required for communication with other hospitals.
Student Researchers:	Aquino, John Kenneth L. Castillo, Carl Lawrence M. Dugan, Reymar B. Larracas, Liezel P.
Research Teacher:	Dr. Gima B. Montecillo

We, Global Medical Center of Laguna, hereby acknowledge and accept the above-mentioned proposal. By signing this form, we agree to allow the researchers to conduct their study within our premises. We understand that the purpose of this project is purely academic and that the data collected will be treated with the utmost confidentiality.

Kay Anne B. Marigondon
COMPANY REPRESENTATIVE
(Signature over Printed Name)

Position: HOSPITAL ADMIN

Company Address:

National Highway, Brgy. Banilic, Cabuyao, Laguna

Contact Number:

09923554038

Email Address:

information.gnc@gmail.com

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THESIS ADVISING COMMITMENT FORM



Republic of the Philippines
Pamantasan ng Cabuyao
(University of Cabuyao)
Planning, Research, and Extension Division
Research and Development Department
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

THESIS ADVISING AND COMMITMENT FORM

1st semester, AY 2024-2025

Group No.	ITA-3	Program:	BSIT
Name of Researchers	Aquino, John Kenneth L. Castillo, Carl Lawrence M. Dugan, Reymar B. Larracas, Liezel		

I, Prof. Philip M. Redondo, agree to serve as the thesis adviser for the above-mentioned students. I hereby commit to the following:

1. To provide guidance and advice throughout the entire thesis process, from conceptualization to completion.
2. To ensure that the thesis is researchable and ethically sound, and that it meets the academic standards and requirements of the program.
3. To provide appropriate planning schedule for successive stages of the thesis project so that it may be completed and submitted within the appropriate timescale.
4. To encourage and instill a high standard of research ethics on the part of the student, in particular, avoiding conduct which may lead to fabrication of research results or plagiarism.
5. To maintain and ensure availability for regular contact with the student/s, making sufficient time available to fulfill the needs of the individual research student.
6. To review written work produced by the student/s and provide appropriate and constructive criticism.
7. To ensure that the students have a clear, accurate, detailed and accessible records of work undertaken.
8. To schedule consultation hours and make appropriate arrangements for meetings and feedback sessions.
9. To attend the defense of the thesis and provide feedback, but not allowed to participate in the presentation.
10. To constantly communicate with the student/s regarding the progress or status of the thesis project.

I understand that serving as a thesis adviser is a significant responsibility, and I am committed to fulfilling this role to the best of my abilities.

Ac. Austin Philip Redondo
Signature Over Printed Name

Date: August 20, 2024

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LETTER FOR VALIDATOR

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University of Cabuyao
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College of Computing Studies



Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025

PNC:AA-LE-769.58
October 28, 2024

DR. RAMIRO Z. DELA CRUZ
College of Computing Studies, Research Panel Chair

Dear Dr. Dela Cruz:

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 – Capstone 2, are conducting a study titled "ELECTRONIC PATIENT MEDICAL RECORDS API DRIVEN DATA ANALYTICS FOR HEART DISEASE". We are writing to formally request your esteemed assistance in evaluating the research instrument–questionnaires–we have developed for our project.

Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools. The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively assessing the proposed system. Your feedback will help us identify any necessary revisions before we proceed with their use in our research.

The significance of obtaining feedback from experienced individuals like yourself cannot be overstated. Your assessment will play a crucial role in helping us refine our questionnaires to ensure they accurately capture the data needed for our study. This process is essential for enhancing the reliability and validity of our research findings.

Enclosed with this letter, you will find a copy of the research instrument, specifically the questionnaires. We kindly request you to review them and provide your feedback and comments. Your insights will be instrumental in guiding us toward the finalization of our research tools.

Please do not hesitate to reach out to us via email or the contact number provided below if you have any questions or require further information. Your expertise and guidance are highly valued, and we are profoundly grateful for your willingness to assist us in this endeavor.

Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

Sincerely yours,

AQUINO, JOHN KENNETH
aquinojohnkenneth91@gmail.com
09422179856
Researcher

CASTILLO, CARL LAWRENCE M.
castillocarlawrencem.09@gmail.com
09164830892
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DUGAN, REYMAR B.
duganreymar70@gmail.com
09917996082

LARRAGAS, LIEZEL P.
larracalsiezelp31@gmail.com
09694131616





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College of Computing Studies

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



Researcher

Researcher

Noted by:

[Signature]
PROF. MC AUSTINE PHILIP M. REDONDO
College of Computing Studies, Capstone Adviser

[Signature]
ASST. PROF. ARCELITO C. QUIATCHON
College of Computing Studies, Capstone 2 Instructor

[Signature]
DR. GIMA B. MONTECILLO
College of Computing Studies, Dean

lpl/10282024

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Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025

PNC:AA-LE-769.66
October 29, 2024

MR. MARVIN L. ATANACIO
IT Expert

Dear Mr. Atanacio:

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 – Capstone 2, are conducting a study titled "ELECTRONIC PATIENT MEDICAL RECORDS API DRIVEN DATA ANALYTICS FOR HEART DISEASE". We are writing to formally request your esteemed assistance in evaluating the research instrument--questionnaires--we have developed for our project.

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Enclosed with this letter, you will find a copy of the research instrument, specifically the questionnaires. We kindly request you to review them and provide your feedback and comments. Your insights will be instrumental in guiding us toward the finalization of our research tools.

Please do not hesitate to reach out to us via email or the contact number provided below if you have any questions or require further information. Your expertise and guidance are highly valued, and we are profoundly grateful for your willingness to assist us in this endeavor.

Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

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Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025



Sincerely yours,

AQUINO, JOHN KENNETH
aquinojohnkenneth91@gmail.com
09422179856
Researcher

CASTILLO, CARL LAWRENCE M.
castillocarllawrencem.09@gmail.com
09164830892
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09917996082
Researcher

LARRACAS, LIEZEL P.
larracasliezel31@gmail.com
09694131616
Researcher

Noted by:

PROF. MC AUSTINE PHILIP M. REDONDO
College of Computing Studies, Capstone Adviser

ASST. PROF. ARCELITO C. QUIATCHON
College of Computing Studies, Capstone 2 Instructor

DR. GIMA B. MONTECILLO
College of Computing Studies, Dean

Approved by:

MR. MARVIN L. ATANACIO
IT Expert

ipl/10292024

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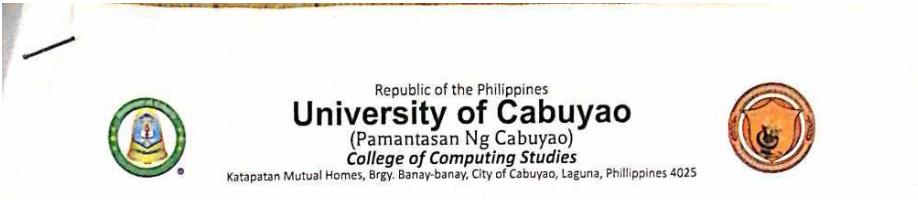


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Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025

PNC:AA-LE-769.59
October 28, 2024


MR. DARWIN CYRIL C. TURINGAN
College of Computing Studies, IT Expert Panel

Dear Mr. Turingan:

Dangal Greetings!

We, the undersigned fourth-year BSIT students currently enrolled in ITP112 – Capstone 2, are conducting a study titled "ELECTRONIC PATIENT MEDICAL RECORDS API DRIVEN DATA ANALYTICS FOR HEART DISEASE". We are writing to formally request your esteemed assistance in evaluating the research instrument--questionnaires--we have developed for our project.

Your expertise and insights are invaluable in ensuring the effectiveness and validity of our research tools. The primary objective of this evaluation is to determine whether the questionnaires meet the necessary criteria for effectively assessing the proposed system. Your feedback will help us identify any necessary revisions before we proceed with their use in our research.

The significance of obtaining feedback from experienced individuals like yourself cannot be overstated. Your assessment will play a crucial role in helping us refine our questionnaires to ensure they accurately capture the data needed for our study. This process is essential for enhancing the reliability and validity of our research findings.

Enclosed with this letter, you will find a copy of the research instrument, specifically the questionnaires. We kindly request you to review them and provide your feedback and comments. Your insights will be instrumental in guiding us toward the finalization of our research tools.

Please do not hesitate to reach out to us via email or the contact number provided below if you have any questions or require further information. Your expertise and guidance are highly valued, and we are profoundly grateful for your willingness to assist us in this endeavor.

Thank you for your time, consideration, and dedication to our research project. We look forward to receiving your evaluation, as it will significantly contribute to the success of our research.

Sincerely yours,


AQUINO, JOHN KENNETH
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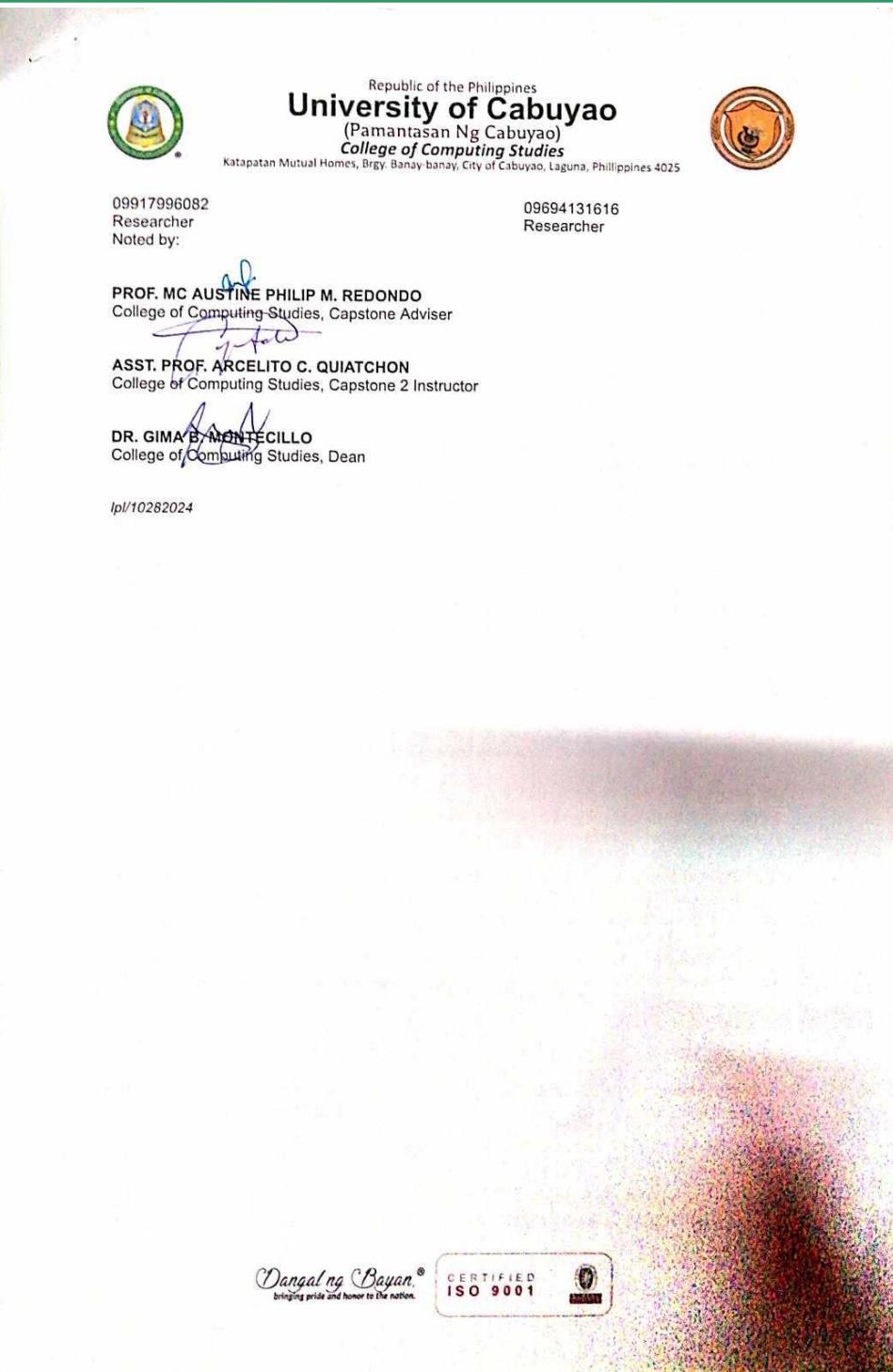
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APPENDIX C

VALIDATED RESEARCH INSTRUMENT/S



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 Planning, Research, and Extension Division
 Research and Development Department
 Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

RESEARCH INSTRUMENT VALIDATION FORM

Research Title	Electronics Patients Medical Records API driven Data Analytics for Heart Disease				
Lead Researcher:	Castillo, Carl Lawrence M.				
Members	Aquino, John Kenneth L.	Dugan, Reymar B.	Larracas, Liezel P.		
Validator	Dr. Ramiro Z. Dela Cruz				
Affiliation	IT Professor				
Type of Research Instrument	Survey-Questionnaire				

The purpose of this form is to validate the research instrument to ensure its reliability and validity in collecting accurate data. Please rate the research instrument based on the following criteria.

Use the following rating scale:

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly Disagree

No.	Review Questions	5	4	3	2	1
1	The research instrument is clear and easy to understand.	/				
2	The research instrument measures what it intends to measure and is relevant to the research questions.	/				
3	The research instrument covers all aspects of the research questions and provides comprehensive data.	/				
4	The research instrument provides consistent results and is reliable.	/				
5	The research instrument measures what it intends to measure and accurately reflects the research questions.	/				
6	The research instrument is appropriate for the research methodology being used.	/				
7	The research instrument provides accurate and precise data.		/			
8	The research instrument encourages participants to provide detailed and insightful responses (for qualitative research instrument)	/				
9	The research instrument produces consistent results regardless of who administers, scores, or interpret is.	/				
10	The research instrument has standardized scoring procedures (for quantitative research instrument)	/				

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Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

RESEARCH INSTRUMENT VALIDATION FORM

Research Title	Electronic Patient Medical Records API Driven Data Analytics for Heart Disease				
Lead Researcher:	Castillo, Carl Lawrence M.				
Members	Aquino, John Kenneth L.	Dugan, Reymar B.	Larracas, Liezel P.		
Validator	Mr. Darwin Cyril Turingan				
Affiliation	IT Validator				
Type of Research Instrument	Survey-Questionnaire				

The purpose of this form is to validate the research instrument to ensure its reliability and validity in collecting accurate data. Please rate the research instrument based on the following criteria. Use the following rating scale:

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly Disagree

No.	Review Questions	5	4	3	2	1
1	The research instrument is clear and easy to understand.			/		
2	The research instrument measures what it intends to measure and is relevant to the research questions.			/		
3	The research instrument covers all aspects of the research questions and provides comprehensive data.			/		
4	The research instrument provides consistent results and is reliable.			/		
5	The research instrument measures what it intends to measure and accurately reflects the research questions.			/		
6	The research instrument is appropriate for the research methodology being used.			/		
7	The research instrument provides accurate and precise data.			/		
8	The research instrument encourages participants to provide detailed and insightful responses (for qualitative research instrument).			/		
9	The research instrument produces consistent results regardless of who administers, scores, or interpret is.			/		
10	The research instrument has standardized scoring procedures (for quantitative research instrument)			/		

Please provide any additional comments or suggestions regarding the research instrument.

Thank you for your participation in validating this research instrument. Your feedback is appreciated.

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RESEARCH INSTRUMENT VALIDATION FORM

Research Title	ELECTRONICS PATIENTS MEDICAL RECORDS API DRIVEN DATA ANALYTICS FRO HEARTS DISEASES							
Lead Researcher:	Castillo, Carl Lawrence M.							
Members	Aquino, John Kenneth L. Dugan, Reymar B.				Larracas, Liezel P.			
Validator	Mr. Marvin L. Atanacio							
Affiliation	IT Validator							
Type of Research Instrument	Survey-Questionnaires							

The purpose of this form is to validate the research instrument to ensure its reliability and validity in collecting accurate data. Please rate the research instrument based on the following criteria. Use the following rating scale:

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly Disagree

No.	Review Questions	5	4	3	2	1
1	The research instrument is clear and easy to understand.			✓		
2	The research instrument measures what it intends to measure and is relevant to the research questions.			✓		
3	The research instrument covers all aspects of the research questions and provides comprehensive data.			✓		
4	The research instrument provides consistent results and is reliable.			✓		
5	The research instrument measures what it intends to measure and accurately reflects the research questions.			✓		
6	The research instrument is appropriate for the research methodology being used.	✓				
7	The research instrument provides accurate and precise data.			✓		
8	The research instrument encourages participants to provide detailed and insightful responses (for qualitative research instrument)					
9	The research instrument produces consistent results regardless of who administers, scores, or interpret is.			✓		
10	The research instrument has standardized scoring procedures (for quantitative research instrument)			✓		

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Please provide any additional comments or suggestions regarding the research instrument.	FOCUS ON THE QUEST.
--	---------------------

Thank you for your participation in validating this research instrument. Your feedback is appreciated.

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Electronics Patients Medical Records API Driven Data Analytics for Heart Diseases

System Evaluation Sheets for End Users

Name: _____

Date: _____

Age: _____

Position: _____

Good day! We are the students of Pamantasan ng Cabuyao pursuing Bachelor of Science in Information Technology. We are seeking for your feedback and with regards to the developed system entitled "**Electronics Patients Medical Records API Driven Data Analytics for Heart Diseases**". Your honest feedback is essential to our study and will help shape future approaches in this field. Rest assured that all evaluations recorded here are CONFIDENTIAL in regards to **Republic Act No. 10173**, also known as the **Data Privacy Act of 2012 (DPA)** and cannot be viewed or accessed by others.

The following question will evaluate the developed system. Please check the box that corresponds to your answer.

5- Strongly Agree (SA)
4- Agree (A)
3- Undecided (U)
2- Disagree (D)
1- Strongly Disagree (SD)

CATEGORY	SA 5	A 4	U 3	D 2	SD 1
Functional Suitability					
The system allows me to customize settings or workflows to suit my individual needs.					
The system provides adequate documentation or help resources for its functions.					



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I was able to quickly learn and adapt to using the system's functionalities.					
The system can handle a wide variety of tasks or use cases within my role.					
New features or updates to the system improve its usability and relevance to my work.					
Reliability					
The system consistently produces reliable outputs or results.					
The system provides helpful notifications or alerts when issues arise.					
The system has reliable backup and recovery processes to prevent data loss.					
Error messages are clear, informative, and help me understand how to resolve issues.					
I feel confident that the system will perform reliably during critical tasks.					
Performance Efficiency					
The system maintains good performance when loading or handling large files or datasets.					
The system allows me to work on multiple tasks at once without noticeable delays.					
The system uses memory resources efficiently and does not slow down other applications.					



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The system performs well even with variable network conditions or lower bandwidth.					
The system's speed allows me to complete time-sensitive tasks effectively.					
Security					
The system provides adequate measures to protect sensitive information.					
I feel confident that my data is safe from unauthorized access in this system.					
The system notifies users in case of potential security risks (e.g., failed login attempts, password resets).					
I find it easy to understand and follow the security guidelines provided for this system.					
I feel that my privacy is respected and protected while using this system.					



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College of Computing Studies



Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna, Philippines 4025

Electronics Patients Medical Records API Driven Data Analytics for Heart Diseases

System Evaluation Sheets for IT Experts

Date: _____

Good day! We are the students of Pamantasan ng Cabuyao pursuing Bachelor of Science in Information Technology. We are seeking your feedback and with regards to the developed system entitled "Electronics Patients Medical Records API Driven Data Analytics for Heart Diseases". Your honest feedback is essential to our study and will help shape future approaches in this field.

Rest assured that all evaluations recorded here are CONFIDENTIAL in regards to Republic Act No. 10173, also known as the Data Privacy Act of 2012 (DPA) and cannot be viewed or accessed by others.

The following question will evaluate the developed system. Please check the box that corresponds to your answer.

Scale	Description
5	Strongly Agree
4	Agree
3	Moderately Agree
2	Disagree
1	Strongly Disagree

CATEGORY	SA 5	A 4	MA 3	D 2	SD 1
Functional Suitability					
The system assigns employees based on their departments.					



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The system accurately categorizes patients' risk of heart disease as low, medium, or high based on their clinical symptoms.					
The system makes it easy to refer patients to other hospitals when equipment is unavailable or under maintenance.					
The system generates clear reports, including patient details and pharmaceutical records.					
The system reliably restores data after it has been lost or deleted.					
Performance Efficiency					
The system's response time for various operations is stable (e.g., database read/write speeds, network latency during high-traffic periods).					
There <u>are</u> no resource management issues with the system (e.g., CPU/memory spikes, I/O bottlenecks affecting performance).					
The system can properly manage a large amount of data.					
Compatibility					
The HMS integrates smoothly with existing infrastructure and applications without causing conflicts or resource competition.					
The HMS is highly effective in utilizing data with other hospital IT systems (e.g., seamless API interactions with lab software and pharmacy platforms).					
The HMS can be accessed on different platforms and browsers without functional discrepancies (e.g., Chrome, Firefox, Edge, mobile web access).					
Usability and Maintainability					
The HMS is well-aligned with IT administration tasks and responsibilities.					
The system is easy for IT personnel understand its functionality (e.g., initial setup, routine maintenance).					
The system is easy to operate (e.g., system monitoring, log management, user access control).					
The system provides sufficient mechanisms to prevent critical errors and facilitate recovery (e.g., error logging, rollback options).					



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The system has an engaging interface designed to assist IT staff in resolving issues effectively (e.g., clear diagnostics, responsive dashboards).						
Security						
The system requires the right account information to be able to log in.						
The Administrator has greater privileges compared to the physician (e.g., Role-Based Access Control).						
The system ensures the confidentiality of physicians' account information is protected.						



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APPENDIX D

INFORMED CONSENT FORM



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Research and Development Department

Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025

INFORMED CONSENT FORM

Research Project Title	Electronic Patient Medical Records API Driven Data Analytics for Heart Disease			
Proponents	Name	Email Address	Contact Number	Department
Research Lead	Castillo, Carl Lawrence M.	<u>castillocarllawrencem.09@gmail.com</u>	09164830892	CCS
Member/s	Aquino, John Kenneth L.	<u>aquinojohnkenneth91@gmail.com</u>	09422179856	CCS
	Dugan, Reymar B.	<u>duganreymar70@gmail.com</u>	09917996082	CCS
	Larracas, Liezel P.	<u>Larracasliezel31@gmail.com</u>	09694131616	CCS
Thesis Adviser (for student research)	Austine Philip Redondo	<u>azredondo@gmail.com</u>	09088891292	CCS

You are being invited to participate in a research study. Before you decide whether to participate, it is important that you understand why the research is being done and what your participation would involve. Please read the following information carefully and take time to ask any questions that you may have. You are free to choose whether or not to participate in this study. If you do not want to participate, you do not have to give a reason, and your decision will not affect any relationship you may have with the researchers or the institution.

Purpose of the Study	The purpose of this study is to develop an API-driven data analytics system designed to improve heart disease diagnosis and treatment through the efficient analysis of electronic patient medical records. The system aims to provide healthcare professionals with data-driven insights and incorporate a streamlined referral mechanism to enhance communication and patient management. By collaborating with the Global Medical Center of Laguna, the project seeks to address current challenges in heart disease management and optimize healthcare delivery through advanced technological solutions.
Risks, Benefits, or Discomforts of the Study	<p>The following are the potential risks, benefits, or discomforts of participating in this study:</p> <p>Risks. There may be risks associated with participating in this study. We will take all necessary precautions to minimize these risks.</p> <p><input type="checkbox"/> Physical risks include physical discomfort, pain, injury, illness or disease brought about by the methods and procedures of the research. A physical risk may result from the involvement of physical stimuli such as</p>

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noise, electric shock, heat, cold, electric magnetic or gravitational fields, etc. Engaging a subject in a social situation which could involve violence may also create a physical risk.

Psychological risks include the production of negative affective states such as anxiety, depression, guilt, shock and loss of self-esteem and altered behavior. Sensory deprivation, sleep deprivation, use of hypnosis, deception or mental stresses are examples of psychological risks.

Social/Economic risks include alterations in relationships with others that are to the disadvantage of the subject, including embarrassment, loss of respect of others, labeling a subject in a way that will have negative consequences, or in some way diminishing those opportunities and powers a person has by virtue of relationships with others. Economic risks include payment by subjects for procedures not otherwise required, loss of wages or other income and any other financial costs, such as damage to a subject's employability, as a consequence of participation in the research.

Loss of confidentiality

Legal risks exist when the research methods are such that the subject or others will be liable for a violation of the law, either by revealing that the subject or others have or will engage in conduct for which the subject or others may be criminally or civilly liable, or by requiring activities for which the subject or others may be criminally or civilly liable.

Benefits. You may benefit from this research. However, we cannot guarantee that you will receive any benefits from participating in this study.

- Contribute to the advancement of scientific knowledge
- Develop participants' new skills or learn more about themselves.
- Receive access to resources, such as support groups or educational materials, that may be beneficial to their health or well-being.
- Receive access to interventions or treatments that could improve their health outcomes.
- Receive compensation.

Discomforts There may be discomfort associated with participating in this study. We will take all necessary precautions to minimize these discomforts.

- Time Commitment: Participating in this study may require a significant amount of time and effort on your part, including attending appointments and completing questionnaires or other assessments.

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	<input type="checkbox"/> Emotional Distress: Some participants may find that discussing sensitive topics or answering personal questions can cause emotional distress or discomfort. <input type="checkbox"/> Physical Discomfort: Depending on the nature of the study, there may be physical discomfort associated with participating, such as experiencing side effects from medication or undergoing a medical procedure. <input checked="" type="checkbox"/> Confidentiality Concerns: While we will take all reasonable steps to protect your confidentiality, there is always a risk that your information could be inadvertently disclosed. <input type="checkbox"/> Unforeseen Risks: Despite our efforts to minimize risks and discomforts, there may be unforeseen risks or discomforts associated with participating in this study that we cannot anticipate
Duration of Participation:	Your participation in this study will take approximately 10-15 minutes to complete.
Confidentiality:	We will take all reasonable steps to ensure that your information is kept confidential. However, there are certain circumstances where we may be required to disclose your information, such as if we suspect that you or someone else may be at risk of harm. In addition, your de-identified data may be used in future research.
Voluntary Nature of Participation:	Participation in this study is entirely voluntary, and you have the right to withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled. If you choose to withdraw from the study, any data that you have provided up to that point will still be used in the study, unless you specifically request that it be deleted.
Contact Information:	If you have any questions or concerns about the study, you can contact the researchers at castillocarlawrence.cem.09@gmail.com , if you have any concerns about your rights as a participant, you can contact the Research Ethics Review Committee (RERC) at rdd@pnc.edu.ph
Consent:	By signing below, you indicate that you have read and understood the information provided above and that you voluntarily agree to participate in this study.

Name of the Research-Participant	Signature	Date
De la Torre, Mar Angeles A.		
RONNEL OCTAVIO		11/18/24

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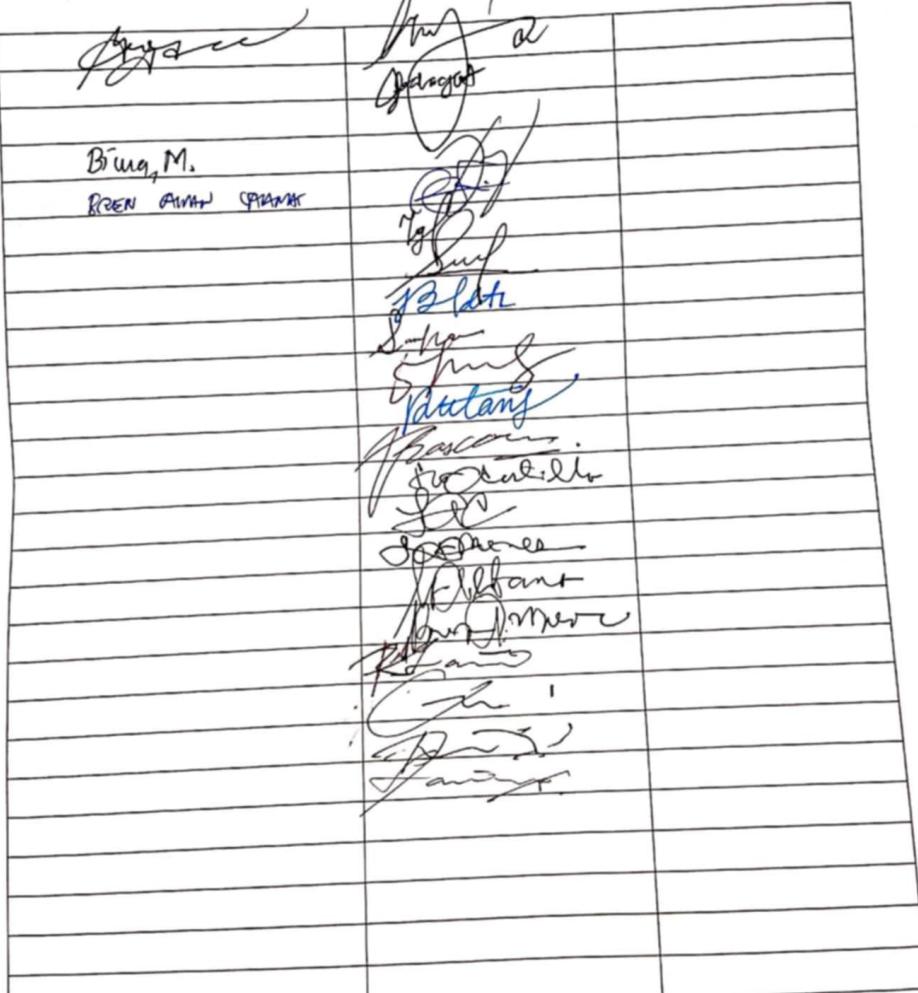
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A grid of 10 rows and 2 columns containing handwritten signatures and names. The first row contains "Bing, M." and "REN AWA SPANR". The second row contains "Surf" and "Blast". The third row contains "Sana" and "Sana". The fourth row contains "Vatang" and "Baron". The fifth row contains "Gutti" and "LTC". The sixth row contains "Danner" and "Danner". The seventh row contains "Danner" and "Danner". The eighth row contains "Danner" and "Danner". The ninth row contains "Danner" and "Danner". The tenth row contains "Danner" and "Danner".

Use Another page, if needed.

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APPENDIX E

**USER'S MANUAL OF THE ELECTRONIC PATIENT MEDICAL RECORDS
FOR HEART DISEASES SYSTEM (ADMIN)**



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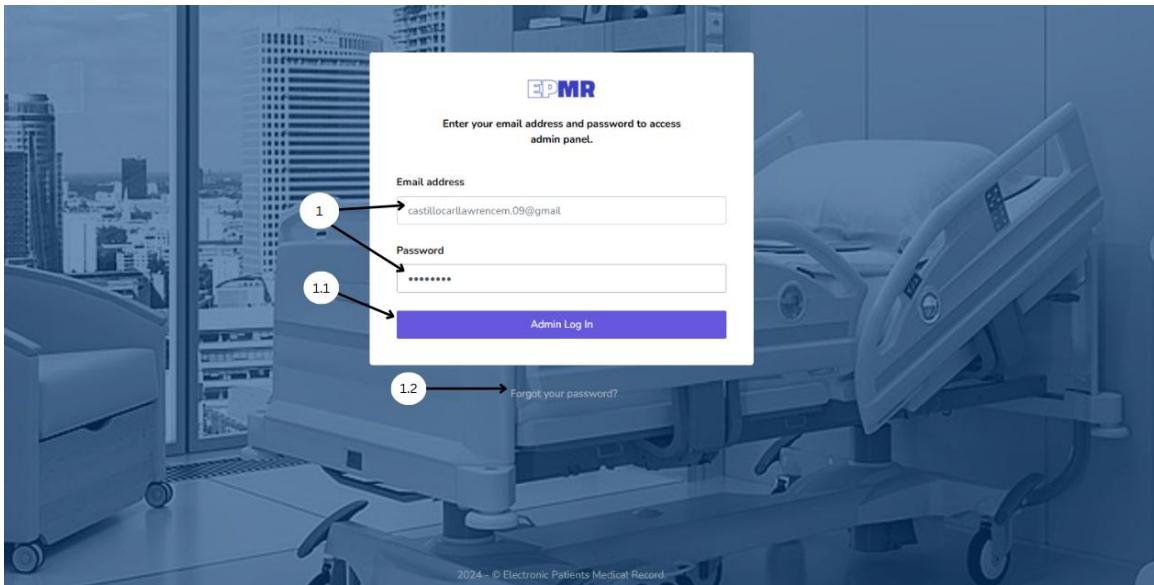
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- Login Page (Admin)



1. Enter the **admin's email address and password** here.
 - 1.1. Click the **login button** to access the admin dashboard.
 - 1.2. If you forget your password, a **link** will be sent to your email account for recovery.



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● Dashboard (Admin)

The screenshot shows the EP MR Admin Dashboard. At the top, there's a header with the University of Cabuyao logo, the title "University of Cabuyao (PAMANTASAN NG CABUYAO)", and a "Create New" button. On the right, it says "System Administrator". Below the header is a navigation menu on the left with items like "Dashboard", "Patients", "Laboratory", etc., and a "Create New" button. A callout bubble labeled "2" points to the "Dashboard" item. The main area is titled "Electronic Patients Medical Record" and displays various patient statistics in cards: Out Patients (93), In Patients (258), Hospital Employees (26), Discharged (0), Transferred (1), and Pharmaceuticals (50). Below this is a section titled "Hospital Employees" with a table:

Picture	Name	Email	Department
	Dr. Mark Villanueva	markvillanueva@gmail.com	Laboratory
	Dr. Isabel Aquino	isabelaquino@gmail.com	Cardiology
	Dra. Liezel Larracas	larracasdiesel@gmail.com	General Medicine/Internal Medicin
	john kenneth aquino	johnkennthaquino@gmail.com	Administrative Staff

2. After successfully **logging in**, the admin will see detailed record of the system

2.1 To **maximize/minimize** the system's navigation



● Register Patient (Admin)

The screenshot shows the 'Add Patient Details' page of the EP MR software. The left sidebar has a navigation menu with 'Patients' selected. The main form has the following fields:

- First Name (31) and Last Name
- Date of Birth (32) and Age
- Physician (33)
- Mobile Number
- Address (34) and Gender
- Patient Ailment (35) and Patient's Type
- Scale (36)
- Add Patient button (38)
- Patient Type dropdown (35)
- Scale dropdown (36)
- Gender dropdown (37)

3. Registering patient information

- 3.1 Fill up **First Name** and **Last name**
- 3.2 Input **Date of Birth** and the **Age**
- 3.3 Select what **Physician** that the patient need
- 3.4 Add the **address** and **gender** of patient
- 3.5 Add the **Patient Ailment**
- 3.6 Choose **Patient Type**
- 3.7 Select **scale** that will suit in the patient condition
- 3.8 Add **Patient** to record the patient information



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● View Patient (Admin)

EP-MR

Dashboard Create New

System Administrator

Patient Details

Dashboard > Patients > View Patients

Search

#	Name	Number	Address	Phone	Age	Gender	Category	Action
1	Paolo Villareal	DPDQ4	789 Tomas Morato, Quezon City	09127570529	35 Years	Female	OutPatient	<button>View</button>
2	Maria Domingo	Z1LK7	789 General Trias, Cavite	09128993411	28 Years	Female	InPatient	<button>View</button>
3	Margarita Calderon	3DNZU	202 Cavite City, Cavite	09122339402	37 Years	Male	InPatient	<button>View</button>
4	Rosa Magtanggol	PKE3X	789 Bonifacio St., Caloocan City	09126292390	27 Years	Female	InPatient	<button>View</button>
5	Rafael Gonzales	JHKFT	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	09127778676	33 Years	Male	InPatient	<button>View</button>
6	Sofia Romero	CN3P8	123 Quezon City Circle, Quezon City	09127172700	13 Years	Female	InPatient	<button>View</button>
7	Anna Calderon	4AB56	789 Taytay, Rizal	0911584863	32 Years	Female	OutPatient	<button>View</button>
8	Vicente Hernandez	BF1E6	789 Mindanao Ave., Quezon City	09122984633	49 Years	Male	InPatient	<button>View</button>
9	Marco Lopez	ZGEJL	789 South Super Highway, Muntinlupa	09121047474	24 Years	Male	InPatient	<button>View</button>
10	Nina Rivera	XBC71	789 Bonifacio St., Caloocan City	09126072969	41 Years	Male	InPatient	<button>View</button>
11	Andres Ramos	2S24V	303 MacArthur Highway, San Fernando, Pampanga	09129995879	52 Years	Male	InPatient	<button>View</button>
12	Liza Cruz	HBCZ5	303 Molino Road, Bacoor, Cavite	09126162629	42 Years	Male	InPatient	<button>View</button>
13	Maria Hernandez	2SDZB	123 Barangay San Isidro, Paranaque City	09128010703	42 Years	Male	OutPatient	<button>View</button>
14	Nina Rosales	M1N7I	101 Sta. Ana, Manila	091240R3961	48 Years	Female	InPatient	<button>View</button>

4. To view the Patient Information

4.1 View the specific Patient information.



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- View Patient Page (Admin)

Estrella Cruz's Profile

Full Name : Estrella Cruz
Mobile : 09125086289
Address : 303 Pateros, Metro Manila
Date Of Birth : 1984-01-29
Age : 40 Years
Gender : Male
Ailment : Gastroesophageal Reflux Disease (GERD)
Attending Physician : Dr. Mark Villanueva
Date Recorded : 21/11/2024 - 01:11

Prescription Vitals Lab Records

2024 - © Electronic Patients Medical Record.

4.1.1

4.1.2

4.1.1 Patient Information

4.1.2 Patient Prescription, Vital and Lab records Information



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● Manage Patient Details (Admin)

#	Patient	Number	Address	Category	Action
1	Veronica Ramos	MMLSO	303 Angeles City, Pampanga	InPatient	
2	Noemi Bautista	JFGGM	123 Quezon City Circle, Quezon City	InPatient	
3	Anna Calderon	4AB96	799 Taytay, Rizal	OutPatient	
4	Catherine Velasco	BFOMH	202 M. H. del Pilar St., Malabon	InPatient	
5	Estrella Magtanggol	2B0G6	202 Bagumbayan, Taguig City	OutPatient	
6	Manuel Lumban	M2BG5	789 Mindanao Ave., Quezon City	InPatient	
7	Ricardo Aquino	LOSBX	101 P. Tuazon Blvd., Cubao, Quezon City	InPatient	
8	Carmen Santos	YBHYT	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	InPatient	
9	Nina Lumban	5A3S0	789 General Trias, Cavite	OutPatient	
10	Lorenzo Sorianio	3S1XF	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	InPatient	
11	Emilio Rosales	Q0QRY	456 Jose Abad Santos Ave., San Fernando, Pampanga	OutPatient	
12	Noemi Manalo	CSPGI	202 Bagumbayan, Taguig City	InPatient	
13	Lorenzo Aquino	VICKS2	456 Tagaytay City, Cavite	InPatient	
14	Estrella Cruz	MZ6I7	303 Pateros, Metro Manila	InPatient	

5. Managing Patient Details

- 5.1. Delete Patient information
- 5.2. View patient Details
- 5.3. Update Patient Details
- 5.4. Discharge Patient if the patient already done the laboratory test



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● Manage Patient Details Update Page (Admin)

Update Patient Details

5.3.1

Fill all fields

First Name <input type="text" value="Gabriela"/>	Last Name <input type="text" value="Magtanggol"/>	
Date of Birth <input type="text" value="mm/dd/yyyy"/>	Age <input type="text" value="Patient's Age"/>	
Physician <input type="button" value="Select a Physician"/>	Mobile Number <input type="text" value="Only numbers, spaces, and symbols @ + () are allowed."/>	
Address <input type="text" value="Patient's Address"/>	Gender <input type="button" value="Select Gender"/>	
Patient Ailment <input type="button" value="Choose Ailment"/>	Patient's Type <input type="button" value="Choose"/>	Scale <input type="button" value="1"/>
<input type="button" value="Update Patient"/>		

5.3.1 Update any information of patient if needed



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● View Discharge Patient Information

The screenshot shows the EP MR software interface. The left sidebar has a navigation menu with links like Dashboard, Patients (with Register Patient, View Patients, Manage Patients, and Discharge Patients), and other departments like Laboratory, Medical Records, Reporting, Pharmacy, Employees, and Inventory. The main content area is titled "Discharged Patients" and displays a table with one row of data. The table columns are: #, Patient Name, Patient Number, Patient Address, Patient Category, Discharge Date, and Action. The single row shows: 1, Rafael Villanueva, OAUNO, 789 Mindanao Ave., Quezon City, InPatient, 2024-12-16 12:32:03, and a yellow "View" button. A callout bubble labeled "6" points to the "Discharge Patients" link in the sidebar. A callout bubble labeled "6.1" points to the "View" button in the table.

#	Patient Name	Patient Number	Patient Address	Patient Category	Discharge Date	Action
1	Rafael Villanueva	OAUNO	789 Mindanao Ave., Quezon City	InPatient	2024-12-16 12:32:03	<button>View</button>

6. Discharge Patient Page

6.1. View Discharge Patient Details



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● View Discard's Patient Information

Rafael Villanueva's Profile

Dashboard > Patients > View Patients

Prescription

2024-12-16 Heart arrhythmia
ad

Full Name : Rafael Villanueva
Mobile : 09121856312
Address : 789 Mindanao Ave., Quezon City
Date Of Birth : 1970-09-28
Age : 54 Years
Gender : Female
Ailment : Heart arrhythmia
Attending Physician : Dr. Rafael Garcia
Date Recorded : 20/11/2024 - 05:11

● Patient Transfer Page (Admin)

EPMR

Create New

System Administrator

NAVIGATION

Dashboard

Patients

Register Patient

View Patients

Manage Patients

Discharge Patients

Patient Transfers

Laboratory

Medical Records

Reporting

Pharmacy

Employees

Inventory

Transfer Patients

Patients Awaiting Transfers

Search

7.1

#	Patient	Patient Number	Address	Category	Action
1	Carlos Torres	ZH7QK	456 Marikina Heights, Marikina City	InPatient	
2	Angelica Reyes	1WV02	456 Las Piñas, Metro Manila	InPatient	
3	Estrella Silva	YMRG1	789 Pasig Blvd., Pasig City	InPatient	
4	Benito Manalo	QQQU5	405 Katipunan Ave, Quezon City	InPatient	
5	Jose Ocampo	ZHA46	789 Villamor Airbase, Pasay City	InPatient	
6	Andres Flores	4TPM7	101 C5 Road, Taguig City	InPatient	
7	Rosa Buenaventura	UI1M9	456 Marikina Heights, Marikina City	InPatient	
8	Hector Ramos	SICET	303 Angeles City, Pampanga	InPatient	
9	Paolo Hernandez	MMXSA	123 Quezon City Circle, Quezon City	InPatient	
10	Liza Aquino	CB30J	101 Buendia Ave., Makati City	InPatient	
11	Tomas Rivera	BS42C	303 M. dela Fuente St., Sampaloc, Manila	InPatient	
12	Benito Guzman	CDKXX	101 San Juan, Metro Manila	InPatient	
13	Dante Valdez	IDT4B	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	InPatient	

7. Transfer Patient Information

7.1 Click **Transfer Patient** to proceed to procedure what need to do to transfer patient



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- Transfer Patient Page (Admin)

Transfer Patient To A Refferral Facility

Dashboard > Patients > Transfer Patients

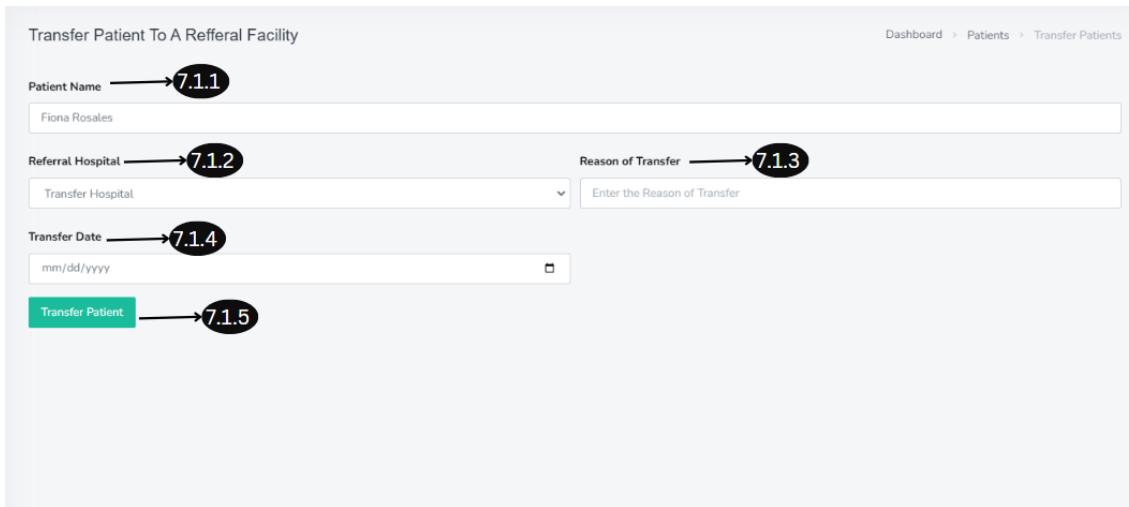
Patient Name → 7.1.1
Fiona Rosales

Referral Hospital → 7.1.2
Transfer Hospital

Reason of Transfer → 7.1.3
Enter the Reason of Transfer

Transfer Date → 7.1.4
mm/dd/yyyy

Transfer Patient → 7.1.5



7.1.1 Input the **Patient name**

7.1.2 Choose **Hospital** where the patient wants or need to transfer

7.1.3 **Reason** of patient why the patient needs to transfer

7.1.4 Input the **date** when will the patient transferred

7.1.5 click the button **Transfer Patient** to complete the procedure



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● Patient Lab Test (Admin)

The screenshot shows the 'ED-MR' software interface. The left sidebar has a 'NAVIGATION' section with links: Dashboard, Patients, **Laboratory** (highlighted with a red circle containing '8'), Patient Lab Results, Patient Vitalis, Lab Reports, Medical Records, Reporting, Pharmacy, Employees, Inventory, and Password Resets. The main content area is titled 'Laboratory Tests' and shows a table of patient records. The table columns are: #, Name, Patient Number, Address, Ailment, Age, Gender, Category, and Action. Each row contains a green 'Add Lab Test' button. The top right of the screen shows 'System Administrator'. The bottom right of the table header also has an 'Add Lab Test' button.

#	Name	Patient Number	Address	Ailment	Age	Gender	Category	Action
1	Maria Garcia	1ZZ40	789 General Trias, Cavite	Hypothyroidism	47 Years	Male	OutPatient	Add Lab Test
2	Miguel Mendoza	AEGLS	456 Marikina Heights, Marikina City	Weakness	44 Years	Male	InPatient	Add Lab Test
3	Carlos Rosales	8ERE7	456 Rizal Ave., Quezon City	Swollen ankles	36 Years	Male	OutPatient	Add Lab Test
4	Rafael Navarro	6PG0J	789 Caloocan City, Metro Manila	Nausea	30 Years	Male	OutPatient	Add Lab Test
5	Renato Lopez	TWNW3	789 South Super Highway, Muntinlupa	Sinusitis	42 Years	Female	InPatient	Add Lab Test
6	Elena Espinoza	ZF167	202 Sta. Mesa, Manila	Cough	30 Years	Male	OutPatient	Add Lab Test
7	Sofia Aguilar	ZPB1B	789 Villamor Airbase, Pasay City	Allergies	36 Years	Male	InPatient	Add Lab Test
8	Estrella Ramos	U2569	101 San Juan, Metro Manila	Heart attack	16 Years	Male	OutPatient	Add Lab Test
9	Zyrel Trinidad	GM3KJ	789 Bonifacio St., Caloocan City	Heart attack	22 Years	Male	OutPatient	Add Lab Test
10	Clara Mendoza	HSPVL	789 General Trias, Cavite	Irritable Bowel Syndrome (IBS)	25 Years	Female	OutPatient	Add Lab Test
11	Roberto Flores	GM8B6	789 Mindanao Ave., Quezon City	Fainting or unconsciousness	24 Years	Female	InPatient	Add Lab Test
12	Ricardo Lopez	M3Q1D	789 Taft Ave., Pasay City	Weakness	14 Years	Female	InPatient	Add Lab Test
13	Raul Perez	79DZ3	303 Molino Road, Bacoor, Cavite	Gastroesophageal Reflux Disease (GERD)	36 Years	Female	InPatient	Add Lab Test
14	Maria Tolentino	W234K	202 Sta. Mesa, Manila	Chronic Fatigue Syndrome	31 Years	Female	InPatient	Add Lab Test

8. Click the **patient lab tests** to choose what patient need get a lab test

8.1. After choosing, click the **Add Lab Test** to patient you wish to add with.



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Add Lab Test

Fill all fields

Patient Name: Julio Romero Patient Ailment: Asthma

Patient Number: 13JTD

Laboratory Tests → 8.1.1

Add Laboratory Test → 8.1.2

8.1.1 After selecting a patient, input the laboratory test

8.1.2 After that just click **add laboratory** to add the record for laboratory test



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EPMS

Create New

System Administrator

PATIENT DETAILS

#	Patient Name	Patient Number	Patient Ailment	Date Lab Test Conducted	Action
1	Ricardo Aquino	LOS8X	Heartburn	22/11/2024	Add Lab Result
2	Rafael Villanueva	OAUN0	Heart arrhythmia	16/12/2024	Add Lab Result
3	Fiona Rosales	Z2NBH	Throat or jaw pain	23/11/2024	Add Lab Result
4	Jessica Magdalena	jvOY8	Heartburn	23/11/2024	Add Lab Result
5	Carlos Soriano	IXS49	Swollen ankles	23/11/2024	Add Lab Result
6	Jose Bautista	86ZLZ	Cough	21/11/2024	Add Lab Result
7	Joshua Permejo	kxCRE	Chest pain	23/11/2024	Add Lab Result

9. Click the **Patient Lab result** to show the result of lab tests

9.1 Click the **add lab result** to go in add lab result page

Add Lab Result

Patient Name: Zyrel Trinidad

Patient Number: GM3KG

Patient Ailment: Heart attack

Laboratory Tests: sakit sa puso

Add Laboratory Result

9.1.1 Now add the result of lab test

9.1.2 After that **add laboratory result** to record the result



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● Patient Vitals (Admin)

The screenshot shows the EP MR application interface. On the left, there's a navigation sidebar with links like Dashboard, Patients, Laboratory (with a red circle '10' over it), Patient Vitals (with a red circle '10'), Lab Reports, Medical Records, and Reporting. The main area is a table titled 'Patient Vitals' with columns for #, Patient Name, Patient Number, Address, Ailment, Age, Gender, Category, and Action. There are four rows of data. The first row for Sofia Romero has a callout bubble labeled '10.1' pointing to the 'Capture Vitals' button in the Action column.

#	Patient Name	Patient Number	Address	Ailment	Age	Gender	Category	Action
1	Sofia Romero	CN3PB	123 Quezon City Circle, Quezon City	Irritable Bowel Syndrome (IBS)	13 Years	Female	InPatient	<button>Capture Vitals</button>
2	Andres Ramos	2SZ4V	303 MacArthur Highway, San Fernando, Pampanga	Chronic Fatigue Syndrome	52 Years	Male	InPatient	<button>Capture Vitals</button>
3	Catherine Santos	4E5RF	303 MacArthur Highway, San Fernando, Pampanga	Sweating	13 Years	Female	InPatient	<button>Capture Vitals</button>
4	Pedro Ramos	J5SEO	123 Quezon City Circle, Quezon City	Mononucleosis	47 Years	Female	InPatient	<button>Capture Vitals</button>

10. Click the **patient vital** and choose a patient

10.1 Click the **capture vitals** to show the capture vital page

The screenshot shows the 'Capture Sofia Romero Vitals' page. It has fields for Patient Name (Sofia Romero), Patient Ailment (Irritable Bowel Syndrome (IBS)), Patient Number (CN3PB), and Patient Body Temperature (°C). Below these are four input fields for Patient Body Temperature, Patient Heart Pulse/Beat BPM, Patient Respiratory Rate bpm, and Patient Blood Pressure mmHg. A callout bubble labeled '10.1.2' points to the 'Add Vitals' button at the bottom left. Another callout bubble labeled '10.1.1' points to the center of the vital input fields.

10.1.1 Now add the result of the patient vitals

10.1.2. After that **add vitals** to record the result



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● Lab Report (Admin)

The screenshot shows the EPINR software interface. The left sidebar has a navigation menu with links like Dashboard, Patients, Laboratory (which is expanded), Medical Records, Reporting, Pharmacy, Employees, Inventory, and Password Resets. The 'Lab Reports' link under the Laboratory section is highlighted with a red arrow and the number 11. The main content area is titled 'Patient Details' and shows a table of patient records. The table includes columns for Patient Name, Patient Number, Patient Ailment, Date Lab Test Conducted, and Action (with a 'View Lab Report' button). A callout bubble with the number 11.1 points to one of these buttons. The top right corner shows a user profile and system administrator options.

#	Patient Name	Patient Number	Patient Ailment	Date Lab Test Conducted	Action
1	Theresa Lagman	9RWD7	Bronchitis	21/11/2024	View Lab Report
2	Nina Rosales	M1N7I	Migraine	23/11/2024	View Lab Report
3	Zyret Trinidad	GM3KJ	Heart attack	22/11/2024	View Lab Report
4	Ricardo Aquino	LOS8X	Heartburn	22/11/2024	View Lab Report
5	Joshua Permejo	lxCRE	Chest pain	23/11/2024	View Lab Report
6	Jessica Magdalena	jvOYB	Heartburn	23/11/2024	View Lab Report
7	Jose Bautista	86ZLZ	Cough	21/11/2024	View Lab Report
8	Benito Guzman	CDOKK	Chest pain	23/11/2024	View Lab Report
9	Jose Bautista	86ZLZ	Cough	21/11/2024	View Lab Report
10	Nina Rivera	IR24W	Colds and Flu	04/12/2024	View Lab Report
11	Carlos Soriano	IXS49	Swollen ankles	23/11/2024	View Lab Report
12	Miguel Navarro	LEETT	Anemia	21/11/2024	View Lab Report
13	Fiona Rosales	Z2NRH	Throat or jaw pain	23/11/2024	View Lab Report

11. Click the **Lab reports** and choose patients

11.1 Click the **View Lab Results** to show the lab results page



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● Patient Lab Result (Admin)

#BLMDG

Dashboard > Laboratory Records > View Records

Patient's Name : Theresa Lagman

Patient Number : 9RWD7

Patient Ailment : Bronchitis

Date Recorded : 21/11/2024 - 09:11:55

Laboratory Test

Pulse oximetry

Laboratory Result

95% normal pulse rate.



● Medical Records (Admin)

EPMR

Create New

System Administrator

NAVIGATION

- Dashboard
- Patients
- Laboratory
- Medical Records **12** Add Medical Record
- Add Prescriptions
- View Prescriptions
- Manage Prescriptions
- Reporting
- Pharmacy
- Employees
- Inventory

Patient Details

Search

#	Name	Number	Address	Phone	Age	Category	Action
166	Jose Bautista	8621Z	456 Bonifacio Global City, Taguig	09125441220	54 Years	InPatient	Add Medical Record
85	Marco Calderon	16DPC	202 Cavite City, Cavite	0912619429	54 Years	OutPatient	Add Medical Record
12	Maria Flores	TXYPN	789 Caloocan City, Metro Manila	091223039305	54 Years	OutPatient	Add Medical Record
45	Clara Navarro	4LUZZ	101 Barangay Guadalupe, Makati City	09122411321	53 Years	InPatient	Add Medical Record
44	Ricardo Morales	7KJD2	303 Facita Complex, San Pedro, Laguna	09123724771	53 Years	InPatient	Add Medical Record
142	Andres Ramos	2SZAV	303 MacArthur Highway, San Fernando, Pampanga	09129995879	52 Years	InPatient	Add Medical Record
30	Bianca Soriano	UUT9Q	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	09127731006	51 Years	InPatient	Add Medical Record
158	Isabel Villanueva	OJE52	456 Jose Abad Santos Ave., San Fernando, Pampanga	09121703447	51 Years	InPatient	Add Medical Record
66	Andres Morales	OSFEN	303 Paterno, Metro Manila	09128152107	50 Years	InPatient	Add Medical Record
169	Noemi Torres	Y7FW8	123 Aguinaldo Hwy., Dasmarinas, Cavite	09126462656	50 Years	InPatient	Add Medical Record
11	Lorenzo Villareal	Z5ZUY	405 Kalipunan Ave., Quezon City	09123585179	50 Years	OutPatient	Add Medical Record
155	Ramon Valdez	S3HIV	123 Mabini St., Malate, Manila	09125006493	49 Years	InPatient	Add Medical Record
22	Vicente Hernandez	8F1E6	789 Mindanao Ave., Quezon City	09122984633	49 Years	InPatient	Add Medical Record



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12. Click **add medical record** and choose patient that already can take medical records

12.1 After that click the **add medical records** to show the page

The screenshot shows the EP MR application interface. On the left is a navigation sidebar with links to Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. The main area has fields for Patient Name (Jose Bautista), Patient Age (54), Patient Address (456 Bonifacio Global City, Taguig), Patient Number (86712), and Patient Ailment (Cough). Below these is a rich text editor with a toolbar containing icons for bold, italic, underline, etc. A large text input field is present. At the bottom is a blue button labeled "Add Patient Medical Record". Two black circles with arrows point from the text "12.1.1" to the text input field and from "12.1.2" to the "Add Patient Medical Record" button.

12.1.1 Add the **patient medical record** in any format

12.1.2 Click the button **add patient medical records** to save the records



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● Manage Medical Records

#	Patient Name	Patient Number	Address	Ailment	Age	Gender	Action
1	Fiona Rosales	Z2NBH	456 Rizal Ave., Quezon City	Throat or jaw pain	44 Years	Male	
2	Jose Rautista	8627LZ	456 Bonifacio Global City, Taguig	Cough	54 Years	Female	
3	Carlos Soriano	IX549	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	Swollen ankles	25 Years	Female	
4	Carlos Soriano	IX549	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	Swollen ankles	25 Years	Female	
5	Fiona Rosales	Z2NRH	456 Rizal Ave., Quezon City	Throat or jaw pain	44 Years	Male	
6	Jessica Magdalena	jvQYB	Phase 1 Blk 13 Lot 44 Mabuhay Mamatid Cabuyao Laguna	Heartburn	20 Years	Female	
7	Zyrel Trinidad	GM3KJ	789 Bonifacio St., Caloocan City	Heart attack	22 Years	Male	
8	Rafael Villanueva	OAUN0	799 Mindanao Ave., Quezon City	Heart arrhythmia	54 Years	Female	
9	Nina Rivera	IRZ4W	789 Villamor Airbase, Pasay City	Colds and Flu	44 Years	Male	

13. Manage Medical Record Page

- 13.1 Patient information can be **view**,
- 13.2 Patient medical record can be **update**,
- 13.3 And the patient medical record can also **delete**



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● Add Prescription (Admin)

A screenshot of the EP MR software interface. The top navigation bar includes 'EP MR', 'Create New', and a user profile for 'System Administrator'. The left sidebar has a 'NAVIGATION' section with links: Dashboard, Patients (selected), Laboratory, Medical Records (with 'Add Medical Record' and 'Manage Medical Records' sub-links), Add Prescriptions (highlighted with a red circle containing '14'), View Prescriptions, Manage Prescriptions, Reporting, Pharmacy, Employees, and Inventory. The main content area shows patient details: Patient Name (Jose Bautista), Patient Age (54), Patient Number (862LZ), Patient Address (456 Bonifacio Global City, Taguig), Patient Type (InPatient), Patient Ailment (Cough). Below this is a 'Prescription' input field with a rich text editor toolbar. A red arrow points from the 'Add Prescriptions' link in the sidebar to this field, labeled '14'. Another red arrow points from the 'Add Patient Prescription' button at the bottom of the prescription field to the field itself, labeled '14.1'. A third red arrow points from the 'Add Patient Prescription' button to the right, labeled '14.2'.

14. Adding prescription of patient

14.1 Input the prescription that the patient need

14.2 Click the add patient prescription to save the information



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- View Patient Prescription History

The screenshot shows the EP MR software interface. The top navigation bar includes 'EP MR', a menu icon, 'Create New', and a user profile for 'System Administrator'. Below the navigation is a sidebar titled 'NAVIGATION' with links: Dashboard, Patients, Laboratory, Medical Records (selected), Add Medical Record, Manage Medical Records, Add Prescriptions (selected), View Prescriptions (highlighted in blue), Manage Prescriptions, Reporting, Pharmacy, and Employees. The main content area displays patient information for 'Miguel Navarro' (Age: 39 Years, Gender: Female, Patient Number: LEEET, Patient Category: InPatient, Patient Ailment: Anemia) and a placeholder for a prescription with the word 'hambog'.



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● Manage Prescription (Admin)

EPMR

Create New

System Administrator

Dashboard > Pharmacy > Manage Prescriptions

NAVIGATION

- Dashboard
- Patients
- Laboratory
- Medical Records
 - Add Medical Record
 - Manage Medical Records
- Add Prescriptions
- View Prescriptions
- Manage Prescriptions  **15**
- Reporting
- Pharmacy  **15**
- Employees
- Inventory
- Password Resets
- Database

Update Patient Prescription

Fill all fields

Patient Name: Carlos Soriano

Patient Age: 25

Patient Address: 123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija

Patient Type: InPatient

Patient Allergy: Swollen ankles

Prescription **15.1**

B I 

Testing presc

Update Patient Prescription **15.2**

15. Manage the patient prescription update or delete the prescription record

15.1. Update the record if the prescription of patient needs to change

15.2. Click the update prescription to save the record



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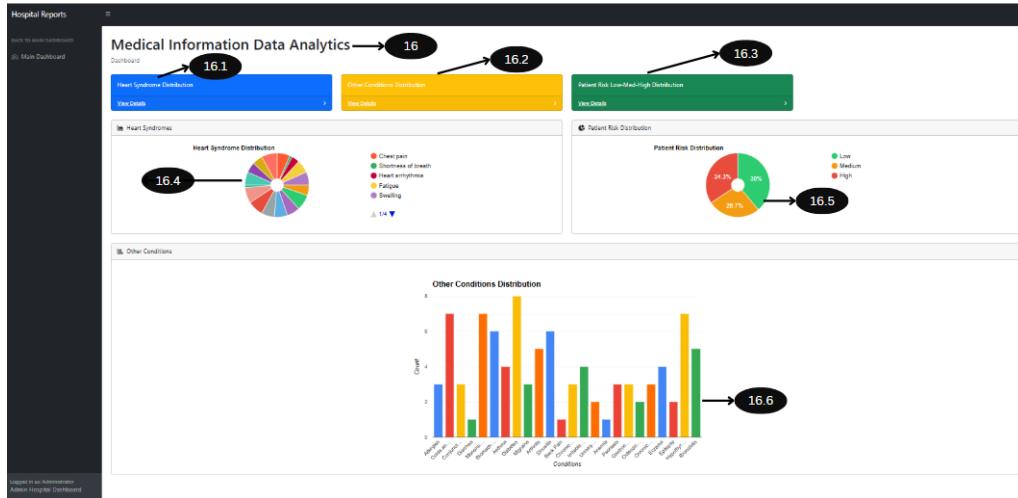
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● Reporting (Admin)



16. Click the **reporting** and after clicking the analytics and it will show the medical information data analytics

16.1. Click the **blue bar icon** to proceed at heart syndrome patient table

16.2. Click the "**yellow bar** to view the non-heart related patient

16.3. Click the "**green**" bar to view the patient that in low, medium or high chance of having heart disease

16.4. This chart is to show the percentage of specific heart syndromes

16.5. This chart is to show the percentage of all patients that having heart disease

16.6. This chart is to show the percentage of other conditions



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Heart Syndrome Table

Navigation: Back to Analytics Dashboard

Heart Syndrome Patient Table → 16.1

All patients here have heart-related ailments.

Patients Table

20 entries per page

First Name	Last Name	Patient Number	Ailments	Age	Gender	Date Joined
Cecille	Torres	267024	Fatigue	38	Female	2024-11-20 15:44:55.000000
Kris	Dela Cruz	487118	Heart attack	16	Male	2024-11-22 22:12:35.677228
Bentito	Mariel	Q3QyUS	Nausea	50	Male	2024-11-20 15:44:55.000000
Jesse	Ocampo	ZH4M4E	Distress	20	Male	2024-11-20 15:44:55.000000
Teresa	Rivera	854DC	Weakness	49	Female	2024-11-20 15:44:55.000000
Ermelito	Guzman	GDXKX	Chest pain	22	Female	2024-11-20 15:44:55.000000
Dante	Valdez	6T4B	Chest pain	35	Female	2024-11-20 15:44:55.000000
Roberto	Dell Rosario	C39Z7	Fainting or unconsciousness	18	Male	2024-11-20 15:44:55.000000
Cecille	Villalba	UH7B	Heart attack	13	Male	2024-11-21 21:43:21.953869
Isabel	Santiago	W8W1	Swelling	24	Female	2024-11-20 15:44:55.000000
Irene	Velasco	BT1M	Throat or jaw pain	46	Male	2024-11-20 15:44:55.000000
Teresa	Mayangap	8WY7Q	Swelling	44	Female	2024-11-20 15:44:55.000000
Ronie	Aviles	ZD4NH	Throat or jaw pain	44	Male	2024-11-20 15:44:55.000000
Miguel	Bautista	XPRVY	Distress	26	Male	2024-11-20 15:44:55.000000
Ermelito	Perez	U686R	Heart arrhythmia	16	Female	2024-11-20 15:44:55.000000
Vivienne	Novales	Q33BM	Swelling	33	Female	2024-11-20 15:44:55.000000
Maria	Acosta	U374	Fainting or unconsciousness	18	Male	2024-11-22 22:29:59.819199
Catherine	Velasco	8PCNAH	Chest pain	45	Female	2024-11-20 15:44:55.000000
John	Cruz	VG9RM	Swelling	43	Male	2024-11-20 15:44:55.000000
Catherine	Silva	ZB1DE	Severe ankles	15	Male	2024-11-20 15:44:55.000000

Showing 1 to 20 of 154 entries

1 2 3 4 5 6 7 8

16.1.1 After clicking the blue bar, the heart syndrome page will show the patients list that have heart syndrome specifically

Other Conditions Table

Navigation: Back to Analytics Dashboard

Non-Heart-Related Patient Table → 16.2

All patients listed here do not have heart-related ailments.

Patients Table

10 entries per page

First Name	Last Name	Patient Number	Ailments	Age	Gender	Date Joined	Score	Risk Level
Angelica	Reyes	180042	Hypothyroidism	27	Female	2024-11-20 15:44:55.000000	3	Low
Emelito	Silva	VM95C	Hypoglycemia	46	Male	2024-11-20 15:44:55.000000	1	Low
Anabelle	Ramos	479A77	Stroke	14	Male	2024-11-20 15:44:55.000000	6	High
Rosa	Guametumato	U13M9	Arthritis	21	Male	2024-11-20 15:44:55.000000	2	Low
Hector	Ramos	SJ2T	Dizziness or confusion	37	Male	2024-11-20 15:44:55.000000	4	Low
Paulo	Hernandez	Mh95A	Urinary tract infection (UTI)	33	Female	2024-11-21 01:37:35.034418	9	High
Luis	Acosta	CB101	Chronic Obstructive Pulmonary Disease (COPD)	52	Female	2024-11-21 01:37:35.034455	9	High
Emelito	Silva	JNLLG	Fractures	32	Male	2024-11-20 15:44:55.000000	8	High
Belen	Ramos	UD96Z	Dizziness or confusion	39	Male	2024-11-20 15:44:55.000000	6	High
Juan	Moscoso	C12NV	Anemia	64	Male	2024-11-20 15:44:55.000000	4	Low

Showing 1 to 10 of 194 entries

1 2 3 4 5 6 7 8 9 10

16.2.1 After clicking the yellow bar, the non-heart related patients will showed specifically



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Patient Risk Table

Back to Analytics Dashboard

Analytics Dashboard / Tables

All patients listed here have heart-related ailments.

Heart-Related Patients Table

10 entries per page

Search...

First Name	Last Name	Patient Number	Age	Gender	Date Joined	Ailment	Score	Risk Level
Carlos	Torres	ZH70K	39	Female	2024-11-20 15:46:55.000000	Fatigue	3	Low Risk
Rosa	Dela Cruz	4BN18	18	Male	2024-11-22 23:31:33.677228	Heart attack	10	High Risk
Bentito	Manalo	QDQU5	50	Male	2024-11-20 15:46:55.000000	Hanesia	9	High Risk
José	Ocampo	ZHA48	33	Male	2024-11-20 15:46:55.000000	Dizziness	6	Medium Risk
Tomas	Rivera	BSA1C	49	Female	2024-11-20 15:46:55.000000	Wheezing	7	Medium Risk
Bentito	Guzman	CDK1K	22	Female	2024-11-20 15:46:55.000000	Chest pain	1	Low Risk
Dante	Valdez	IDT48	35	Female	2024-11-20 15:46:55.000000	Chest pain	8	High Risk
Roberto	Del Rosario	CSS07	18	Male	2024-11-20 15:46:55.000000	Fainting or unconsciousness	5	Medium Risk
Carlos	Valdez	LPR08	13	Male	2024-11-21 21:42:12.831249	Heart attack	7	Medium Risk
Isabel	Santiago	WY151	28	Female	2024-11-20 15:46:55.000000	Sweating	8	High Risk

Showing 1 to 10 of 154 entries

1 2 3 4 5 6 7 10 ...

16.3.1 After clicking the green bar, it will show the list of patients and its chance of having low medium or high risk of heart disease



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● Add Pharm Category (Admin)

The screenshot shows the EP MR software interface. On the left, there is a navigation sidebar with various menu items like Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy (which is selected and highlighted with a red circle containing the number 17), Add Pharmaceuticals, View Pharmaceuticals, Manage Pharmaceuticals, Employees, Inventory, Password Resets, and Database. The main content area is titled "Create A Pharmaceutical Category" (17.1). It has two input fields: "Pharmaceutical Category Name" (17.2) and "Pharmaceutical Category Description" (17.3). Below these fields is a rich text editor toolbar. At the bottom of the form is a green "Add Category" button (17.4).

17. Click the **pharmacy** and then **add pharm category** to add new pharmaceutical

17.1. After clicking the **add category**, the **adding pharm category** will show

17.2. Input the **name of pharmaceutical**

17.3. Then input the description of pharmaceutical category

17.4. Then click the **add category** to save the added pharmaceutical



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● View Pharm Category (Admin)

A screenshot of the EP MR software interface. The left sidebar shows navigation options like Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy (selected), and others. Under Pharmacy, there are links for Add Pharm Category, View Pharm Category (highlighted with a blue arrow and labeled '18'), and Manage Pharm Category. The main content area is titled "Pharmaceutical Categories" and displays a table with two rows. The columns are "Category Name" and "Category Description". Row 1: Category Name is "Cardiovascular" and Description is "Used to treat high-blood pressure and prevent heart attacks". Row 2: Category Name is "Medicines" and Description is "asdasd". There are "View" and "Edit" buttons in the Action column. The bottom right of the table has a button labeled "18.1".

#	Category Name	Category Description	Action
1	Cardiovascular	Used to treat high-blood pressure and prevent heart attacks	<button>View</button> <button>Edit</button> 18.1
2	Medicines	asdasd	<button>View</button> <button>Edit</button>

18. Click the **view pharm category** to show the page and list of added pharmaceuticals

18.1 Click the **view** to show the information about the pharmaceutical



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The screenshot shows the EP-MR software interface. On the left is a navigation sidebar with links like Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. The main area displays a logo for 'Pharmaceutical' with a purple cross inside a green leaf-like circle. Below the logo, the word 'Pharmaceutical' is written in colorful letters. To the right, there is a detailed view of a pharmaceutical category: 'Cardiovascular'. The description states: 'Pharmaceutical Name: Cardiovascular' and 'Used to treat high blood pressure and prevent heart attacks'. At the top right of the main area, it says 'System Administrator'.

18.1.1 After clicking the specific pharmaceutical category, it will now show the information about the pharmaceutical

- **Manage Pharmaceutical Categories (Admin)**

The screenshot shows the 'Manage Pharmaceutical Categories' page. The left sidebar has a 'Pharmacy' section with 'Add Pharm Category', 'View Pharm Category', and 'Manage Pharm Category' (which is highlighted with a black arrow labeled '19'). The main table lists two categories: 'Aspirin' (id 1) with the description 'used to treat pain' and 'Cardiovascular' (id 2) with the description 'Used to treat high blood pressure and prevent heart attacks'. A 'Delete' button is shown next to the Cardiovascular entry. At the bottom right of the table, there is a '19.1' circled in black. The top right corner shows 'System Administrator'.

19 Click the **manage category** to manage the specific category

19.1 Click the **update** to show the information of specific category and updated it if needed



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● Update Category (Admin)

The screenshot shows a software interface titled 'EP-MR'. On the left is a navigation sidebar with links like Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. The main area has a header 'Create New' and 'Dashboard - Pharmaceuticals - Manage-Pharmaceutical Category'. It contains a form with a 'Pharmaceutical Category Name' field containing 'asdsd' (marked by arrow 19.1.1), a 'Pharmaceutical Category Description' field containing 'asdasd' (marked by arrow 19.1.3), and a red 'Update Category' button at the bottom (marked by arrow 19.1.4). A note 'Fill all fields' is above the name field. A toolbar with various icons is at the top of the form area.

19.1.1. After clicking the update, it will show what are the information you can update

19.1.2. Update the **name of category** if needed

19.1.3. Update the **description** if needed

19.1.4. Then, click the **update category** to save the changes.



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● Add Pharmaceutical (Admin)

The screenshot shows the 'Create A Pharmaceutical' page. The left sidebar has a 'Pharmacy' section with 'Add Pharm Category' selected. The main form has the following fields:

- Pharmaceutical Name (20.1)
- Pharmaceutical Quantity(Cartons) (20.2)
- Pharmaceutical Category (20.3) - set to 'Concentrate'
- Pharmaceutical Barcode(EAN-13) (972408126)
- Pharmaceutical Description (20.4) - contains a rich text editor with buttons B, I, etc.
- Add Pharmaceutical (20.5) - a green button at the bottom

20. Click the **add pharmaceutical** to proceed adding a pharmaceutical

20.1 Type what name of pharmaceutical

20.2 Input the "pharmaceutical quantity"

20.3 Choose "category" what pharmaceutical fit

20.4 After that **add pharmaceutical description**.

20.5 Click **add pharmaceutical** to save all information



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● View Pharmaceutical (Admin)

#	Pharmaceutical Name	Pharmaceutical Barcode	Pharmaceutical Category	Pharmaceutical Quantity	Action
1	Hydralazine	H001	Cardiovascular	45 Cartons	View
2	Fluoxetine	H002	Psychotic	150 Cartons	View
3	Aspirin	H006	Cardiovascular	300 Cartons	View
4	Amitodarone	H010	Cardiovascular	40 Cartons	View
5	Prednisone	H010	Steroid	100 Cartons	View
6	Pravastatin	H018	Cardiovascular	140 Cartons	View
7	Warfarin	H017	Cardiovascular	65 Cartons	View
8	Isoosorbide Mononitrate	H022	Cardiovascular	70 Cartons	View
9	Hydrochlorothiazide	H008	Diuretic	120 Cartons	View
10	Ibuprofen	H002	Analgesic	400 Cartons	View
11	Tetracycline	H017	Anesthetic	200 Cartons	View
12	Montelukast	H014	Respiratory	220 Cartons	View
13	Cetirizine	H015	Antihistamine	270 Cartons	View
14	Rosuvastatin	H019	Cardiovascular	100 Cartons	View
15	Furosemide	H025	Cardiovascular	100 Cartons	View
16	Ramipril	H014	Cardiovascular	80 Cartons	View
17	Clindamycin	H025	Antibiotic	170 Cartons	View
18	Loratadine	H011	Cardiovascular	85 Cartons	View
19	Ciprofloxacin	H004	Antibiotic	200 Cartons	View
20	Digoxin	H009	Cardiovascular	60 Cartons	View
21	Insulin Glargine	H012	Antidiabetic	90 Cartons	View
22	Isoniazid	H009	Antibiotic	900 Cartons	View

21. View pharmaceutical will show all list and choose specific pharmaceutical

21.1 After choosing, click the **view** to proceed to viewing the pharmaceutical information



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The screenshot shows the EP MR software interface. The top navigation bar includes 'EP MR', 'Create New', and a user icon for 'System Administrator'. The left sidebar has a 'NAVIGATION' section with links for Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. The main content area is titled '#B021 - Hydralazine' and displays a large logo for 'Pharmaceutical' with a stylized cross and leaf design. To the right, detailed pharmaceutical information is listed: Pharmaceutical Name : Hydralazine, Pharmaceutical Quantity : 45 Cartons, and Pharmaceutical Description : Vasodilator for blood pressure management.

21.1.1 After clicking the view button, the information about the pharmaceutical will be showed and only viewable

- **Manage Pharmaceuticals (Admin)**

The screenshot shows the 'Manage Pharmaceuticals' page in the EP MR software. The left sidebar is identical to the previous screenshot. The main content area is titled 'Manage Pharmaceuticals' and contains a table of pharmaceuticals. The table columns are: #, Name, Barcode, Category, Quantity, and Action. The 'Action' column includes buttons for View, Update, and Delete. A black arrow labeled '22' points to the 'Manage Pharmaceuticals' link in the sidebar. Another black arrow labeled '22.1' points to the 'Delete' button in the table's last row.

#	Name	Barcode	Category	Quantity	Action
1	Montelukast	B014	Respiratory	220 Cartons	
2	Venlafaxine	B020	Cardiovascular	90 Cartons	
3	Salbutamol	B013	Respiratory	400 Cartons	
4	Tetracycline	B017	Antibiotic	200 Cartons	
5	Gimocetatin	B015	Cardiovascular	175 Cartons	
6	Clopidogrel	B005	Cardiovascular	180 Cartons	
7	Paracetamol	B001	Analgic	500 Cartons	
8	Omeprazole	B006	Gastrointestinal	150 Cartons	
9	Rosuvastatin	B019	Cardiovascular	160 Cartons	
10	Ramipril	B014	Cardiovascular	80 Cartons	
11	Amoxicillin	B003	Antibiotic	350 Cartons	
12	Motapride	B003	Cardiovascular	150 Cartons	
13	Loratadine	B007	Antihistamine	300 Cartons	
14	Bisoprolol	B013	Cardiovascular	85 Cartons	
15	Fluoxetine	B020	Psychotic	150 Cartons	
16	Insulin Glargin	B012	Antidiabetic	90 Cartons	
17	Lisinopril	B002	Cardiovascular	120 Cartons	
18	Cindamycin	B025	Antibiotic	170 Cartons	
19	Amiodarone	B010	Cardiovascular	40 Cartons	
20	Isoeptolin Mesylate	B022	Cardiovascular	70 Cartons	

22. Manage pharmaceutical to manage the specific pharmaceutical

22.1 Choose if you want to **update or delete** the pharmaceutical



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- Update Pharmaceutical (Admin)

The screenshot shows the EPMR software interface. On the left is a sidebar with navigation links: Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. The main area is titled "Update #N014 - Montelukast". It contains fields for "Pharmaceutical Name" (Montelukast), "Pharmaceutical Category" (Cardiovascular), and "Pharmaceutical Description" (Asthma prevention and allergy treatment). A "Pharmaceutical Quantity (Cartons)" field shows "220". At the bottom is an orange "Update Pharmaceutical" button. Two numbered callouts point to specific elements: "22.1.1" points to the "Update Pharmaceutical" button, and "22.1.2" points to the "Update Pharmaceutical" button.

22.1.1 Update all information that you wish to update

22.1.2 Click the **update pharmaceutical** to save the changes.



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● Add Employee (Admin)

A screenshot of the EP MR software interface. The left sidebar shows a navigation menu with options like Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees (with 'Add Employee' highlighted), Inventory, Password Resets, and Database. The main panel is titled 'Add Employee Details' and contains fields for First Name, Last Name, Email, and Password. A note at the top says 'Fill all fields'. Two numbered callouts point to specific actions: '23.1' points to the 'First Name' field, and '23.2' points to the 'Add Employee' button.

23. Click **add employee** to add new employee

23.1 Fill the fields **firstname, lastname, email and password**

23.2 Click **add employee** to record the added employee



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● Manage Employee (Admin)

ID	Name	Number	Department	Email	Action
1	Raymer Dugan	WVBLU7	Laboratory	raymerdugan@gmail.com	Delete Update
2	Dr. Karen Montaza	HBLU1	General Medicine/Internal Medicine	karenmontaza@gmail.com	Delete Update
3	Dr. Mark Villanueva	HCT35	Laboratory	markvillanueva@gmail.com	Delete Update
4	Dr. Miguel Tangco	LQFT5	Cards/Anesthesiologists	migueltangco@gmail.com	Delete Update
5	Dr. Patricia Padilla	D140K	Cardiothoracic Surgeon	patriciappadilla@gmail.com	Delete Update
6	Dr. Angelica Reyes	SPBLT	Patient Registration	angelicareyes@gmail.com	Delete Update
7	Dr. Sofia Lim	DH1RS	Cardiothoracic Surgeon	sofialim@gmail.com	Delete Update
8	Dr. Edgar Fernandez	BLJSG	Cards	edgarfernandez@gmail.com	Delete Update
9	Jules kenneth aquino	GGQE2	Administrative Staff	julkesaquino@gmail.com	Delete Update
10	Darwin Cyril Turinigan	BSKX1	Administrative Staff	turingandrewinc@gmail.com	Delete Update
11	Dr. Andres Lopez	BL12F	Pharmacist	andreslopez@gmail.com	Delete Update
12	Lizette Lamicas	9162M	Pharmacist	lizettelamicas@gmail.com	Delete Update
13	Dr. Lisa Domingo	6Y2NE	Cards/Anesthesiologists	lisadomingo@gmail.com	Delete Update
14	Dr. Victor Navarro	KZEWG	Patient Registration	victornavarro@gmail.com	Delete Update
15	Dr. Juan Dela Cruz	KRLDX	Cards	juandelaclaus@gmail.com	Delete Update
16	Darwin Cyril Turinigan	KABLU	Cards	cristoforaturinigan09@gmail.com	Delete Update
17	Carl Lawrence Castillo	U57ZE	Administrative Staff	hanibalcarl22@gmail.com	Delete Update
18	Dr. Rafael Gorria	4PQZN	Cards/Anesthesiologists	rifaelgorria@gmail.com	Delete Update
19	Dr. Jose Ramos	HGTU2	Cardiology	joseramos@gmail.com	Delete Update
20	Dr. Mario Santos	4K7T7	General Medicine/Internal Medicine	marioantonios@gmail.com	Delete Update
21	Dr. Kristine Basaita	SAQHO	Cardiology	kristinebasaita@gmail.com	Delete Update

24. Click the **manage employee**, then it will show the list of all employees and choose what employee do you want to manage

24.1 Click the **update** to save the changes in employee's information.



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● Assign Employee (Admin)

#	Name	Number	Department	Email	Action
1	Carl Lawrence Castillo	U572E	Administrative Staff	hannahcarl22@gmail.com	<input type="button" value="Assign Department"/>
2	Dr. Victor Navarro	K26WS	Patient Registration	victor.navarro@gmail.com	<input type="button" value="Assign Department"/>
3	Dr. Edgar Fernandez	6LU5Q	Cardiology	edgar.fernandez@gmail.com	<input type="button" value="Assign Department"/>
4	Dr. Belen Garcia	4PQZM	Cardiac Anesthesiologists	rzelgarcia@gmail.com	<input type="button" value="Assign Department"/>
5	Rivera Ethan	IQ2SL	Cardiac Anesthesiologists	caetilocarlawrence09@gmail.com	<input type="button" value="Assign Department"/>
6	Reymar Dugan	WJ8U7	Laboratory	reymardugan@gmail.com	<input type="button" value="Assign Department"/>
7	Lizette Laramas	9Y6VM	Pharmacist	lizette.laramas@gmail.com	<input type="button" value="Assign Department"/>
8	Max Samson	CJQMD	Medical Staff	MaxJ@gmail.com	<input type="button" value="Assign Department"/>
9	Dr. Kristine Bautista	GAQHQ	Cardiology	krishneebautista@gmail.com	<input type="button" value="Assign Department"/>
10	Dr. Karen Mondeza	M8JU1	General Medicine/Internal Medicin	karenmondeza@gmail.com	<input type="button" value="Assign Department"/>
11	Dr. Angelica Reyns	SPBLT	Patient Registration	angelicareyns@gmail.com	<input type="button" value="Assign Department"/>
12	Darwin Cyril Tunigan	ESBXX	Administrative Staff	tunigandarwin09@gmail.com	<input type="button" value="Assign Department"/>
13	Dra. Lissett Larrazate	KVWIF	General Medicine/Internal Medicin	larrazate09@gmail.com	<input type="button" value="Assign Department"/>
14	Dr. Carlos Serano	O9Q9V	Cardiology	carlosserano09@gmail.com	<input type="button" value="Assign Department"/>
15	Dr. Isabel Aquino	KDQQE	Cardiology	isabelaquino09@gmail.com	<input type="button" value="Assign Department"/>
16	Darwin Cyril Tunigan	KAIJU		caetilocarlawrence09@gmail.com	<input type="button" value="Assign Department"/>
17	Dr. Mark Villanueva	HCT3S	Laboratory	markvillanueva@gmail.com	<input type="button" value="Assign Department"/>
18	Dr. Miguel Tiangco	LQPT5	Cardiac Anesthesiologists	migueltiangco@gmail.com	<input type="button" value="Assign Department"/>
19	Dr. Jess Romos	HG7U2	Cardiology	jessromos@gmail.com	<input type="button" value="Assign Department"/>
20	Dr. Patricia Padilla	D149L	Cardiothoracic Surgeon	patricia.padilla@gmail.com	<input type="button" value="Assign Department"/>
21	Dr. Sofia Lim	DH4RS	Cardiothoracic Surgeon	sofiahlim@gmail.com	<input type="button" value="Assign Department"/>

25. After clicking the **assign employee**, the list of all employees will show. After that, choose who employee will be assigned in a specific department.

25.1. After choosing an employee, click the **assign department**



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● Assign Department (Admin)

The screenshot shows the 'Assign Department' page in the EPMS system. The navigation bar includes links for Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. The main form is titled 'Assign Department to Employee' and contains fields for First Name (Carl Lawrence), Last Name (Catallo), Email (hanulahirih22@gmail.com), and Department (25.1.1). Below these fields is a 'Select Department' dropdown. At the bottom of the form is a green 'Assign Department' button, which is circled in black and labeled '25.1.2'.

25.1.1 Select a **department** where the employee will be assigned

25.1.2 Click the **assign department** to save the changes.

● Transfer Employee (Admin)

The screenshot shows the 'Transfer Employee' page in the EPMS system. The navigation bar includes links for Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees (with sub-links for Add Employee, Manage Employees, Assign Department, and Transfer Employee), Inventory, Password Resets, and Database. The main table lists employees with columns for ID, Name, Number, Current Department, Email, and Action. The 'Transfer Employee' link in the navigation is circled in black and labeled '26'. The 'Transfer Employee' button in the action column of the table is circled in black and labeled '26.1'.

ID	Name	Number	Current Department	Email	Action
1	Lizeth Laracasa	9Y6vH	Pharmacist	lizellaracasa@gmail.com	26.1
2	Dr. Angelita Reyes	9R8LT	Patient Registration	angelitareyes@gmail.com	
3	Dr. Carlos Soriano	0S9RV	Cardiology	carlossoriano@gmail.com	
4	Max Samson	C1QMD	Medical Staff	Max@gmail.com	
5	Dr. Mark Villanueva	HCT2G	Laboratory	markvillanueva@gmail.com	
6	Dr. Andre Lopez	BL12F	Pharmacist	andrellopez@gmail.com	
7	Dra. Lizaeth Laracasa	KW8RF	General Medicine/Internal Medicine	lizellaracasa@gmail.com	
8	Dr. Patricia Padilla	D146K	Cardiothoracic Surgeon	patriciapadilla@gmail.com	
9	Dr. Kristine Bautista	Q4QHO	Cardiology	krishneebautista@gmail.com	
10	Dr. Jose Ramos	HDTU2	Cardiology	joseramos@gmail.com	
11	Rivens Ethan	I0ZSL	Cardiac Anesthesiologists	castillocongavencio.09@gmail.com	
12	Carl Lawrence Castillo	US72E	Administrative Staff	hanulahirih22@gmail.com	
13	Dr. Sofia Lim	DHRS	Cardiothoracic Surgeon	sofialim@gmail.com	
14	Dr. Marie Santos	4KTT7	General Medicine/Internal Medicine	mariesantos@gmail.com	
15	Dr. Karen Mendoza	MBLJ	General Medicine/Internal Medicine	karenmendoza@gmail.com	
16	Dr. Lizaeth Laracasa	u79V4P	Pharmacy Practitioners	lizellaracasa@gmail.com	

26. After clicking the **transfer** in our navigation, the list of all employees will appear. After that, you will select who employee needs to transfer to another department.

26.1. Click the **transfer employee** to proceed to the next step



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The screenshot shows a software interface titled 'EPINER'. In the top right corner, there is a user profile icon and the text 'System Administrator'. On the left, a navigation sidebar lists various modules: Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. Under the 'Inventory' module, there is a 'Pharmaceuticals' link. The main content area is titled 'Transfer Employee Between Departments'. It contains fields for First Name (Ricca), Last Name (Eduan), Email (ricca.eduvaron.com.04@gmail.com), Employee Number (0256), Current Department (Cardiac Anesthesiologists), Transfer To Department (dropdown menu), and a 'Transfer Employee' button. Arrows labeled 26.1.1 and 26.1.2 point to the 'Transfer To Department' dropdown and the 'Transfer Employee' button respectively.

26.1.1 Choose department where the employee needs to be transfer

26.1.2 Click the Transfer Employee to save the information

● Inventory (Admin)

The screenshot shows a software interface titled 'EPINER'. In the top right corner, there is a user profile icon and the text 'System Administrator'. On the left, a navigation sidebar lists various modules: Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Pharmaceuticals (link), Password Resets, and Database. Arrows labeled 27 and 27.1 point to the 'Pharmaceuticals' link and the 'View' button in the first row of the inventory table respectively. The main content area is titled 'Pharmaceuticals Inventory' and displays a table with columns: #, Pharmaceutical Name, Pharmaceutical Barcode, Pharmaceutical Category, Pharmaceutical Quantity, and Action. The table lists 15 rows of pharmaceutical items with their respective details.

#	Pharmaceutical Name	Pharmaceutical Barcode	Pharmaceutical Category	Pharmaceutical Quantity	Action
1	Fluoxetine	N020	Psychiatric	150 Cartons	27.1
2	Atenolol	B001	Cardiovascular	100 Cartons	
3	Vinepamil	B020	Chemotherapy	90 Cartons	
4	Gabapentin	N019	Neurology	110 Cartons	
5	Hydroxyzine	B021	Cardiovascular	45 Cartons	
6	Lisinopril	B002	Cardiovascular	120 Cartons	
7	Cetirizine	N015	Antihistamines	370 Cartons	
	Rosuvastatin	B019	Cardiovascular	160 Cartons	
9	Meloxicam	N018	Analgic	130 Cartons	
10	Warfarin	B017	Cardiovascular	65 Cartons	
11	Ivermectin	B023	Chemotherapy	55 Cartons	
12	Amiodarone	B010	Cardiovascular	40 Cartons	
13	Omoprazole	N006	Gastrointestinal	150 Cartons	
14	Isosorbide Mononitrate	B022	Cardiovascular	70 Cartons	
15	Rebifabot	B024	Cardiovascular	75 Cartons	

27 Inventory to show the list of every pharmaceutical quantity

27.1 Click the view to show the full information of specific pharmaceutical inventory



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● View Inventory (Admin)

The screenshot shows the EPINIR software interface. On the left, there is a navigation sidebar with various menu items: Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, Password Resets, and Database. The 'Inventory' item is currently selected. The main content area displays a large logo for 'Pharmaceutical' with a stylized cross and leaf design. Below the logo, the text '#N020 - Fluoxetine' is shown. To the right, detailed pharmaceutical information is listed: 'Pharmaceutical Name : Fluoxetine' (with a circled '27.11' arrow), 'Pharmaceutical Quantity : 150 Cartons', and 'Pharmaceutical Description : Antidepressant for mental health management'. At the top right of the main window, there is a user profile icon labeled 'System Administrator'.

27.1.1 After clicking the view button, **pharmaceutical details** will be shown.

● Password Reset

The screenshot shows the EPINIR software interface. The left sidebar has the same navigation items as the previous screenshot, with 'Password Resets' currently selected (circled '28'). The main content area is titled 'Accounts Requesting For Password Resets'. It lists four entries, each with an 'Email' field containing 'kanakdakan123@gmail.com' and a 'Password Reset Token' field. The tokens are: 'v1120017Wjg36112517z20c3M9fz3f6ax58c', '281534814400000071123E14fb44CHHmxa', '3e51a0e05064913072d43784b1c150f344bf', and 'e0304320f221a6d83b7945-9efab08130cf5a216'. To the right of the table, there are two columns of buttons: 'Accept' (green) and 'Reject' (red). Arrows point from the text '28.1' to the 'Accept' and 'Reject' buttons. The top right corner shows a user profile icon labeled 'System Administrator'.

28 **Password reset** if the user forgot their password the admin can reset it or recover

28.1 Reset password have two ways. One, it can be requested by the admin, or they can request via email.



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● Database Backup (Admin)

The screenshot shows the EP-MRI software interface. On the left, there's a sidebar with various menu items like Dashboard, Patients, Laboratory, Medical Records, Reporting, Pharmacy, Employees, Inventory, and Password Resets. Under Password Resets, 'Database' is selected, with 'Back Up' and 'Restore' options. The main area is titled 'Accounts Requesting For Password Resets' and lists four entries with columns for Email, Password Reset Token, Date Requested, and Action. A modal dialog box is overlaid on the screen, titled 'Database Backup'. It contains the question 'Do you want to back up the database?' with two buttons: 'Yes, back it up!' (blue) and 'Cancel' (red). A callout arrow points from the number '29' at the bottom center to the 'Yes, back it up!' button.

29. If you want to back up your database, just click the “**Yes, back it up!**” button and “**Cancel**” button if you don’t want to.



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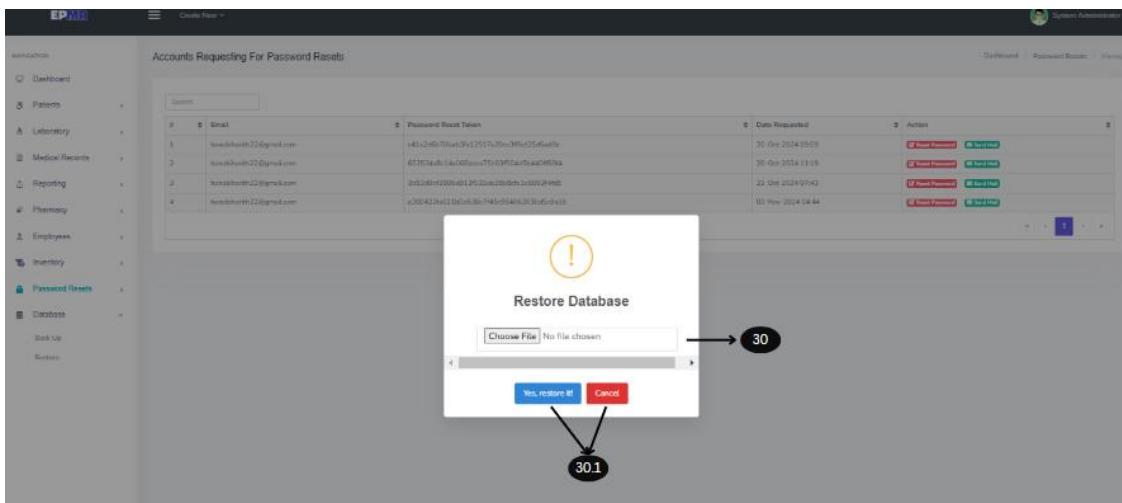
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● Database Restore (Admin)



30. Choose a **file** that you want to restore

30.1 Click the “**Yes, restore it!**” button if you want to restore the file and for “**Cancel**” button if you don’t want to.



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**USER'S MANUAL OF THE ELECTRONIC PATIENT MEDICAL RECORDS FOR
HEART DISEASES SYSTEM (DOCTOR)**



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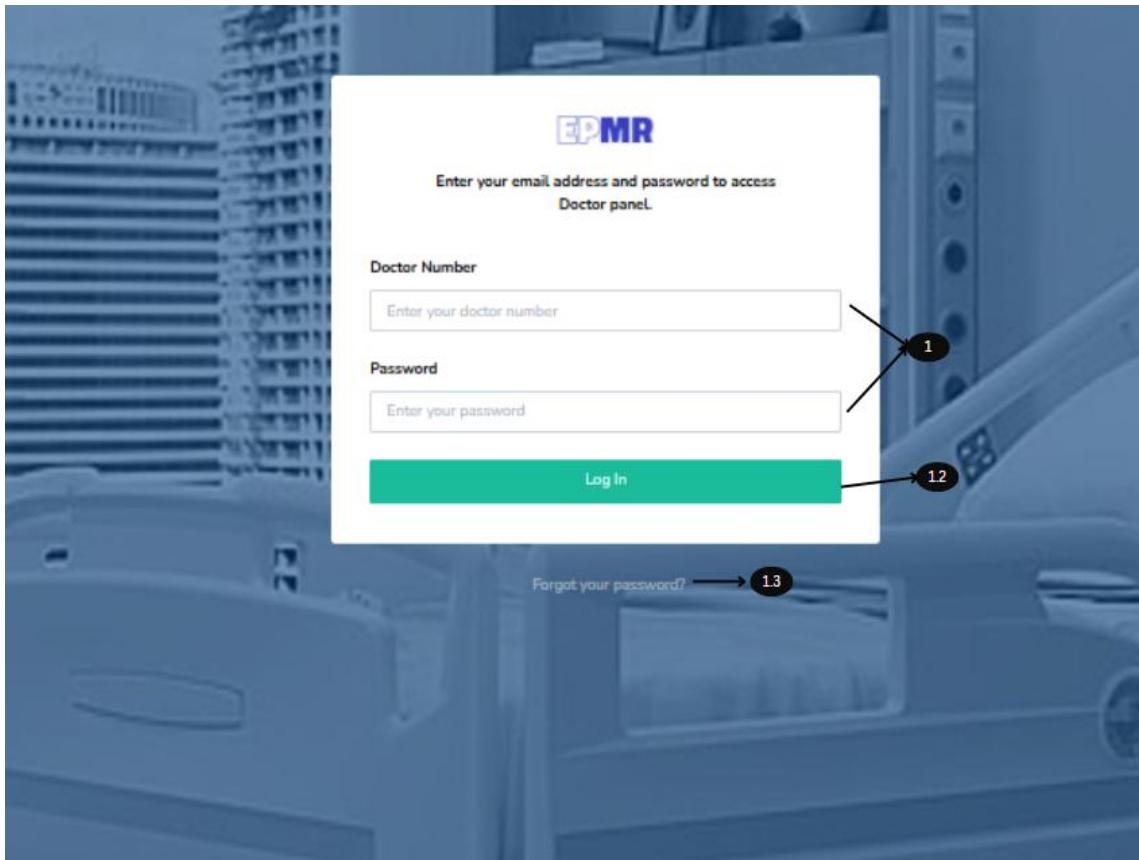
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- Login Page (Doctor)



1. Enter the **Doctor Number** and **Password** to log in.
 - 1.1 Click the **Login** button to access the doctor dashboard.
 - 1.2 If you forget your password, a **link** will be sent to your email account for recovery.



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● Dashboard (Doctor)

The screenshot shows the EPMS (Electronic Patients Medical Record) dashboard. At the top left is the logo of the University of Cabuyao. The top right shows a user profile for "john kenneth aquino". The main title is "Electronic Patients Medical Record". On the left is a navigation menu with the following items: Dashboard (highlighted with a red circle and number 2), Patients, Laboratory, Medical Record, Reporting, and Inventory. The dashboard displays the following statistics:

Category	Count
Out Patients	93
In Patients	255
Discharged	1
Transferred	1
Pharmaceuticals	50

Below the statistics is a table titled "Patients" showing three entries:

Name	Address	Mobile Phone	Category	Ailment	Age	Gender	Action
Miguel Bautista	456 Novaliches, Quezon City	09125599393	InPatient	Dizziness	26 Years	Male	<button>View</button>
Vicente Villareal	123 Dela Costa St., Makati City	09121661013	InPatient	Asthma	41 Years	Female	<button>View</button>
Sofia Lopez	101 San Juan, Metro Manila	09127085356	InPatient	Chronic Obstructive Pulmonary Disease (COPD)	18 Years	Male	<button>View</button>

2. After successfully logging in, the doctor will see **details about the patient** in dashboard.

2.1. To view the patient information



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- Dashboard View Patient (Doctor)

The screenshot shows the EP-MR software interface. On the left, a navigation menu includes Dashboard, Patients, Laboratory, Medical Record, Reporting, and Inventory. The main area displays Miguel Bautista's Profile, indicated by a circled '3'. Below the profile picture are the following details:

Miguel Bautista's Profile → 3

Full Name : Miguel Bautista
Mobile : 09125599393
Address : 456 Novatichez, Quezon City
Date Of Birth : 1998-06-27
Age : 26 Years
Gender : Male
Ailment : Dizziness
Attending Physician : Dr. Carlo Soriano
Date Recorded : 20/11/2024 - 03:11

To the right, there are tabs for Prescription, Vitals, and Lab Records. Arrows point from these tabs to a circled '3.1' at the bottom center.

3. Patient Information

3.1 Patient Prescription, Vital and Lab Records Information



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● View Patient (Doctor)

EP-MR

Create New

john kenneth aquino

NAVIGATION

Dashboard

Patients

- View Patients → **4**
- Discharge Patients
- Patient Transfers
- Laboratory
- Medical Record
- Reporting
- Inventory

Patient Details

Search

#	Name	Number	Address	Phone	Age	Gender	Category	Action
1	Ramon Calderon	S4Q1U	456 Marikina Heights, Marikina City	09129221272	48 Years	Male	OutPatient	4.1
2	Carmen Velasco	T7X83	101 Sto. Ana, Manila	09125624004	39 Years	Male	InPatient	
3	Andres Navarro	L6S3E	789 Mindanao Ave., Quezon City	09121826199	53 Years	Female	InPatient	
4	Yanah Lumban	PrUYD	Sta. Cruz, Calamba Laguna	09123456787	14 Years	Male	InPatient	
5	Roberto Flores	GMBR6	789 Mindanao Ave., Quezon City	09129684523	24 Years	Female	InPatient	
6	Vicente Cruz	9YIWG	789 Mindanao Ave., Quezon City	09126184871	25 Years	Female	InPatient	
7	Emilio Rosales	QOORY	456 Jose Abad Santos Ave., San Fernando, Pampanga	09122738204	26 Years	Male	OutPatient	

4. Patient Information

4.1. Patient Prescription, Vital and Lab records Information

EP-MR

Create New

john kenneth aquino

NAVIGATION

Dashboard

Patients

- Miguel Bautista's Profile → **4**
- Laboratory
- Medical Record
- Reporting
- Inventory

Miguel Bautista's Profile

Full Name : Miguel Bautista
Mobile : 09125599393
Address : 456 Novaliches, Quezon City
Date Of Birth : 1998-06-27
Age : 26 Years
Gender : Male
Ailment : Dizziness
Attending Physician : Dr. Carlo Soriano
Date Recorded : 20/11/2024 - 03:11

Prescription

Vitals

Lab Records

4.1



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● Discharge Patient (Doctor)

#	Patient Name	Patient Number	Patient Address	Patient Category	Discharge Date	Action
1	Rafael Villanueva	0AUN0	789 Mindanao Ave., Quezon City	InPatient	2024-12-16 12:32:03	<button>View</button>

5. Discharge Patients Page

5.1 View Discharge Patient Details

● Patient Laboratory Test (Doctor)

#	Name	Number	Address	Ailment	Age	Gender	Category	Action
1	Renato Lopez	TWNW3	789 South Super Highway, Muntinlupa	Sinusitis	42 Years	Female	InPatient	<button>Add Lab Test</button>
2	Raul Perez	790Z3	303 Molino Road, Bacoor, Cavite	Gastroesophageal Reflux Disease (GERD)	36 Years	Female	InPatient	<button>Add Lab Test</button>
3	Jessica Kurro	zC05b	Phase 6 Blk 55 Lot 18 Mahuhay Mamatid Cabuyao Laguna	Chest pain	21 Years	Female	OutPatient	<button>Add Lab Test</button>
4	Isabel Santos	62URV	789 Alabang-Zapote Rd., Muntinlupa	Fainting or unconsciousness	47 Years	Male	OutPatient	<button>Add Lab Test</button>
5	Dante Ramos	19372	123 Barangay San Isidro, Paranaque City	Chronic Obstructive Pulmonary Disease (COPD)	38 Years	Female	InPatient	<button>Add Lab Test</button>
6	Tomas Santiago	5OYMC	456 Nagtahan, Manila	Diabetes	44	Male	InPatient	<button>Add Lab Test</button>

6. Click the “**patient lab tests**” to choose who patient needs to get a lab test

- 6.1. Click the “**add lab test**” to record to a certain patient



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● Add Lab Test (Doctor)

A screenshot of the EPMR software interface. The top navigation bar includes 'EPMR', a menu icon, 'Create New', and a user profile for 'John kenneth aquino'. The main navigation on the left lists 'Dashboard', 'Patients', 'Laboratory' (selected), 'Medical Record', 'Reporting', and 'Inventory'. The current page is 'Add Lab Test', indicated by the breadcrumb 'Dashboard > Laboratory > Add Lab Test'. The form fields include 'Patient Name' (Renato Lopez), 'Patient Ailment' (Sinusitis), 'Patient Number' (TWNW3), and a 'Laboratory Tests' section with a count of 6.11. At the bottom is a green button labeled 'Add Laboratory Test' with a count of 6.12.

6.1.1 After selecting a patient, doctor will input the laboratory test

6.1.2 After that, just click “add laboratory test” button to add new record.



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● Add Lab Result (Doctor)

A screenshot of the EP-MR software interface. The top navigation bar includes the logo, user name "john kenneth aquino", and a "Create New" button. The left sidebar has a "NAVIGATION" section with links to Dashboard, Patients, Laboratory, Medical Record, Reporting, and Inventory. The main area shows a search bar with "Cough" and a "Laboratory Result" section with a red circle containing the number "7". At the bottom, there is a green button labeled "Add Laboratory Result" with a red circle containing the number "71".

EP-MR

Dashboard

Patients

Laboratory

Medical Record

Reporting

Inventory

Create New

john kenneth aquino

Cough

Laboratory Result → 7

Add Laboratory Result → 71

2024 - © Electronic Patients Medical Record.

7. Input the **result of the lab test**

7.1 After that, click "**add laboratory result**" button to record the result.



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● Patient Vitals (Doctor)

#	Patient Name	Patient Number	Address	Ailment	Age	Gender	Category	Action
1	Sofia Romero	CN3P8	123 Quezon City Circle, Quezon City	Irritable Bowel Syndrome (IBS)	13 Years	Female	InPatient	<button>Capture Vitals</button>
2	Andres Ramos	2SZ4V	303 MacArthur Highway, San Fernando, Pampanga	Chronic Fatigue Syndrome	52 Years	Male	InPatient	<button>Capture Vitals</button>
3	Catherine Santos	4E5RF	303 MacArthur Highway, San Fernando, Pampanga	Sweating	13 Years	Female	InPatient	<button>Capture Vitals</button>
4	Pedro Ramos	J5SEO	123 Quezon City Circle, Quezon City	Mononucleosis	47 Years	Female	InPatient	<button>Capture Vitals</button>

8. Click the **patient vitals** and choose a patient

8.1 After that, just click the “**capture vitals**” button to show the capture vital page

Capture Sofia Romero Vitals

Fill all fields

Patient Name: Sofia Romero Patient Ailment: Irritable Bowel Syndrome (IBS)

Patient Number: CN3P8

Patient Body Temperature °C Patient Heart Pulse/Beat BPM Patient Respiratory Rate bpm Patient Blood Pressure mmHg

°C HeartBeats Per Minute Breathes Per Minute mmHg

Add Vitals

8.1.1. Fill up the **patient's body temp, pulse rate, respiratory rate and blood pressure**.

8.1.2. After that, just click the “**add vitals**” button to record the result



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● Lab Report (Doctor)

The screenshot shows the EP MR software interface. On the left, there's a navigation sidebar with links like Dashboard, Patients, Laboratory (which has a sub-link to 'Lab Reports' highlighted with a black arrow and the number '9'), Medical Record, Reporting, and Inventory. The main area is titled 'Patient Details' and contains a table of patient records. The table columns are: #, Patient Name, Patient Number, Patient Ailment, Date Lab Test Conducted, and Action (which includes a 'View Lab Report' button). A callout bubble with the number '9.1' points to the 'View Lab Report' button for the first patient listed, Jessica Magdalena.

#	Patient Name	Patient Number	Patient Ailment	Date Lab Test Conducted	Action
1	Jessica Magdalena	jVOYB	Heartburn	23/11/2024	<button>View Lab Report</button>
2	José Bautista	BGZLZ	Cough	21/11/2024	<button>View Lab Report</button>
3	Theresa Lagman	9RW0D7	Bronchitis	21/11/2024	<button>View Lab Report</button>
4	Zynei Trinidad	GMK0I	Heart attack	22/11/2024	<button>View Lab Report</button>
5	Carlos Soriano	DKS49	Swollen ankles	23/11/2024	<button>View Lab Report</button>
6	Rafael Villanueva	OAUN0	Heart arrhythmia	16/12/2024	<button>View Lab Report</button>
7	Bento Guzman	OKOKK	Chest pain	23/11/2024	<button>View Lab Report</button>
8	Rafael Navarro	6PGGI	Nausea	16/12/2024	<button>View Lab Report</button>
9	Nina Rosales	M1N7J	Migraine	23/11/2024	<button>View Lab Report</button>
10	Ricardo Aquino	LO58K	Heartburn	22/11/2024	<button>View Lab Report</button>
11	Joshua Permejo	kaCRE	Chest pain	23/11/2024	<button>View Lab Report</button>

9. Lab report will show all the information about the laboratory of patient

9.1 View lab report chooses specific patient to view their records

The screenshot shows a detailed view of a patient's laboratory record. The top bar indicates the record is for patient #MEP50. The left sidebar is identical to the previous screenshot. The main content area starts with 'Patient's Name : Jessica Magdalena' and 'Patient Number : jVOYB'. Below this is a large medical icon featuring a person silhouette and a cross. To the right, there's a section titled 'Laboratory Test' with the text 'testing lab test' and 'Laboratory Result' with the text 'testing lab result'. The top right corner shows the user profile 'john kenneth aquino'.



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● Add Medical Record (Doctor)

NAVIGATION

- Dashboard
- Patients
- Laboratory
- Medical Records
 - Add Medical Record → 11
 - Manage Medical Records
- Add Prescriptions
- View Prescriptions
- Manage Prescriptions
- Reporting
- Pharmacy

Patient Details

Search

#	Name	Number	Address	Phone	Age	Category	Action
166	Jose Bautista	86ZLZ	456 Bonifacio Global City, Taguig	09125441220	54 Years	InPatient	11.1
85	Marco Calderon	I6DPC	202 Cavite City, Cavite	09126419429	54 Years	OutPatient	
12	Maria Flores	TXYPN	789 Caloocan City, Metro Manila	09123039305	54 Years	OutPatient	
45	Clara Navarro	4IJUZZ	101 Barangay Guadalupe, Makati City	09122411321	53 Years	InPatient	
44	Ricardo Morales	7KKD2	303 Pacita Complex, San Pedro, Laguna	09123724771	53 Years	InPatient	
142	Andres Ramos	2S24V	303 MacArthur Highway, San Fernando, Pampanga	09129995879	52 Years	InPatient	
30	Bianca Soriano	UUT9Q	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	09127731006	51 Years	InPatient	
158	Isabel Villanueva	OJE52	456 Jose Abad Santos Ave., San Fernando, Pampanga	09121703447	51 Years	InPatient	
66	Andres Morales	OSFEN	303 Pateros, Metro Manila	09128152107	50 Years	InPatient	
169	Noemi Torres	Y7FW8	123 Aguilalda Hwy., Dasmariñas, Cavite	09126462656	50 Years	InPatient	

11. Click add medical record and choose a patient that already has a record

11.1 After that, click the “add medical record” button to show the page

NAVIGATION

- Dashboard
- Patients
- Laboratory
- Medical Records
- Reporting
- Pharmacy
- Employees
- Inventory
- Password Resets
- Database

Fill all fields

Patient Name: Jose Bautista | Patient Age: 54 | Patient Address: 456 Bonifacio Global City, Taguig

Patient Number: 86ZLZ | Patient Ailment: Cough

Patient's Medical Record → 11.1.1

Add Patient Medical Record → 11.1.2

11.1.1. Add the patient's medical record in any format

11.1.2. Click the button “add patient medical record” to save the records



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● Manage Medical Records (Doctor)

NAVIGATION

- Dashboard
- Patients
- Laboratory
- Medical Records
 - Add Medical Record
 - Manage Medical Records
 - Add Prescriptions
 - View Prescriptions
 - Manage Prescriptions
- Reporting
- Pharmacy
- Employees

Manage Medical Records

Search

#	Patient Name	Patient Number	Address	Ailment	Age	Gender	Action
1	Fiona Rosales	ZZNBH	456 Rizal Ave., Quezon City	Throat or jaw pain	44 Years	Male	
2	Jose Bautista	B6ZLZ	456 Bonifacio Global City, Taguig	Cough	54 Years	Female	
3	Carlos Soriano	IXS49	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	Swollen ankles	25 Years	Female	
4	Carlos Soriano	IXS49	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	Swollen ankles	25 Years	Female	
5	Fiona Rosales	ZZNBH	456 Rizal Ave., Quezon City	Throat or jaw pain	44 Years	Male	
6	Jessica Magdalena	jvOYB	Phase 1 Blk 13 Lot 44 Mabuhay Mamatid Cabuyao Laguna	Heartburn	20 Years	Female	
7	Zyrel Trinidad	GM3KJ	789 Bonifacio St., Caloocan City	Heart attack	22 Years	Male	
8	Rafael Villanueva	OAUNO	789 Mindanao Ave., Quezon City	Heart arrhythmia	54 Years	Female	
9	Nina Rivera	IRZ4W	789 Villamor Airbase, Pasay City	Colds and Flu	44 Years	Male	

12.1 12.2 12.3

12. Manage Medical Record Page

- 12.1. Patient information can be **view**,
- 12.2. Patient medical record can be **update**,
- 12.3. And the patient medical record can also **delete**



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● Add Prescriptions (Doctor)

The screenshot shows a software interface for managing medical records. On the left, a navigation sidebar lists various modules: Dashboard, Patients, Laboratory, Medical Records (with sub-options Add Medical Record and Manage Medical Records), Add Prescriptions (highlighted with a black oval and labeled 13), View Prescriptions, Manage Prescriptions, Reporting, Pharmacy, Employees, and Inventory. The main area is titled 'Fill all fields' and contains patient information: Patient Name (Jose Bautista), Patient Age (54), Patient Number (86ZLZ), Patient Address (456 Bonifacio Global City, Taguig), and Patient Type (InPatient). Below this, the 'Patient Ailment' field contains 'Cough'. A 'Prescription' field is present with a placeholder 'B I j= = | :| :-| oo -o | ?' and a 'Prescription' button highlighted with a black oval and labeled 13.1. At the bottom, a blue 'Add Patient Prescription' button is highlighted with a black oval and labeled 13.2.

13. If the doctor wants to give prescription to the patient, just click **Add Prescription**

13.1. Input the prescription that the patient needs

13.2. Click the “add patient prescription” to save the information



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● View Prescriptions (Doctor)

A screenshot of the EP MR software interface. The top navigation bar includes 'EP MR', 'Create New', and a user profile for 'John kenneth aquino'. The left sidebar has a 'NAVIGATION' section with links to 'Dashboard', 'Patients', 'Laboratory', 'Medical Record', 'Reporting', and 'Inventory'. The main content area shows a patient profile with the ID '#IYXS4'. It features a large icon of a person holding a capsule. To the right, patient details are listed: Name: Rafael Villanueva, Age: 54 Years, Gender: Female, Patient Number: OAUNO, Patient Category: InPatient, and Patient Ailment: Heart arrhythmia. Below this is a section titled 'Prescription' with the text 'ad'.



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● Manage Prescription (Doctor)

#	Patient Name	Patient Number	Address	Ailment	Age	Gender	Category	Action
1	Miguel Navarro	LEEET	456 Las Piñas, Metro Manila	Anemia	39 Years	Female	InPatient	
2	Zyrel Trinidad	GM3KI	789 Bonifacio St., Caloocan City	Heart attack	22 Years	Male	OutPatient	
3	Nina Rivera	IRZ4W	789 Villamor Airbase, Pasay City	Colds and Flu	44 Years	Male	InPatient	
4	Fiona Rosales	Z2NBH	456 Rizal Ave., Quezon City	Throat or jaw pain	44 Years	Male	InPatient	
5	Jose Bautista	B6ZLZ	456 Bonifacio Global City, Taguig	Cough	54 Years	Female	InPatient	
6	Rafael Villanueva	OAUN0	789 Mindanao Ave., Quezon City	Heart arrhythmia	54 Years	Female	InPatient	
7	Jessica Magdalena	jvOYB	Phase 1 Blk 13 Lot 44 Mabuhay Mamatid Cabuyao Laguna	Heartburn	20 Years	Female	InPatient	
8	Carlos Soriano	IXS49	123 Olongapo-Gapan Rd., Gapan City, Nueva Ecija	Swollen ankles	25 Years	Female	InPatient	

14. Click the **Manage Prescription** if the doctor wishes to update or delete the existing prescription record.

14.1 Update the record if the prescription of the patient needs to be change

14.2 Click the “update prescription” to save the changes.



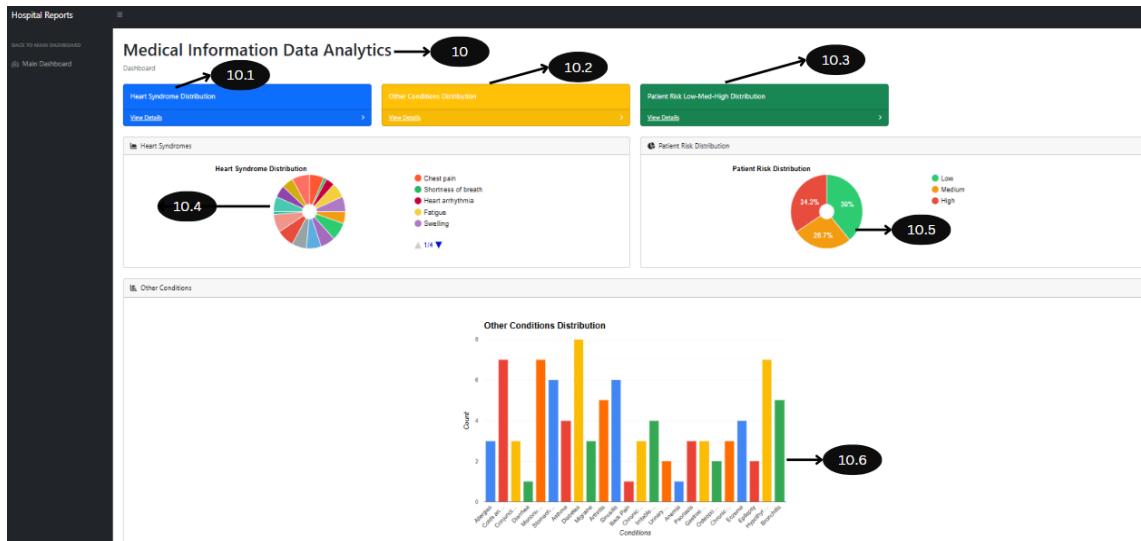
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● Reporting (Doctor)



10 Click the **reporting** and after that, click the **analytics** and it will show the medical information data analytics

10.1 Click the “**blue bar icon**” to proceed at heart syndrome patient table

10.2 Click the “**yellow bar**” to view the non-heart related patient

10.3 Click the “**green bar**” to view the patient that in low, medium or high chance of having heart disease

10.4 Heart Syndrome Distribution Chart is to show the percentage of specific heart syndromes

10.5 This Patient Risk Distribution Chart is to show the percentage of all patients that having heart disease

10.6 Other Conditions Distribution Chart is to show the percentage of other Conditions



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Heart Syndrome Table

NAVIGATION: Back to Analytics Dashboard

Heart Syndrome Patient Table → 10.1

All patients here have heart-related ailments.

Patients Table

10 entries per page

First Name	Last Name	Patient Number	Ailments	Age	Gender	Date Joined
Carlo	Torres	ZH70K	Fatigue	39	Female	2024-11-20 15:44:55.000000
Anna	Dela Cruz	4BN1B	Heart attack	16	Male	2024-11-22 23:31:23.677228
Berito	Masalo	QSG05	Nausea	50	Male	2024-11-20 15:44:55.000000
Jose	Ocampo	ZH14G	Dizziness	30	Male	2024-11-20 15:44:55.000000
Tomas	Rivera	BS4DC	Wheezing	49	Female	2024-11-20 15:44:55.000000
Berito	Guzman	COK0K	Chest pain	22	Female	2024-11-20 15:44:55.000000
Dante	Valdez	IDT4B	Chest pain	35	Female	2024-11-20 15:44:55.000000
Roberto	Del Rosario	CISQ7	Feeling or unconsciousness	18	Male	2024-11-20 15:44:55.000000
Carlito	Valdez	LPT1E	Heart attack	13	Male	2024-11-20 21:43:12.93509
Isabel	Santago	WYF1P	Sweating	24	Female	2024-11-20 15:44:55.000000
Luisa	Velasco	9HT3M	Throats or jaw pain	46	Male	2024-11-20 15:44:55.000000
Tomas	Maglangpul	9HY1Q	Sweating	44	Female	2024-11-20 15:44:55.000000
Erena	Roxas	ZZNBH	Throats or jaw pain	44	Male	2024-11-20 15:44:55.000000
Miguel	Bautista	XPFVY	Dizziness	26	Male	2024-11-20 15:44:55.000000
Berito	Pascual	UBD9P	Heart arrhythmia	16	Female	2024-11-20 15:44:55.000000
Vicente	Narvaez	Q5ABM	Sneezing	30	Female	2024-11-20 15:44:55.000000
Maria	Ayano	LGZ14	Feeling or unconsciousness	18	Male	2024-11-22 22:10:16.61709
Catherine	Velasco	BFQMH	Chest pain	45	Female	2024-11-20 15:44:55.000000
Julio	Cruz	VQ9RM	Sweating	48	Male	2024-11-20 15:44:55.000000
Catherine	Silva	ZH1DK	Sudden attacks	15	Male	2024-11-20 15:44:55.000000

Showing 1 to 20 of 154 entries

1 2 3 4 5 6 7 8 +

10.1.1 After clicking the **blue bar graph**, the heart syndrome page will show the patients' list that has heart syndrome specifically

Other Conditions Table

NAVIGATION: Back to Analytics Dashboard

Non-Heart-Related Patient Table → 10.2

All patients listed here do not have heart-related ailments.

Patients Table

10 entries per page

First Name	Last Name	Patient Number	Ailments	Age	Gender	Date Joined	Score	Risk Level
Anglica	Reyes	TMW1Z	Hypothyroidism	27	Female	2024-11-20 15:44:55.000000	3	Low
Catalina	Silva	YMRG1	Migraine	45	Male	2024-11-20 15:44:55.000000	1	Low
Andres	Flores	4SPMT	Sinusitis	14	Male	2024-11-20 15:44:55.000000	4	High
Rosa	Buenaventura	UJMPH	Asthma	21	Male	2024-11-20 15:44:55.000000	2	Low
Heitor	Ramirez	SLCT7	Dizziness or confusion	37	Male	2024-11-20 15:44:55.000000	4	Low
Paulo	Hernandez	MMVSA	Urinary tract infection (UTI)	33	Female	2024-11-20 01:37:30.943418	9	High
Ugo	Aspirio	CBQG1	Chronic Obstructive Pulmonary Disease (COPD)	32	Female	2024-11-20 01:37:30.943455	9	High
Emilia	Uma	JPLLG	Poisonous	42	Male	2024-11-20 15:44:55.000000	6	High
Belen	Perez	UGAR2	Dizziness or confusion	39	Male	2024-11-20 15:44:55.000000	6	High
Juan	Morales	C1ZMV	Anemia	44	Male	2024-11-20 15:44:55.000000	4	Low

Showing 1 to 10 of 194 entries

1 2 3 4 5 6 7 8 9 10 +

10.2.1 After clicking the **yellow bar graph**, the non-heart related patients will be shown specifically



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Patient Risk Table

NAVIGATION

Analytics Dashboard / Tables

All patients listed here have heart-related ailments.

Heart-Related Patients Table

10 entries per page

First Name	Last Name	Patient Number	Age	Gender	Date Joined	Ailment	Scale	Risk Level
Cecilio	Torres	ZNTQK	39	Female	2024-11-20 15:44:55.000000	Fatigue	3	Low Risk
Rosa	Dela Cruz	4B118	16	Male	2024-11-22 22:31:23.977228	Heart attack	10	High Risk
Bentito	Masalo	QGQUS	50	Male	2024-11-20 15:44:55.000000	Nausea	9	High Risk
Jose	Ocampo	ZHA40	30	Male	2024-11-20 15:44:55.000000	Dizziness	6	Medium Risk
Tomas	Rivera	BS4CC	49	Female	2024-11-20 15:44:55.000000	Wheezing	7	Medium Risk
Bentito	Guzman	COXXX	22	Female	2024-11-20 15:44:55.000000	Chest pain	1	Low Risk
Dante	Veldez	1DTAB	35	Female	2024-11-20 15:44:55.000000	Chest pain	8	High Risk
Roberto	Del Rosario	CS1Q7	18	Male	2024-11-20 15:44:55.000000	Fainting or unconsciousness	5	Medium Risk
Carlos	Veldez	LWTF8	13	Male	2024-11-21 21:43:12.935189	Heart attack	7	Medium Risk
Isabel	Santiago	IW191	24	Female	2024-11-20 15:44:55.000000	Sweating	8	High Risk

Showing 1 to 10 of 154 entries

10.3.1 After clicking the green bar graph, it will show the list of patients and its chance of having low, medium, or high risk of heart disease

● Inventory (Doctor)

EP-MR

Create New

NAVIGATION

Dashboard

Patients

Laboratory

Medical Record

Reporting

Inventory

Pharmaceuticals

15

Pharmaceuticals Inventory

Dashboard > Inventory > Pharmaceuticals Inventory

#	Pharmaceutical Name	Pharmaceutical Barcode	Pharmaceutical Category	Pharmaceutical Quantity	Action
1	Aspirin	B006	Cardiovascular	300 Cartons	
2	Metformin	N005	Antidiabetic	250 Cartons	
3	Tetracycline	N017	Antibiotic	200 Cartons	
4	Nebivolol	B024	Cardiovascular	75 Cartons	
5	Metoprolol	B003	Cardiovascular	150 Cartons	
6	Dexamethasone	N021	Steroid	175 Cartons	
7	Ranitidine	N023	Gastrointestinal	300 Cartons	
8	Carvedilol	B008	Cardiovascular	90 Cartons	

15. Inventory to show the list of every pharmaceutical quantity

15.1 Click the view to show the full information of specific pharmaceutical inventory



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● View Inventory (Doctor)

A screenshot of the EP MR software interface. The top navigation bar includes 'EP MR', a menu icon, 'Create New', and a user profile for 'John kenneth aquino'. The left sidebar has a 'NAVIGATION' section with links for 'Dashboard', 'Patients', 'Laboratory', 'Medical Record', 'Reporting', and 'Inventory'. The main content area shows a product detail page for item #B001 - Atenolol. It features a large image of a purple cross inside a green leaf, with the word 'Pharmaceutical' below it. To the right, the product details are listed:

- Pharmaceutical Name : Atenolol
- Pharmaceutical Quantity : 100 Cartons
- Pharmaceutical Description
Used to treat high blood pressure and prevent heart attacks

The bottom of the page shows a footer with 'Dashboard', 'Pharmaceuticals', and 'View Pharmaceuticals'.



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APPENDIX F

PROGRAM LISTING



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MEDICAL RECORDS

```
<?php  
  
session_start();  
  
include('assets/inc/config.php');  
  
include('assets/inc/checklogin.php');  
  
check_login();  
  
$aid = $_SESSION['doc_id'];  
  
  
if(isset($_GET['delete_mdr_number'])) {  
    $id = intval($_GET['delete_mdr_number']);  
    $adn = "DELETE FROM his_medical_records WHERE  
mdr_number = '$id';";  
    $stmt = $mysql->prepare($adn);  
    $stmt->bind_param("i", $id);  
    $stmt->execute();  
    $stmt->close();  
  
    if($stmt) {  
        $success = "Medical Records Deleted";  
    } else {  
        $err = "Try Again Later";  
    }  
}  
?  
  
<!DOCTYPE html>  
<html lang="en">  
  
<?php include('assets/inc/head.php');?>  
  
<body>  
  
    <!-- Begin page -->  
    <div id="wrapper">  
  
        <!-- Topbar Start -->  
        <?php include('assets/inc/nav.php');?>  
        <!-- end Topbar -->  
  
        <!-- ===== Left Sidebar Start ===== -->  
        <?php include('assets/inc/sidebar.php');?>  
        <!-- Left Sidebar End -->  
  
        <!--  
        =====-->  
        <!-- Start Page Content here -->  
        <!--  
        =====-->  
  
        <div class="content-page">  
            <div class="content">  
  
                <!-- Start Content-->  
                <div class="container-fluid">  
  
                    <!-- start page title -->  
                    <div class="row">  
                        <div class="col-12">  
                            <div class="page-title-box">  
                                <div class="page-title-right">  
                                    <ol class="breadcrumb m-0">  
                                        <li class="breadcrumb-item"><a href="javascript: void(0);>Dashboard</a></li>  
                                        <li class="breadcrumb-item"><a href="javascript: void(0);>Reporting</a></li>  
                                        <li class="breadcrumb-item active">Medical Records</li>  
                                    </ol>  
                                </div>  
                            </div>  
                        </div>  
                    </div>  
                </div>  
            </div>  
        </div>  
    </div>  
    <!-- End page -->
```



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```
</div>
</div>
</div>
<!-- end page title -->

<div class="row">
<div class="col-12">
<div class="card-box">
<h4 class="header-title"></h4>
<div class="mb-2">
<div class="row">
<div class="col-12 text-sm-center form-inline">
<div class="form-group mr-2" style="display:none">
<select id="demo-foo-filter-status" class="custom-select custom-select-sm">
<option value="">Show all</option>
<option value="Discharged">Discharged</option>
<option value="OutPatients">OutPatients</option>
<option value="InPatients">InPatients</option>
</select>
</div>
<div class="form-group">
<input id="demo-foo-search" type="text" placeholder="Search" class="form-control form-control-sm" autocomplete="on">
</div>
</div>
</div>
</div>
<div class="table-responsive">
<table id="demo-foo-filtering" class="table table-bordered toggle-circle mb-0">
<thead>
<tr>
<th>#</th>
<th>Patient Name</th>
<th>Patient Number</th>
<th>Address</th>
<th>Ailment</th>
<th>Age</th>
<th>Gender</th>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<?php
$ret = "SELECT m.*,
pt.pat_gender,
FROM
bis_medical_records.m
LEFT JOIN bis_patients
pt ON m.bis_pat_number = pt.pat_number
ORDER BY RAND()";
$stmt = $mysql->prepare($ret);
$stmt->execute();
$res = $stmt->get_result();
$cnt = 1;
while($row = $res->fetch_object()) {
echo "<tr>
<td>{$cnt}</td>
<td>{$row->mdr_pat_name}</td>
<td>{$row->
```



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```
>mdr_pat_number</td>                                </td>{$row->
>mdr_pat_ad1</td>                                </td>{$row->
>mdr_pat_ailment</td>                                </td>{$row->
>mdr_pat_age} Years</td>                                </td>{$row->
>pat_gender</td>                                </td>{$row->
>mdr_date_rec</td>                                </td>{$row->
                                         <a href='his_doc_view_single_medical_record.php?mdr_id={$row->mdr_id}&mdr_number={$row->mdr_number}' class='badge badge-success'><i class='fas fa-eye'></i> View</a>
                                         </td>                                <!--
                                         =====
                                         ===== -->
                                         $cnt+++
                                         <!--
                                         =====
                                         ===== -->
}
?>
</tbody>
<tfoot>
<tr>
<td colspan="9">
<div class="text-right">
<ul class="pagination pagination-rounded justify-content-end footable-pagination m-t-10 mb-0"></ul>
</div>
</td>
</tr>
</tfoot>
</table>
</div> <!-- end .table-responsive-->
</div> <!-- end card-box -->
                                         </div> <!-- end col -->
                                         </div>
                                         <!-- end row -->
                                         <!-- container -->
                                         <!-- content -->
                                         <!-- Footer Start -->
                                         <?php include('assets/inc/footer.php')?>
                                         <!-- Footer -->
                                         <!-- End Page content -->
                                         <!--
                                         =====
                                         ===== -->
                                         <!--
                                         =====
                                         ===== -->
</div>
<!-- END wrapper -->
<!-- Right bar overlay-->
<div class="rightbar-overlay"></div>
<!-- Vendor js -->
<script src="assets/js/vendor.min.js"></script>
<!-- Footable.js-->
<script src="assets/libs/footable/footable.all.min.js"></script>
<script>
$(document).ready(function () {

```



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```
// Initialize Footable
$('#demo-foo-filtering').footable({
    filtering: {
        enabled: true,
        placeholder: "Search medical records", // Placeholder for search box
    },
    paging: {
        enabled: true,
        size: $('#demo-foo-filtering').data('page-size') || 25, // Use data attribute or default 25
    },
});

// Bind the search input
$('#demo-foo-search').on('input', function (e) {
    e.preventDefault();
    var value = $(this).val();
    // Trigger the footable_filter event with the search value
    $('#demo-foo-filtering').trigger('footable_filter', { filter: value });
});
</script>

<!-- App JS -->
<script src="assets/js/app.min.js"></script>

</body>
</html>

TRANSFER PATIENT
<!-- Server side code to handle Patient Transfer--&gt;
&lt;?php</pre>

```
session_start();
include('assets/inc/config.php');
if (isset($_POST['transfer_patient'])) {
 $t_pat_number = $_POST['t_pat_number']; // Patient number from form
 $t_pat_name = $_POST['t_pat_name']; // Patient name from form
 $t_date = $_POST['t_date']; // Transfer date from form
 $t_hospital = $_POST['t_hospital']; // Referral hospital from form
 $t_reason = $_POST['t_reason']; // Reason for transfer

 // SQL query to insert captured values into the
 // his_patient_transfers table
 $queryInsert = "INSERT INTO his_patient_transfers
 (pat_number, t_pat_name, t_date, t_hospital, t_reason)
 VALUES(?, ?, ?, ?, ?)";
 $stmtInsert = $mysqli->prepare($queryInsert);
 $stmtInsert->bind_param('sssss', $t_pat_number,
 $t_pat_name, $t_date, $t_hospital, $t_reason);
 $stmtInsert->execute();

 if ($stmtInsert) {
 // Update the patient record to mark them as transferred
 $queryUpdate = "UPDATE his_patients SET
 is_transferred = 1 WHERE pat_number = ?";
 $stmtUpdate = $mysqli->prepare($queryUpdate);
 $stmtUpdate->bind_param('s', $t_pat_number);
 $stmtUpdate->execute();
 }
}

$success = "Patient Transferred Successfully";
// Show success message and delay the redirection
echo "<script type='text/javascript'>
 setTimeout(function() {
 window.location.href =
 'his_admin_patient_transfer.php';
 }, 2000); // Redirect after 2 seconds
</script>";
} else {
```


```



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```
$err = "Error transferring patient. Please try again.";
```

```
}
```

```
}
```

```
?>
```

```
<!-- Start Content-->
```

```
<div class="container-fluid">
```

```
<!-- start page title -->
```

```
<div class="row">
```

```
<div class="col-12">
```

```
<div class="page-title-box">
```

```
<div class="page-title-right">
```

```
<ol class="breadcrumb m-0">
```

```
<li class="breadcrumb-item"><a href="#">his_admin_dashboard.php>Dashboard</a></li>
```

```
<li class="breadcrumb-item"><a href="#">javascript: void(0);>Patients</a></li>
```

```
<li class="breadcrumb-item active">Transfer Patients</li>
```

```
</ol>
```

```
</div>
```

```
<h4 class="page-title">Transfer Patient To A Referral Facility</h4>
```

```
</div>
```

```
<!-- Topbar Start -->
```

```
<?php include("./assets/inc/nav.php")?>
```

```
<!-- end Topbar -->
```

```
<!-- ===== Left Sidebar Start ===== -->
```

```
<?php include("./assets/inc/sidebar.php")?>
```

```
<!-- Left Sidebar End -->
```

```
<!-- ===== -->
```

```
<!-- Start Page Content here -->
```

```
<!-- ===== -->
```

```
<div class="content-page">
```

```
<div class="content">
```

```
<!-- Start Content-->
```

```
<div class="row">
```

```
<div class="col-12">
```

```
<div class="page-title-box">
```

```
<div class="page-title-right">
```

```
<ol class="breadcrumb m-0">
```

```
<li class="breadcrumb-item"><a href="#">his_admin_dashboard.php>Dashboard</a></li>
```

```
<li class="breadcrumb-item"><a href="#">javascript: void(0);>Patients</a></li>
```

```
<li class="breadcrumb-item active">Transfer Patients</li>
```

```
</ol>
```

```
</div>
```

```
<h4 class="page-title">Transfer Patient To A Referral Facility</h4>
```

```
</div>
```

```
<!-- Form row -->
```

```
<!-- LETS GET DETAILS OF SINGLE PATIENT GIVEN THEIR ID-->
```

```
<?php
```

```
$pat_number = $_GET['pat_number']; // Fetch specific patient by number
```

```
$ret = "SELECT * FROM his_patients WHERE pat_number = ?";
```

```
$stmt = $mysql->prepare($ret);
```

```
$stmt->bind_param('s', $pat_number); // Use 's' for string binding
```

```
$stmt->execute();
```

```
$res = $stmt->get_result();
```

```
while ($row = $res->fetch_object()) {
```



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```
?>

<!-- Display the patient's information in the
form -->

<form method="post">

    <div class="form-row">
        <div class="form-group col-md-12">
            <label for="inputEmail4" class="col-form-label">Patient Name</label>
            <input type="text" required="required"
value=<?php echo $row->pat_name; ?> name="t_pat_name" class="form-control" id="inputEmail4" placeholder="Patient's Name">
        </div>
    </div>
    <div class="form-row">
        <div class="form-group col-md-6">
            <label for="inputEmail4" class="col-form-label">Referral Hospital</label>
            <select name="t_hospital" class="form-control" id="inputEmail4" required>
                <option value="" disabled selected>Transfer Hospital</option>
                <option value="Calamba Doctors Hospital">Calamba Doctors Hospital</option>
                <option value="Calamba Medical Center">Calamba Medical Center</option>
                <option value="Dr. Jose P. Rizal Memorial Provincial District Hospital">Dr. Jose P. Rizal Memorial Provincial District Hospital</option>
                <option value="St. John the Baptist Medical Center Inc.">St. John the Baptist Medical Center Inc.</option>
                <option value="CALAMBA CITY HOSPITAL">CALAMBA CITY HOSPITAL</option>
                <option value="Global Care Medical Center of Calubang, Inc.">Global Care Medical Center of Calubang, Inc.</option>
                <option value="Calamba Cancer Center">Calamba Cancer Center</option>
                <option value="AMSI Doctors' Medical Center">AMSI Doctors' Medical Center</option>
            </select>
        </div>
    </div>

    <div class="form-group col-md-6">
        <label for="inputPassword4" class="col-form-label">Reason of Transfer</label>
        <input type="text" required="required"
name="t_reason" class="form-control" id="inputEmail4" placeholder="Enter the Reason of Transfer">
    </div>

    <div class="form-group col-md-6">
        <label for="inputPassword4" class="col-form-label">Transfer Date</label>
        <input required="required" type="date" name="t_date" class="form-control" id="inputPassword4" placeholder="DD/MM/YYYY">
    </div>

    <div class="form-group col-md-6" style="display:none">
        <label for="inputPassword4" class="col-form-label">Patient Number</label>
        <input required="required" type="text" name="t_pat_number" value=<?php echo $row->pat_number; ?> class="form-control" id="inputPassword4">
    </div>

    <div class="form-group col-md-6" style="display:none">
        <label for="inputAddress" class="col-form-label">Transfer Status</label>
        <input required="required" type="text" value="Success" class="form-control" name="t_status" id="inputAddress">
    </div>

    <button type="submit" name="transfer_patient" class="ladda-button btn-primary" success data-style="expand-right">Transfer Patient</button>
</form>

<?php ?>

<!-- end row -->
```



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```
</div> <!-- container -->
<!-- Buttons init.js-->
<script src="/assets/js/pages/loading-btn.init.js"></script>

</div> <!-- content -->
<!-- Footer Start -->
<?php include('./assets/inc/footer.php');?>
<!-- end Footer -->

</div>
<!--
=====
===== -->
<!-- End Page content -->
<!--
=====
===== -->
</div>
<!-- END wrapper -->

<!-- Right bar overlay-->
<div class="rightbar-overlay"></div>
<?php include('assets/inc/head.php');?>

<!-- Vendor js-->
<script src="/assets/js/vendor.min.js"></script>

<!-- App js-->
<script src="/assets/js/app.min.js"></script>

<!-- Loading buttons js -->
<script src="/assets/libs/ladda/spin.js"></script>
<script src="/assets/libs/ladda/ladda.js"></script>

<script src="/assets/js/swal.js"></script>
<!-- Buttons init.js-->
<script src="/assets/js/pages/loading-btn.init.js"></script>

</body>
</html>

LAB TEST
<?php
if (session_status() == PHP_SESSION_NONE) {
    session_start();
}
include('assets/inc/config.php');
include_once('assets/inc/checklogin.php');
check_login();
$aid = $_SESSION['doc_id'];
?>
<!DOCTYPE html>
<html lang="en">
<?php include('assets/inc/head.php');?>

<body>
<!-- Begin page -->
<div id="wrapper">
<!-- Topbar Start -->
<?php include('assets/inc/nav.php');?>
<!-- end Topbar -->
<!-- ===== Left Sidebar Start ===== -->
<?php include("assets/inc/sidebar.php");?>
```



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```
<!-- Left Sidebar End -->
<!--
=====
-->
<!-- Start Page Content here -->
<!--
=====
-->
<!-- Start Content-->
<div class="content-page">
  <div class="content">
    <!-- start page title -->
    <div class="row">
      <div class="col-12">
        <div class="page-title-box">
          <div class="page-title-right">
            <ol class="breadcrumb m-0">
              <li class="breadcrumb-item"><a href="#">Dashboard</a></li>
              <li class="breadcrumb-item"><a href="#">Laboratory</a></li>
              <li class="breadcrumb-item active">Add Laboratory Test</li>
            </ol>
          </div>
        <h4 class="page-title">Laboratory Tests</h4>
      </div>
    </div>
    <!-- end page title -->
  </div>
<div class="row">
```

```
<div class="col-12">
  <div class="card-box">
    <h4 class="header-title"></h4>
    <div class="mb-2">
      <div class="row">
        <div class="col-12 text-sm-center form-inline">
          <div class="form-group mr-2">
            <input id="demo-foo-search" type="text" placeholder="Search" class="form-control form-control-sm" autocomplete="on">
          </div>
        </div>
        <div class="table-responsive">
          <table id="demo-foo-filtering" class="table table-striped table-bordered mb-0" data-page-size="25">
            <thead>
              <tr>
                <th>#</th>
                <th data-toggle="true">Name</th>
                <th data-hide="phone">Number</th>
                <th data-hide="phone">Address</th>
                <th data-hide="phone">Ailment</th>
                <th data-hide="phone">Age</th>
                <th data-hide="phone">Gender</th>
                <th data-hide="phone">Category</th>
              </tr>
            <tbody>
              <tr>
                <td>1</td>
                <td>John Doe</td>
                <td>123-4567-8901</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Cough</td>
                <td>30</td>
                <td>Male</td>
                <td>Medicine</td>
              </tr>
              <tr>
                <td>2</td>
                <td>Jane Smith</td>
                <td>123-4567-8902</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Cold</td>
                <td>25</td>
                <td>Female</td>
                <td>Pharmacy</td>
              </tr>
              <tr>
                <td>3</td>
                <td>Mike Johnson</td>
                <td>123-4567-8903</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Fever</td>
                <td>40</td>
                <td>Male</td>
                <td>Medicine</td>
              </tr>
              <tr>
                <td>4</td>
                <td>Sarah Lee</td>
                <td>123-4567-8904</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Headache</td>
                <td>35</td>
                <td>Female</td>
                <td>Pharmacy</td>
              </tr>
              <tr>
                <td>5</td>
                <td>David White</td>
                <td>123-4567-8905</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Sore Throat</td>
                <td>32</td>
                <td>Male</td>
                <td>Medicine</td>
              </tr>
              <tr>
                <td>6</td>
                <td>Emily Green</td>
                <td>123-4567-8906</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Cough</td>
                <td>28</td>
                <td>Female</td>
                <td>Pharmacy</td>
              </tr>
              <tr>
                <td>7</td>
                <td>Aaron Blue</td>
                <td>123-4567-8907</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Fever</td>
                <td>38</td>
                <td>Male</td>
                <td>Medicine</td>
              </tr>
              <tr>
                <td>8</td>
                <td>Olivia Red</td>
                <td>123-4567-8908</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Headache</td>
                <td>30</td>
                <td>Female</td>
                <td>Pharmacy</td>
              </tr>
              <tr>
                <td>9</td>
                <td>Noah Black</td>
                <td>123-4567-8909</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Sore Throat</td>
                <td>25</td>
                <td>Male</td>
                <td>Medicine</td>
              </tr>
              <tr>
                <td>10</td>
                <td>Ava Brown</td>
                <td>123-4567-8910</td>
                <td>123 Main Street, Anytown, USA</td>
                <td>Cough</td>
                <td>28</td>
                <td>Female</td>
                <td>Pharmacy</td>
              </tr>
            </tbody>
          </table>
        </div>
      </div>
    </div>
  </div>
</div>
```



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```
<th data-  
hide="phone">Action</th>  
  
</tr>  
</thead>  
<tbody>  
<?phr  
  
// Updated SQL query to exclude  
transferred and discharged patients  
  
$ret = "  
SELECT p.*  
FROM his_patients p  
LEFT JOIN  
his_discharged_patients d ON p.pat_id = d.pat_id  
WHERE p.is_transferred = 0  
AND d.pat_id IS NULL  
ORDER BY RAND();  
  
$stmt = $mysqli->prepare($ret);  
$stmt->execute();  
$res = $stmt->get_result();  
$cnt = 1;  
  
while ($row = $res->fetch_object()) {  
?>  
    <tr>  
        <td><?php echo $cnt;  
?></td>  
        <td><?php echo  
htmlspecialchars($row->pat_fname.' '. $row->pat_lname);  
?></td>  
        <td><?php echo  
htmlspecialchars($row->pat_number);?></td>  
        <td><?php echo  
htmlspecialchars($row->pat_addr);?></td>  
        <td><?php echo  
htmlspecialchars($row->pat ailment);?></td>  
        <td><?php echo  
htmlspecialchars($row->pat age);?> Years</td>  
    </tr>  
    <td><?php echo  
htmlspecialchars($row->pat gender);?> </td>  
    <td><?php echo  
htmlspecialchars($row->pat_type);?></td>  
    <td><a href="#">  
his_dpn_add_single_lab_test.php?pat_number=<?php  
echo htmlspecialchars($row->pat_number);?>"  
class="badge badge-success"><i class="mdi mdi-  
beaker"></i> Add Lab Test</a></td>  
    </tr>  
    <?phr  
    $cnt++;  
}  
?>  
</tbody>  
<tfoot>  
    <tr class="active">  
        <td colspan="9">  
            <div class="text-right">  
                <ul  
                    <li>  
                        <a href="#">  
                            <span class="pagination  
                                pagination-rounded justify-content-end footer-pagin  
m-t-10 mb-0">  
                                </span>  
                            </a>  
                        </li>  
                    </ul>  
            </div>  
        </td>  
    </tr>  
    <tr>  
        <td colspan="9" style="text-align: right;">  
            <div>  
                <!-- .table-responsive -->  
                <div>  
                    <!-- card-box -->  
                    <div>  
                        <!-- col -->  
                        <div>  
                            <!-- row -->  
                            <div>  
                                <!-- container -->  
                            </div>  
                        </div>  
                    </div>  
                </div>  
            </div>  
        </td>  
    </tr>  
</tfoot>  
</table>  
    </div> <!-- end .table-responsive-->  
    </div> <!-- end card-box -->  
    </div> <!-- end col -->  
    </div>  
    <!-- end row -->  
    </div> <!-- container -->  
    </div> <!-- content -->
```



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COLLEGE OF COMPUTING STUDIES

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```
"enabled": true

<!-- Footer Start -->
}
<?php include('assets/inc/footer.php');?>
<!-- end Footer -->

// Search input handling
$('#demo-foo-search').on('input', function(e) {
    e.preventDefault();
    filteringTable.trigger('footable_filter', {filter: $(this).val() });
});

<!--
=====
-->
<!-- End Page content -->
});
<!--
=====
-->
</script>

<!-- App js-->
<script src="assets/js/app.min.js"></script>

</body>
<!-- Right bar overlay-->
<div class="rightbar-overlay"></div>
</html>

<!-- Vendor js-->
<script src="assets/js/vendor.min.js"></script>

<!-- Footable js-->
<script
src="assets/libs/footable/footable.all.min.js"></script>

<!-- Init js-->
<script>
$(document).ready(function() {
    var filteringTable = $('#demo-foo-filtering').footable({
        "paging": {
            "enabled": true,
            "size": 7
        },
        "filtering": {
```



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APPENDIX G

USER'S ACCEPTANCE CERTIFICATE



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Republic of the Philippines
Pamantasan ng Cabuyao
(UNIVERSITY OF CABUYAO)
College of Computing Studies
Katapatan Mutual Homes, Brgy. Banay-banay, City of Cabuyao, Laguna 4025



USER'S ACCEPTANCE CERTIFICATE

This is to certify that the Research of the following students, Aquino, John Kenneth L., Castillo, Carl Lawrence M., Dugan, Reymer B., Larracas, Liezel P., entitled Electronic Patients Medical Records API Driven Data Analytics for Heart Diseases, was accepted in our company/establishment for deployment effective December 12, 2024.


Kay Anne O. Marigondon
COMPANY REPRESENTATIVE
(Signature over Printed Name)

FOR THE HOST-COMPANY (Please fill out):

Name of Company: Global Medical Center of Laguna
Address: National Highway Brgy. Bulacan Cabuyao Laguna
Name of Supervisor: Kay Anne O. Marigondon
Position: Hospital Admin
Contact Number/s: 0992 355 4638 Fax No.:
E-mail Address: information.gmc@gmail.com

I agree to the collection and processing of my data for the purpose of facilitating the Capstone Project of Pamantasan ng Cabuyao interns. I understand that my personal information is protected by RA 10173, Data Privacy Act of 2012, and that I am required to provide truthful information.



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APPENDIX H

SHORT REPORT OF PLAGIARISM SOFTWARE



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Author(s)

Liezel Larracas, John Kenneth Aquino, Carl Lawrence Castillo, Reymar Dugan

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Electronic Patients Medical Records API Driven Data Analytics for Heart Diseases

A Capstone Project Proposal

Submitted to the Faculty of The College of Computing Studies
PAMANTASAN NG CABUYAO

City of Cabuyao, Laguna

In Partial Fulfillment

Of the Requirements for the Degree

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

By:

Aquino, John Kenneth L.
Castillo, Carl Lawrence M.
Dugan, Reymar B.
Larracas, Liezel P.

May 2024



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APPENDIX I

REPORT OF LANGUAGE SOFTWARE



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Report: FINAL-MANUSCRIPT-Group-3-BSIT

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rare words

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words per sentence



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APPENDIX J

CURRICULUM VITAE OF STUDENT RESEARCHERS



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CARL LAWRENCE M. CASTILLO

To acquire valuable knowledge and skills to complement those that I have learned from school in an actual job environment. In return, I offer my service and determination to be an asset to your company throughout the duration of my training period.

EDUCATION

Bachelor in Information Technology 2021-Present
Pamantasan ng Cabuyao

Secondary
Cabuyao Institute of Technology
• With Honors

2018-2021

Elementary
North Marinig Elementary School
• With Honors

2008-2014

WORK EXPERIENCE

Picker
Lazada Logistics Warehouse

2021

Business Process Outsourcing
Morphling Solutions

2022

LATEST SEMINAR ATTENDED

SITE5- Society of Information Technology Students

Mental Health Awareness Month Webinar 2024
• November 6, 2024

Introduction to Data Science Webinar
• March 13, 2023



REFERENCES

Name: Marangelo Dela Torre
Position: Lead Developer
Company: Robelt Walters
Contact Details: 0917- 8712-368

Name: Ivy Dela Torre
Position: Technical Support
Company: Cofense PH
Contact Details: 0921-7188-899



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JOHN KENNETH L. AQUINO

To acquire valuable knowledge and skills to complement those that I have learned from school in an actual job environment. In return, I offer my service and determination to be an asset to your company throughout the duration of my training period.

EDUCATION

Bachelor in Information Technology 2021-Present
Pamantasan ng Cabuyao

Senior High
St. Vincent College of Cabuyao 2018-2020

Secondary
The Cecilian School of Laguna 2014-2018

Elementary
The Cecilian School of Laguna 2008-2014

CONTACT

✉ aquinojohnkenneth91@gmail.com
📞 0942-217-9856
📍 Block 6a Lot 9 Mabuhay
City Cabuyao, Laguna.

EXPERTISE

- MS Word
- Communication Skills
- Team Collaboration

REFERENCES

Name: Ma. Nonalyn L. Aquino
Position: Team Leader
Company: Alorica
Contact Details: 09518955209

Name: Analeah Emeterion
Position: Tier 1 TSR
Company: Pitney Bowes US
Contact Details: 094886728192



WORK EXPERIENCE

Troubleshooting 2019
Lazada Logistics Warehouse

Warehouse Staff 2022
Joyce and Diana

LATEST SEMINAR ATTENDED

SITEs- Society of Information Technology Students

Mental Health Awareness Month Webinar 2024
• November 6, 2024

Introduction to Data Science Webinar
• March 13, 2023



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REYMAR B. DUGAN

To acquire valuable knowledge and skills to complement those that I have learned from school in an actual job environment. In return, I offer my service and determination to be an asset to your company throughout the duration of my training period.

EDUCATION

Bachelor in Information Technology 2021-Present
Pamantasan ng Cabuyao

Secondary 2014-2021
Muntinlupa National High School Tunasan Annex

Elementary 2007-2014
Infant Jesus Montessori Center Inc.

WORK EXPERIENCE

finance department assistant 2019
Honda Cars Alabang

packer 2022
Lazada Warehouse Pulo

packer 2022
J&T Cabuyao Hub

LATEST SEMINAR ATTENDED

SiTeS- Society of Information Technology Students

Mental Health Awareness Month Webinar 2024
• November 6, 2024

Introduction to Data Science Webinar
• March 13, 2023



Name: Molly Angsanto
Position: Finance Department Head
Company: Honda Cars Alabang
Contact Details: 0917- 8712-368

Name: John Rommel Tinias
Position: Customer Concierge
Company: expedise
Contact Details: 0991-540-8409



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CONTACT

- ✉ larracasliezel31@gmail.com
📞 09694131616
📍 Phase 6 Blk 74 Lot 18
Mabuhay, Mamatid,
Cabuyao, Laguna

EXPERTISE

- Technical Skills**
Web Development: HTML, CSS
Database Management: MySQL
Proficient in Microsoft Suite:
Word, Excel, Powerpoint

Soft Skills

- Strong organizational skills
Effective teamwork and communication
Adaptability and eagerness to learn

REFERENCES

- Cristine L. Cambronero
Teacher II | Punta Integrated School
09294221089



LIEZEL P. LARRACAS

As a 4th-year Bachelor of Science in Information Technology student, I am eager to apply my technical skills, gain hands-on experience, and contribute effectively to organizational goals. With a strong commitment to continuous learning and growth, I aim to add value as a proactive and collaborative team member.

EDUCATION

Bachelor of Science in Information Technology	2021-2025
University of Cabuyao	
Senior High School	2019-2021
Cabuyao Institute of Technology	
Junior High School	2015-2019
Calamba National High School-Annex	
• Service Awardee, Grade 8-9 Honor	
Elementary	2009-2015
San Cristobal Elementary School	
• Grade 2 (Top 5)	

NO WORK EXPERIENCE

As a graduating Information Technology student, although, I have no work experience, but I am eager to apply my knowledge and skills in a practical environment. Throughout my academic journey, I've embraced every opportunity to learn and grow, and I'm excited to continue that process in the professional world. I am passionate about technology and problem-solving and look forward to collaborating with a team to contribute, learn, and develop my skills further

LATEST SEMINAR ATTENDED

- College of Computing Studies
21st Century Soft Skill & Standard Labor Education
• December 6, 2024
- Penetration Testing 101 via Zoom
• April 04, 2024