**CHAPTER I**

**INTRODUCTION**

In today's rapidly evolving digital age, technology has become an integral part of our daily lives, revolutionizing the way we work, communicate, learn, and interact with the world around us. The continuous advancement of technologies, from artificial intelligence and machine learning to Internet of Things (IoT) devices and augmented reality, has significantly enhanced efficiency, convenience, and connectivity in various aspects of our lives. These innovations not only streamline tasks and processes but also empower individuals and businesses to achieve greater productivity, creativity, and accessibility, ultimately shaping a more interconnected and dynamic global society.

Information systems in the school clinic are essential tools that help streamline and enhance the delivery of healthcare services. In the school clinic, information system primarily designed to manage and maintain detailed patient records. This includes information on student and staff medical histories, allergies, prescribed medications, and any previous medical conditions (Labis 2022). The data is essential for providing effective and personalized healthcare to individuals within the school community. It also enables the efficient scheduling of medical appointments for students and staff. This helps in reducing waiting times and ensures that patients receive timely medical attention when needed.

Accurate and up-to-date patient records in the information system contribute to patient safety. Healthcare providers can access vital medical information quickly, leading to better-informed decisions and appropriate treatments. By tracking health trends and incidents, school clinics can implement preventive measures and respond to potential health crises promptly.

**1.1. Project Context**

A school clinic system is a software that will handle a systematic organization of function in the school clinic. The system would provide basic set of features to maintain accurate medical records, managing inventory and supplies efficiently, tracking student health trends for proactive interventions, facilitating communication between healthcare providers and school staff, and ensuring compliance with regulatory requirements for a safer and more organized healthcare environment.

**1.2 Company Background**

GenSantos Foundation College Inc. was founded with the goal of offering chances for holistic development and high-quality education. For 30 years, the college has been a shining example of learning excellence in the area. Since its founding, the school has changed to better serve the different needs of its student body, always keeping in mind the values of integrity, creativity, and diversity. Numerous academic programs covering a variety of courses are available with a devoted staff made up of experienced educators and business experts, the institution is dedicated to developing the next generation of leaders and enabling students to reach their greatest potential.

Throughout its 30 years of operation, it has remained steadfast in its commitment to providing comprehensive support services to its students. Recognizing the integral role of health and wellness in academic success. The institution has established a fully equipped school clinic staffed by qualified healthcare professionals.

The school clinic at GenSantos Foundation College Inc. serves as a vital resource for students, offering healthcare services, providing basic care to the health of the students as well as the faculty and staff. With a focus on preventive care, health promotion, and student advocacy, the clinic plays a pivotal role in promoting a healthy campus environment and supporting the overall well-being of the student community.

The implementation of the "GFI School Health Clinic Record Management System" represents a strategic initiative aimed at modernizing health record management practices and ensuring the seamless delivery of healthcare services to students and faculty and staff.

**1.3 Purpose and Objective:**

The implementation of the "GFI School Health Clinic Record Management System,” is driven by the following purpose and objectives:

**General Purpose:**

The primary purpose of the "GFI School Health Clinic Record Management System" is to enhance the management and delivery of healthcare services within the school clinic setting. By transitioning from manual paper-based record-keeping to an electronic system, the institution aims to modernize health record management practices, improve efficiency, and promote student well-being.

**Specific Purpose:**

**1. Enhance Accuracy and Completeness of Health Records:** The primary objective is to improve the accuracy and completeness of student health records by transitioning from manual paper-based records to a comprehensive electronic system. This transition will eliminate errors associated with manual entry, reduce redundancies, and ensure that all critical health information is accurately captured and readily available. The system will incorporate mandatory fields and validation checks to ensure the integrity of the data entered, thus providing a reliable source of information for health assessments and decision-making.

**2. Improve Data Security and Privacy Compliance:** The electronic system will include advanced security measures such as encryption, role-based access controls, and regular security audits to protect sensitive health information. By doing so, the system will safeguard against unauthorized access and data breaches, ensuring that student health records are kept confidential and secure, thereby maintaining the trust of students, parents, and staff.

**3. Streamline Clinic Operations and Reduce Administrative Burden:** Streamlining clinic operations and reducing the administrative workload for school health staff is a critical objective. The electronic system will automate routine tasks such as medication tracking, and health record updates. This automation will free up valuable time for health staff, allowing them to focus more on direct student care rather than administrative duties. Efficient workflows and intuitive dashboards will further enhance productivity and operational efficiency within the clinic.

**4. Facilitate Efficient Medication Management:** Ensuring efficient medication management is another important objective. The system will track medication inventory in real-time, recording every instance of medication dispensation and monitoring stock levels. Automated alerts for low stock levels will prompt timely reordering, preventing shortages and ensuring that essential medications are always available. This functionality will help maintain an accurate inventory, reduce waste, and ensure that students receive their medications as prescribed.

**5. Provide Real-Time Access to Health Information:** Providing real-time access to health information is essential for effective emergency response and routine health management. The system will enable quick retrieval of critical health information such as allergies, chronic conditions, and emergency contacts. During emergencies, this instant access can be lifesaving, allowing health staff and emergency responders to make informed decisions rapidly. Additionally, real-time data access will support ongoing health monitoring and timely interventions.

**6. Generate Comprehensive Health Reports and Analytics:** Generating comprehensive health reports and analytics is a key objective to support data-driven decision-making. The system will provide tools for creating detailed reports on health trends, compliance with health policies, and overall student wellness. These reports will help school administrators and health staff identify patterns, assess the effectiveness of health programs, and make informed decisions to improve student health services. Analytics capabilities will also support strategic planning and resource allocation.

**7. Ensure Scalability and Future-Proofing:** Ensuring scalability and future-proofing the system is crucial for accommodating the evolving needs of the school clinic. The system will be designed to handle increasing volumes of data and users, ensuring consistent performance as the school population grows. Additionally, it will be flexible and adaptable to incorporate future enhancements and integrate with other health and educational systems. This objective will ensure the system remains relevant and effective over the long term.

**General Objectives:**

Researchers aimed to come up with Electronic Health Records Management System, that easily locates basic information for the patients, address patient complaints for their treatment or medication, and as well as recording data and histories for future purposes. The goal of developing a school clinic management system is designed to streamline the operations of the school clinic, making it more responsive to the healthcare needs of students and staff, while also ensuring the clinic staff can manage their tasks effectively. It also provides an extensive solution that maximizes the accessibility of medical assistance, improves student and staffs wellbeing, and guarantees the clinic functions smoothly and effectively.

A user-friendly interface for clinic staff to input, update, and retrieve patient information. This could be a web application or a desktop software Interfaces with other school systems, like student information systems, to access relevant data easily. Tools for generating reports on clinic usage, health trends, and other relevant metrics. Data should be regularly backed up to prevent data loss in case of system failures. Implement security measures to protect sensitive health data, including encryption and access control. As the researcher’s design and create architecture components of an information system for school clinic records. It includes database, where all patient records are stored. It includes information such as student names, medical history, treatment records. A user-friendly interface for clinic staff to input, update, and retrieve patient information.

**Specific Objectives:**

1. **Streamline Record Management:** The first objective of the project is to streamline the management of student health records by transitioning from cumbersome paper-based systems to an electronic platform. The system will digitize health records, facilitating easy storage, retrieval, and update of information.
2. **Enhance User Accessibility and Usability:** Creating an intuitive and straightforward interface is crucial to ensure that school health staff can quickly and easily use the system without extensive training. This involves designing clear and consistent navigation menus, using familiar icons and terminology, and providing helpful tooltips and guides. The goal is to minimize the time and effort required for staff to perform their tasks, such as entering health data, retrieving records, and generating reports, thereby improving overall efficiency and user satisfaction.
3. **Promote Preventive Care:** Another objective of the project is to promote preventive care measures by facilitating proactive health monitoring and early intervention. The system will support the identification of health trends, enabling targeted interventions to prevent health issues from escalating.
4. **Ensure Data Security and Privacy:** Ensuring the security and confidentiality of student health information is a key objective of the project. The electronic system will implement robust data protection measures to safeguard sensitive health data and comply with legal and regulatory requirements.
5. **Improve Accuracy of Student Health Records:** Having precise and up-to-date health records is crucial in a school setting because it ensures that healthcare providers and school health staff have reliable information when assessing and treating students. Accurate records help in identifying health trends, managing chronic conditions, administering medications correctly, and responding appropriately in emergencies. Without accurate records, the risk of medical errors increases, which can lead to inappropriate treatments, overlooked health issues, and potentially harmful situations.
6. **Streamline Health Services Workflow:** Creating efficient workflows is crucial in a school health setting because it helps to optimize the time and resources available to health staff. When workflows are streamlined, staff can spend less time on repetitive administrative tasks and more time on direct student care. This not only improves the quality of care provided but also enhances staff productivity and job satisfaction. Efficient workflows help in reducing delays, minimizing errors, and ensuring that health services are delivered promptly and effectively.
7. **Improve Emergency Response:** In emergency situations, having immediate and accurate access to a student's health information is critical for providing appropriate and timely care. Quick access to this information ensures that health staff and emergency responders can make informed decisions, administer the correct treatments, and avoid potential complications. This can be the difference between a swift, effective response and a delay that could result in severe consequences or even loss of life. Accurate health records are particularly important for students with known allergies, chronic conditions, or specific medical needs.
8. **Support Evidence-Based Decision-Making:** Lastly, the project seeks to support evidence-based decision-making in student healthcare management. By providing access to comprehensive and accurate health information, the system will empower stakeholders to make informed decisions and tailor interventions to individual student needs.
9. **Monitor and Manage Medicine Supplies in School Clinic:** Recording the usage of medicines in the school clinic and having instant visibility of supply levels ensures that the clinic is always stocked with necessary medications and can promptly address students' health needs. This proactive approach helps prevent shortages and ensures continuous care without interruptions. The school clinic can digitally record every instance of medication dispensation. This system can track the quantity of each medication, including over-the-counter drugs and prescription medicines, as they are used. Each time a medication is administered to a student, the system automatically updates the inventory, reflecting the new quantity available. This helps maintain accurate records of medication usage and ensures accountability.

**1.4 Scope and Limitation:**

This study covers the students, faculty and staff management system of school clinic, providing basic health care services. This study is only limited to the students and workers of GenSantos Foundation College Inc., Bulaong Extension, General Santos City school year 2023.

**Scope:**

The following are the scope of the study where the requirements and the use of the system are specified based on the objectives of the study:

* The proposed system will used to cover the management of comprehensive health records for all students enrolled at GenSantos Foundation College Inc. This includes demographic information, medical history, immunization records, medication administration records, and any relevant health assessments or screenings.
* The system can operate web application.
* The proposed system locates basic information for the patients, address patient complaints for their treatment or medication, and as well as recording data and histories for future purposes.
* The proposed system will store all the data of the patients, both students and faculty and staff.
* The system can provide role-based access control, allowing authorized personnel, including school nurses, administrators, and healthcare providers, to access and update student health information as per their assigned roles and responsibilities.
* The system will facilitate the documentation of healthcare services provided to students, faculty and staff within the school clinic setting. This includes recording clinical assessments, treatments administered, referrals made, and follow-up care plans.

**Limitation:**

The limitation of the study will be stated below. It means that the system has the shortcomings, and it will be limited according to the capabilities of the tools that were utilized by the proponents.

* The proposed system functionality for booking appointments is hindered as there are no doctors available to manage patient appointments; only nurses are present in the school clinic.
* The proposed systems may pose technical challenges due to adoption of new technology, such as system integration issues, software compatibility issues, or user training needs.
* The proposed system will not run properly to old versions of computers and old version of operating system.

**1.5 Project Methodology:**

The development and implementation of the "GFI School Health Clinic Record Management System,” will follow a structured methodology to ensure successful project execution and attainment of project objectives. The methodology encompasses the following key phases:

1. **Requirement Analysis:** This initial phase involves identifying the research problem or project requirements. It includes defining clear project objectives and establishing the scope of the study to ensure the project remains focused and aligned with its intended outcomes. The goal is to understand the needs and expectations of the client and determine what needs to be achieved.
2. **System Design**: In this phase, the blueprint for the project is created. It involves developing a detailed system architecture and design based on the identified requirements. This includes planning how the system will be structured, determining the components and their interactions, and creating an implementation plan to guide the development process.
3. **Implementation**: During this phase, the system design is translated into a working system. Developers write the code according to the design specifications, transforming the conceptual system into actual software. The focus is on converting the system design into executable source code that embodies the desired functionality and features.
4. **Integration Testing**: After the implementation, the system undergoes comprehensive evaluation testing to ensure that all components work together seamlessly. Integration testing verifies that different parts of the system can communicate and function together as intended. The goal is to identify any inconsistencies or issues that may arise when integrating individual components into the complete system.
5. **Deployment:** Once the system is thoroughly tested and deemed ready for use, it is deployed for implementation. This involves selecting the appropriate system design, customizing it to fit the specific needs of users, and deploying it in the operational environment. Deployment ensures that the system is effectively installed and configured for users to start using it.
6. **Maintenance:** The final phase involves providing ongoing support and maintenance to ensure the system's long-term viability. This includes addressing user-reported issues, fixing bugs or errors, and making updates or enhancements to the software as needed. The goal is to keep the system running smoothly and efficiently, meeting the evolving needs of users and stakeholders over time.

**Waterfall Diagram Model**

Identify research problem. Define project objectives and scope of the study.

Requirement Analysis

Develop system architecture and design and

plan implementation strategy.

System Design

Convert the system design into

source code.

Implementation

Test system if meets specified requirements.

Integration Testing

System design selection, customization and development.

Deployment

Maintenance

Provide ongoing support and updates to the software. Address issues reported by users.

**1.6 Project Milestone and Timeline:**

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| **Year**  **(2024)** | **February** | | | | | | | **March** | | | | | | | **April** | | | | | | | **May** | | | | | | **June** | | | | | |
| 1. **Phase 1** |  | | | | | | |  | | | | | | |  | | | | | | |  | | | | | |  | | | | | |
| Planning |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |
| Project Team with Responsibilities |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |
| Choosing Topic |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |
| IS Capstone Project Topic Approval |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |
| 1. **Requirements Definition** |  | | | | | | |  | | | | | | |  | | | | | | |  | | | | | |  | | | | | |
| Data Gathering and Business Process Analysis |  | |  | |  |  | |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |  |
| Chapter 1 |  | |  | |  |  | |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |  |
| Chapter 2 |  | |  | |  |  | |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |  |
| Chapter 3 |  | |  | |  |  | |  |  | |  | | |  |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |  |
| Pre-Oral Defense |  | |  | |  |  | |  |  | |  | |  | |  | |  | |  | |  |  |  | |  | |  |  |  | |  | |  |

**CHAPTER II**

**REVIEW OF RELATED LITERATURE, STUDIES AND TECHNOLOGIES**

**2.1 CONCEPTUAL FRAMEWORK**

The GFI Online School Health Clinic Records Management System is designed to modernize and streamline the management of health records within a school environment. Traditional paper-based systems are often cumbersome, prone to errors, and inefficient in terms of data retrieval and storage. This system aims to address these issues by providing a digital platform that enables school nurses and health administrators to efficiently manage student health records. The implementation of this system is expected to improve the accuracy, accessibility, and security of health information, thereby enhancing the overall efficiency of the school health clinic.

The framework for this system is grounded in several key components. Firstly, it leverages a centralized database to store all health records securely. This database is accessible to authorized personnel through a user-friendly interface, ensuring that health information can be quickly retrieved and updated as needed. Additionally, the system incorporates features such as automated alerts for vaccination schedules, health check-ups, and medication administration, which help in maintaining the timeliness and accuracy of health interventions.

Another critical aspect is data security and privacy. The system is designed to comply with relevant data protection regulations, ensuring that all health information is stored and transmitted securely. Encryption and user authentication mechanisms are employed to protect sensitive data from unauthorized access. This focus on security is essential to maintaining the trust of students, parents, and staff, and to safeguarding the integrity of health records.

The proposed system will promote better communication and collaboration among school health staff, parents, and external healthcare providers. All the data will store in a database and will be managed by DBMS created using MySQL. By providing a centralized platform for health information, the system facilitates the sharing of important health updates and coordination of care. This integrated approach not only improves the quality of health services provided to students but also fosters a proactive and preventive health culture within the school community. It is a comprehensive solution designed to enhance the management of student health records through digitization, improved data security, and better communication. By addressing the limitations of traditional paper-based systems, it aims to provide a more efficient, accurate, and secure way to handle health information, ultimately contributing to better health outcomes for students.

Figures 2.1 and 2.2 is the IPO+S models of the proposed system. They will also show the differences between them.

**FIGURE 2.1 IPO+S EXISTING SYSTEM DIAGRAM**

Input Process Output

Patients now have a verified registration form and will be given medication/ assisted as well.

All written registration forms are to be collected and checked manually if there are errors.

Patients have to write down their information manually in a ledger form.

Storage

All information is written in paper (ledger), stored in a filing cabinet.

**FIGURE 2.2 IPO+S NEW SYSTEM DIAGRAM**

Input Process Output

School nurses/ volunteers will make use of computers and save patients information.

Need school ID number.

Patient’s information can now be viewed in the school portal by their school ID number.

The computer will give a preview of the records for the patients to check if there are errors.

Storage

Information is saved in the database.

For this proposed system, students are to enroll; faculties have also to register after a school year end and their information will save in the database. Their existing allergies as well as their chief complain will also store in a lcomputer database which would be easy to access if needed just by searching through the system.

**2.2 Review of Related Literature**

*"In recent years, the adoption of online school health clinic records management systems has revolutionized the way student health data is managed.”*

The digital platforms that are available today, streamline the recording, storage, and retrieval of health information, enabling more efficient and accurate tracking of student and faculties and staff health histories, allergies, existing chief complain and medical visits. This innovation reduces the reliance on paper records, minimizing the risk of data loss and ensuring that critical health information is easily accessible to authorized personnel.

*“Electronic Health Records (EHRs) in school clinics enhance efficiency and accuracy, reducing the reliance on manual paper-based systems.”*

As technology continues to grow, there are still facilities or workplace cannot adapt the availability of the advancement of technology. This includes the GFI school health clinic, relying through manual system. Storing and managing patients’ data in a ledger making the process slower. Now, we have computers where they are the ones who offers numerous benefits, enhancing the efficiency, accuracy, and accessibility of health records. Computers enable rapid retrieval of patient information, allowing healthcare providers to quickly access and update records, which improves the speed and quality of patient care.

*“Digital health records streamline data management processes, making it easier for school health professionals to access and update student health information.”*

Computerized records facilitate better coordination among healthcare providers by allowing seamless sharing of patient information, leading to more coordinated and comprehensive care. Keeping and storing data in databases enables healthcare facilities to monitor trends, improve treatment outcomes, and optimize operational efficiency. The adoption of computerized systems in managing and storing patient data leads to more streamlined, secure, and effective healthcare management. The integration of advanced security measures, such as encryption and access controls, protects sensitive patient information from unauthorized access, thus enhancing data privacy and security.

*“Successful case studies demonstrate that with proper planning and training, schools can effectively transition to digital health records, ultimately improving student health outcomes."*

Opening doors of opportunities and adapting to the availability of the technology nowadays. It enhances the overall quality of care students receive, demonstrating the significant benefits of embracing digital health record systems in educational settings. The transition not only streamlines the management of student health information but also leads to better health outcomes for students and faculty and staffs. Proper preparation and training for volunteers ensure that staff are comfortable and proficient with the new system, making the process smoother and more efficient.

**2.3 Review of Related Studies**

The proponents also reached out about other projects that are related to Online School Clinic Management System. This can help us as a guide to see the processes they took in creating a working and efficient system.

*"Investigating the effectiveness of school health services delivered by a health provider: A systematic review of systematic reviews":*

This study explores various systematic reviews on the effectiveness of school health services, which include health information systems. It highlights the importance of digital records in improving health outcomes and decision-making within school health services​.

*"A Web-Based Clinic Records Management and Inventory System":*

According to St. Paul University Quezon City, this study focuses on a web-based clinic records management system developed for St. Paul University Quezon City. It discusses the system's design, implementation, and evaluation, providing a practical example of a digital health records system in an educational setting​.

"*Electronic Health Records: An Essential School Nursing Tool for Supporting Student Health":*

This article from the National Association of School Nurses outlines the critical role of EHRs in school nursing. It details how EHRs improve care coordination, facilitate information exchange, and support better health outcomes for students​.

**2.4 Review of Related Technologies**

*“Digital Technologies in Health Care: A Comprehensive Review of Current Status and Future Perspectives.”*

The review paper focuses on the most important digital technologies that are used in health care, as well as the difficulties, advantages, and prospective prospects for the future that are linked with the inclusion of digital tools into clinical learning. Digital health studies aim to realize the promise of digital technologies and understand their feasibility and effects. Through a critical examination of the most famous interdisciplinary digital health publications, this study argues that the digital health field has not really engaged with its main topic, technology. The intricacies of healthcare environments, including different technologies, existing procedures, and people, are ignored in research on digital technologies. The study findings show that health literature focuses on digital technology processing and its effects on digital health research approaches that emphasize technology and context. It claims that digital health's full potential requires multidisciplinary research on healthcare systems, informational demands, and digital technology.

*“An online Electronic Health Clinic Records Management System (EHCRMS).”*

The paper discusses how digital technologies such as the Internet of things, cloud computing, artificial intelligence, and telemedicine are transforming healthcare, all of which are integral to modern EHCRMS for facilitating data collection, management, and analysis. Ensuring quality control of massive data is crucial for improving patient outcomes and reducing costs, a core function of EHCRMS. The shift towards patient-centric healthcare, where patients have more control over their health management, aligns with EHCRMS's design to provide easy access to health records and enable patient participation in healthcare decisions. Additionally, the document mentions the impact of digital technologies on medical education, suggesting EHCRMS can be used to train healthcare professionals on data management and patient care. The acceptance and challenges of e-health technologies among healthcare providers are critical for EHCRMS implementation, and understanding these challenges helps design user-friendly systems likely to be adopted by healthcare professionals. Security is a major concern in digital health, particularly in managing electronic health records, and the document highlights the importance of addressing security issues, crucial for EHCRMS to protect patient data and comply with regulations. This comprehensive overview of factors influencing the implementation and success of digital technologies in healthcare makes it a valuable reference for understanding the technological landscape and challenges associated with electronic health records systems.

*"Digital Technologies in Health Care: A Comprehensive Review of Current Status and Future Perspectives"*

It reviews the adoption and impact of digital health technologies. It covers a range of innovations such as telemedicine, wearable health devices, electronic health records (EHRs), and artificial intelligence (AI). These technologies are transforming healthcare by improving patient engagement, data management, and personalized treatment options. The review highlights the challenges of implementation, including data security, integration into existing systems, and the need for healthcare professionals' training to maximize the benefits of these technologies

**CHAPTER III**

**BUSINESS PROCESSES**

**3.1 GenSantos Foundation College, Inc., General Santos City, Electronic School Health Clinic Record Management System**

The ***figures 1.1*** and ***1.2*** shows the Context Diagram and Data Flow Diagram ofGFI Online School Health Clinic Records Management System. It is a comprehensive approach to improving the efficiency and effectiveness of managing student health information within the school setting.

**Figure 1.1**

This diagram presents a high-level overview of the GFI Online School Health Clinic Records Management System, illustrating the interactions between the system and its external entities. The main components are:

**GFI Electronic Management System:** The central system that manages patient, staff data and medicines.

**Patient:** Provides patient information and receives medicines or treatments they need.

**Nurse:** Updates trainee/staff information and patient information, and provides treatments and patient medicines.

**Trainee/Staff:** Updates patient information, and also provides patient medicines.

The diagram shows the flow of information between these entities and the GFI Electronic Management System, highlighting how data is exchanged.

**Figure 1.2**

This diagram provides a more detailed view of the system, breaking down the main processes involved in the clinic management system. It includes:

**Process 1.0: Register Patient:** Captures patient information and stores it in the Patients Database.

**Process 2.0: Manage Patient:** Manages the patient information stored in the database, allowing for updates and edits.

**Process 3.0: Register Trainee/Staff:** Registers trainee and staff information in the Trainee/Staff Database.

**Process 4.0: Assign Medicine: Assigns** medicines to patients, using information from the Medicine Database.

**The entities interacting with these processes include:**

**Patient:** Interacts with the system to provide information and receive assigned medicines.

**Nurse:** Manages patient and trainee/staff information, and provides patients with medicines.

**Trainee/Staff:** Provides their own information, manages patient information, and provides patients with medicines.

**3.2 Business Requirements Overview**

The "GFI Online School Health Clinic Record Management System" attempts to automate and simplify the school clinic's handling of student health records. By increasing the effectiveness, precision, and accessibility of health records, this system aims to raise the standard of healthcare services offered to students. The main goals are to minimize errors through dependable data entry and retrieval techniques, automate administrative tasks to reduce manual paperwork, and guarantee secure, convenient access for authorized personnel from any location. Strong security protocols will safeguard private student health information and guarantee adherence to privacy laws, while extensive reporting and analytical tools will assist school health professionals in making well-informed decisions.

The system will benefit stakeholders including school administrators, parents, kids, school health professionals (nurses, physicians), and regulatory organizations. The digital administration and storage of student health information, an online appointment booking system with automatic reminders, real-time health monitoring with warnings for urgent problems, and role-based access control to safeguard health data are some of the key features. To guarantee smooth data synchronization and interoperability, the system will also interface with currently in use school information systems and outside health apps.

A scalable cloud-based or on-premises system, integrated APIs, and a device-friendly UI are among the technological requirements. The five phases of the implementation plan include requirements collection and planning, system design and development, testing and quality assurance, deployment and training, and continuous maintenance and monitoring. This tiered method guarantees comprehensive planning, efficient implementation, and ongoing system enhancement.

The "GFI Online School Health Clinic Record Management System" seeks to revolutionize school health record administration by concentrating on these objectives and features, offering substantial advantages to all parties concerned. Through improving healthcare services, this project not only promotes improved student health outcomes but also increases operational efficiency.