z

Medical Managing System for Medical Center

Software requirement specification

Version 1.0

System Analysis & Design – IS2106

Group 15

Department of Computing and Information System

Faculty of Computing

Sabaragamuwa University of Sri Lanka

Team Name – NexGen

Project Name - LodgeDine

Index No	Name with Initials	Email	Mobile No
21CIS0068	RPM Pabodhana	rpmpabodhana@std.foc.sab.ac.lk	0713120265
21CIS0105	MRM Mubbassir	mrmmubassir@std.foc.sab.ac.lk	0762340764
21CIS0118	WGK Gayanthi	wgkgayanthi@std.foc.sab.ac.lk	0766857109

Contents

1. Introduction

This process is done by computerizing all the work done in the medical center of the university. The university currently has a file database and it is difficult to store them for all faculties. When a student is sick, he has to select his file from among those files. It is a very difficult task for the sick student to do that. Likewise, this is a very traditional practice. Having a computer system instead of this system is an efficient and effective action for the medical center.

May understand the specific needs of the medical center including patient record management, appointment scheduling, prescription management and reporting. Students can easily access their health records and manage appointments online, enhancing the healthcare experience. Reduces administrative workload, streamlines operations, and enables quicker access to student health information. Digital systems offer advanced security features to protect patient information, a significant upgrade over physical files.

2. Purpose

The Medical Center Information System (MCIS) is designed to address several key objectives aimed at Firstly, the MCIS hope to streamline the management of medical records and medication distribution by replacing manual processes with an automated solution enhancing the efficiency and effectiveness of medical services at Sabaragamuwa University Sri Lanka. By doing so, the system hope to reduce paperwork, and improve the overall accuracy and accessibility of student medical information.

Secondly, the MCIS hope to provide a centralized database for storing and retrieving student medical history. This centralized repository ensures that medical records are easily accessible to authorized personnel whenever required . furthermore, the system hope to enhance the patient experience by reducing wait times and administrative hassles associated with traditional

paperbased record keeping systems. Furthermore, the MCIS seeks to foster better coordination between medical staff and pharmacists. By integrating the processes of medical consultation and medication dispensation, the system promotes seamless communication and collaboration among healthcare professionals. therefore, improved patients outcomes.

the MCIS prioritizes the confidentiality and security of student medical information. This system has good security conditions. This system has highest standards of data security and privacy. Therefore it build trust and confident among students and healthcare providers.

Overall, the purpose of the MCIS is to modernize and optimize the delivery of medical services at Sabaragamuwa University Sri Lanka.

3. Intended audience

Healthcare Providers:

This includes doctors, nurses, specialists, pharmacists, and other healthcare professionals who will use the system to manage patient records, schedule appointments, and collaborate on patient care

Administrators:

Medical center administrators, department heads, and managerial staff who oversee the overall operations, budgeting, resource allocation, and strategic planning of the medical center. They may use the system for decision-making and performance evaluation

Students:

These are students who are patients receiving medical care or services from the university medical center. They may have various healthcare needs, ranging from routine check-ups and preventive care to management of chronic conditions or specialized treatments.

Academic and Non-Academic Staffs:

The intended audience for a medical system designed for a university medical center includes academic and non-academic staff, as well as patients within them who are seeking medical care and services.

IT Professionals:

System administrators, IT support staff, and software developers responsible for implementing, maintaining, securing, and updating the medical system. They ensure the system's functionality, reliability, and compliance with data privacy regulations.

4. Project scope

Medical information system aims at improving the management of medical records and medication distribution at Sabaragamuwa University of sri lanka. Firstly, the system will facilitate the identification of students accessing medical services through the utilization of student ID barcodes. . This barcode scanning process will serve as the gateway to accessing student medical history and initiating medication dispensation procedures.

Medical center management system store student medical records, which includes storing and retrieving information related to diagnosis, treatment, and prescribed medications. Because that Database , Improving the efficiency and accuracy of medical care delivery will ensure seamless access to patient information by authorized personnel. There is a user freind interface .it tailored to the needs of medical staff and pharmacists, enabling intuitive navigation and efficient workflow management. the system will give the security and confidentiality of student medical information through robust access controls and encryption measures. Access is restricted to authorized persons only, preventing unauthorized access to data. Additionally, the system will provide functionality for generating reports and analytics on medication usage, patient demographics, and other relevant metrics to support administrative decision-making

Overall, the scope of the MCIS is defined by its focus on optimizing medical services within the confines of Sabaragamuwa University's medical center, with an emphasis on efficiency, accuracy, security, and confidentiality in managing student medical records and medication distribution processes.

5. Problems in Current Situation

There are several problems with the existing textbook system in sabaragamuwa university medical center. Firstly, the reliance on manual data entry through physical files introduces the risk of errors and inconsistencies. Students fill out these forms and need a lot of space to store them, and as the number of students in the university increases, more space is needed to store these files. There is a possibility that these files may be lost during storage and if these files are lost it will not method to get their details.

Secondly, the limited accessibility of medical records stored in physical cabinets poses a considerable challenge. Currant systems make it difficult and time-consuming to obtain accurate records in emergencies or medical emergencies. The need to sift through physical files to locate relevant information may result in delays in providing timely medical care to students. Additionally the limited accessibility of records prevents the medical team from maintaining effective communication. That is quite a challenge.

Furthermore, the storage of physical files within the medical center's cabinets presents space constraints. As the number of students increases, storage capacity become a problem.as the number of students increases frequently, increasing the storage facilities is costly. Confidentiality of patient information is very important.

6. Advantages in Current System

Despite the mentioned above challenges, the current manual record keeping system offers some advantages. The familiarity of the system to staff and students who are used to traditional paper based processes may facilitate ease of use. Staff members may have developed established protocols and workflows prepared to the manual system, which could formalize certain administrative processes and routines.

Secondly, the low initial investment required for set up a manual record keep system is noteworthy. Unlike digital systems that need investments in technology infrastructure and training, the manual system may need minimal upfront costs. This may be advantageous in circumstances where

financial resources are limit or where there is uncertainty about the long-term Feasibility of invest in a digital solution.

Furthermore, the lack of dependence on technology in the current system eliminates potential interruptions due to power outages or internet connection issues. In environments where access to electricity internet connectivity is Unbelievable or unavailable, the resilience of manual record-keep may be understood as advantageous.

Lastly, the potential for customization in the manual record keep system allows staff to adapt documenting practices and file organization to suit the unique needs of the medical center. Staff members may have developed specific protocols and workflows that align with the operational requirements and preferences of the medical center, thereby optimize efficiency and productivity within the existing system

7. Specific Requirements

7.1. Functional Requirements

- **Barcode scanning:**

student ID barcode system enables unique identification of students attending medical services

- **Medical History Management:**

Maintain a database for storing and retrieving student medical records, including diagnoses, treatments and required medication.

- **Medication Dispensation:**

Upon scanning the student barcode, the system shall provide a unique number for reference and print out any necessary medication prescriptions

- **Access Control:**

  A system should be developed so that only authorized persons can view and update student medical records.

- **Reporting and Analytics:**

7.2. Non-Functional Requirements:

- **Security:**

  The system must comply with the standard to protect students medical information from unauthorized access or disclosure.

- **Reliability:**

  Unhindered access to medical records and minimum time to handle the system and minimize errors and the system should be reliable.

- **Usability:**

  The system shall feature an intuitive user interface with clear navigation and user-friendly design to facilitate ease of use by medical staff and pharmacists

- **Performance:**

  The system shall be able to handle concurrent access by multiple users without significant degradation in performance, ensuring responsiveness and efficiency

- **Scalability:**

As the number of students of students increase overtime,the system will be large enough to store medical records.

7.3. External Interface Requirements

- **Barcode Scanner:**

The system shall interface with barcode scanners for scanning student ID barcodes

- **Printer:**

A printer is required to provide printed prescriptions for students.

8. System Features

- **Barcode Scanning:**

Allows students to scan their ID barcodes for quick access to medical services.

- **Medical Record Management:**

Provides a database for storing and retrieving student medical records.

- **Medication Dispensation:**

give printed medication prescriptions for students when students want to get medicine from outside pharmacy

- **Access Control:**

Takes care to factor in security and privacy

- **User friendly interface:**

Features an intuitive and user-friendly interface for easy navigation and workflow management.

- **Scalability:**

Designed to accommodate future growth in data volume and user base to support the expanding university population

9. Tools and technology used

- **Database Management System (DBMS):**

Options include MySQL etc..

- **Backend Development:**

Java or python etc….

- **Frontend Development:**

This could include HTML, CSS, and JavaScript frameworks such as React.js or Angular.

- **Barcode Scanning Integration**
- **Printing Integration**

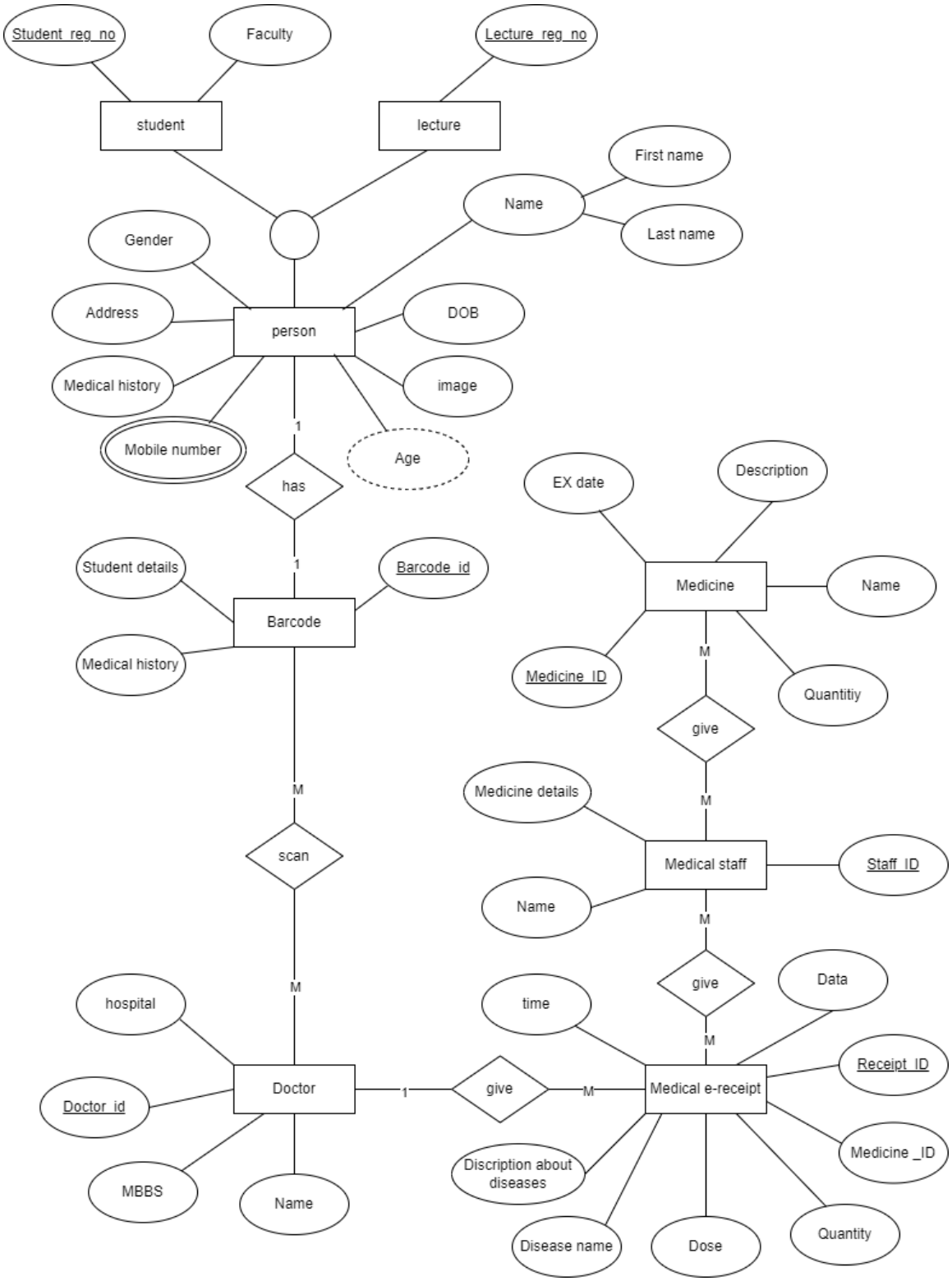
10. Reference

Medical center

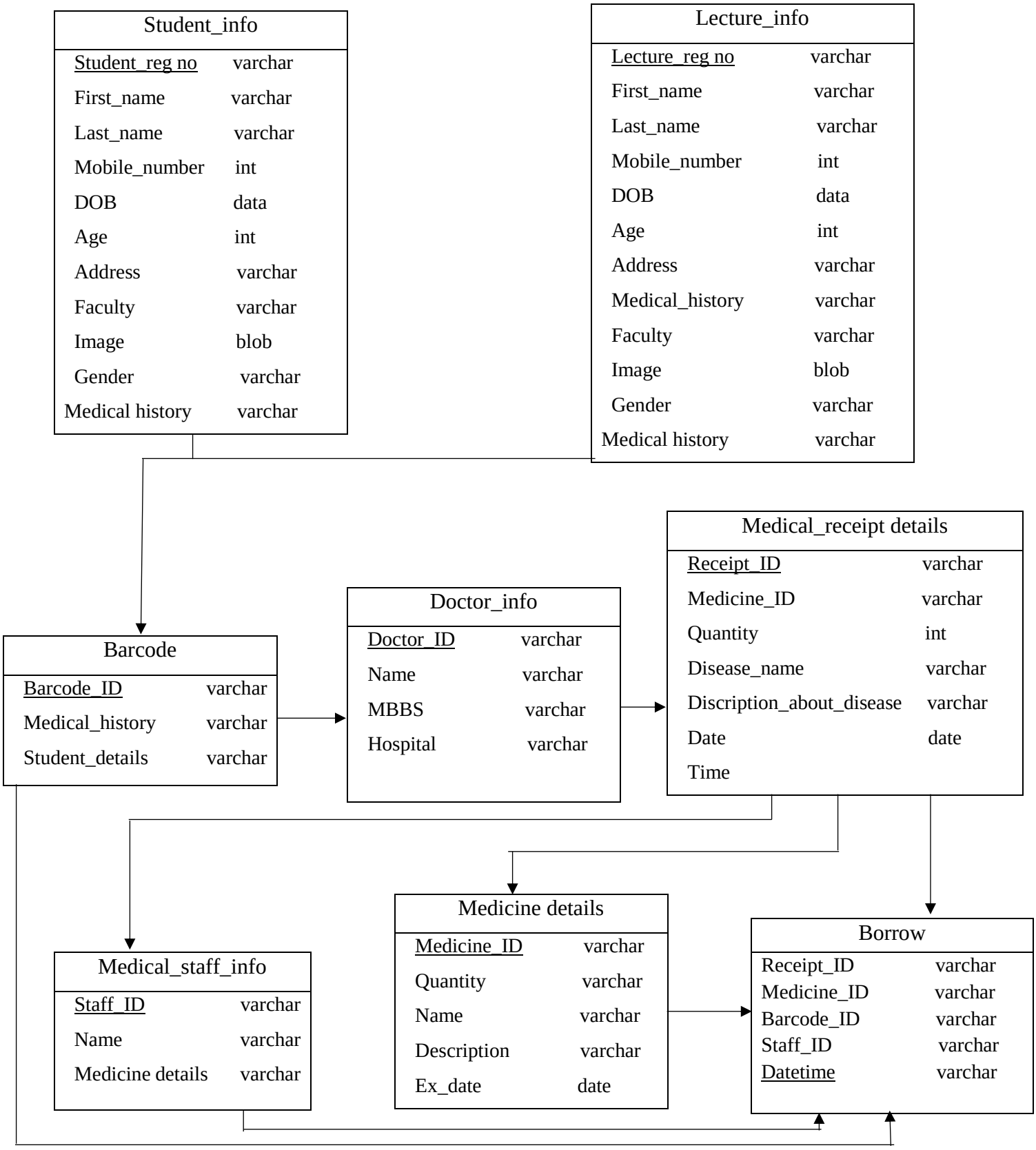
Sabaragamuwa University of Sri Lanka

11. System features

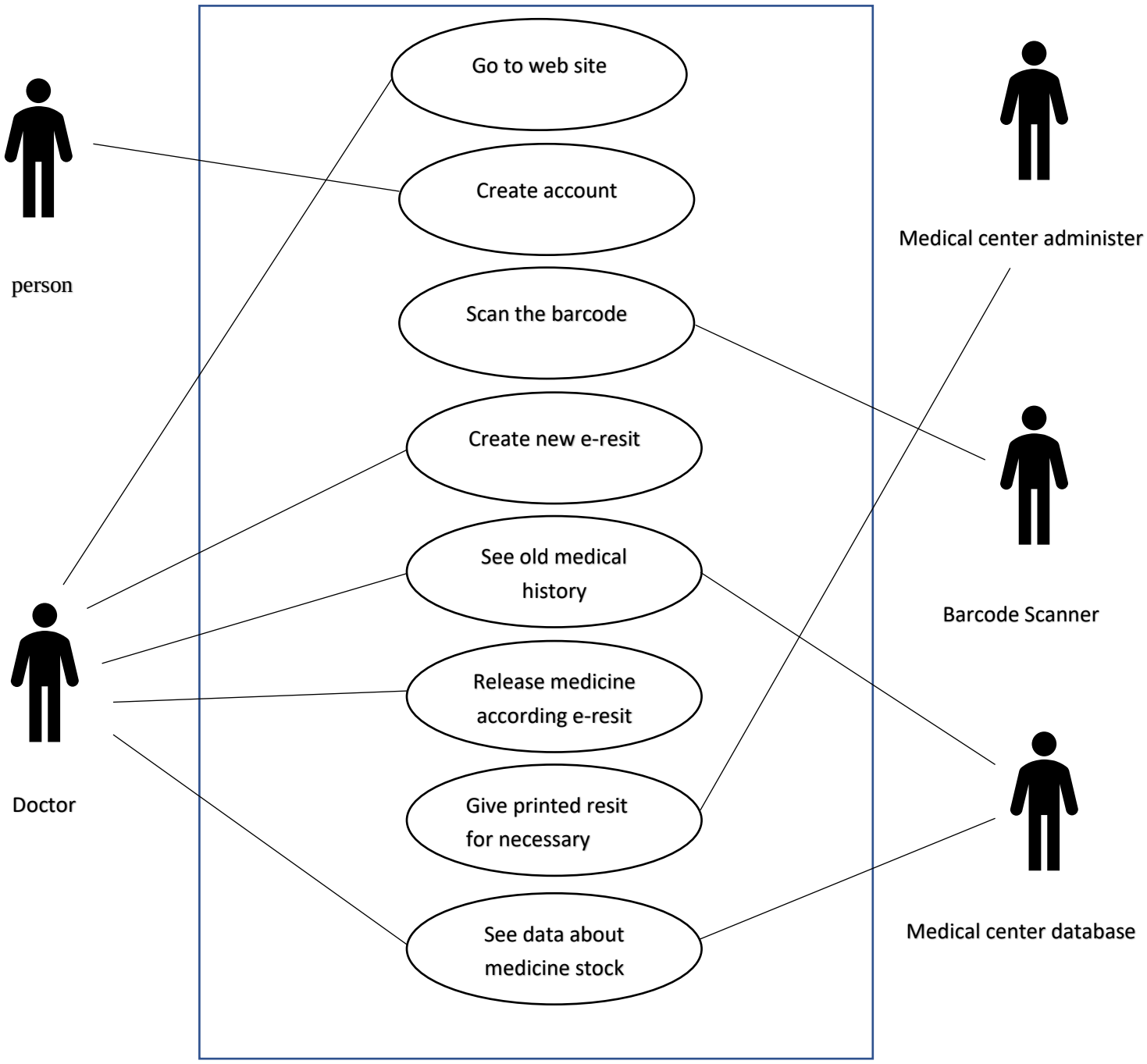
11.1. ER diagram



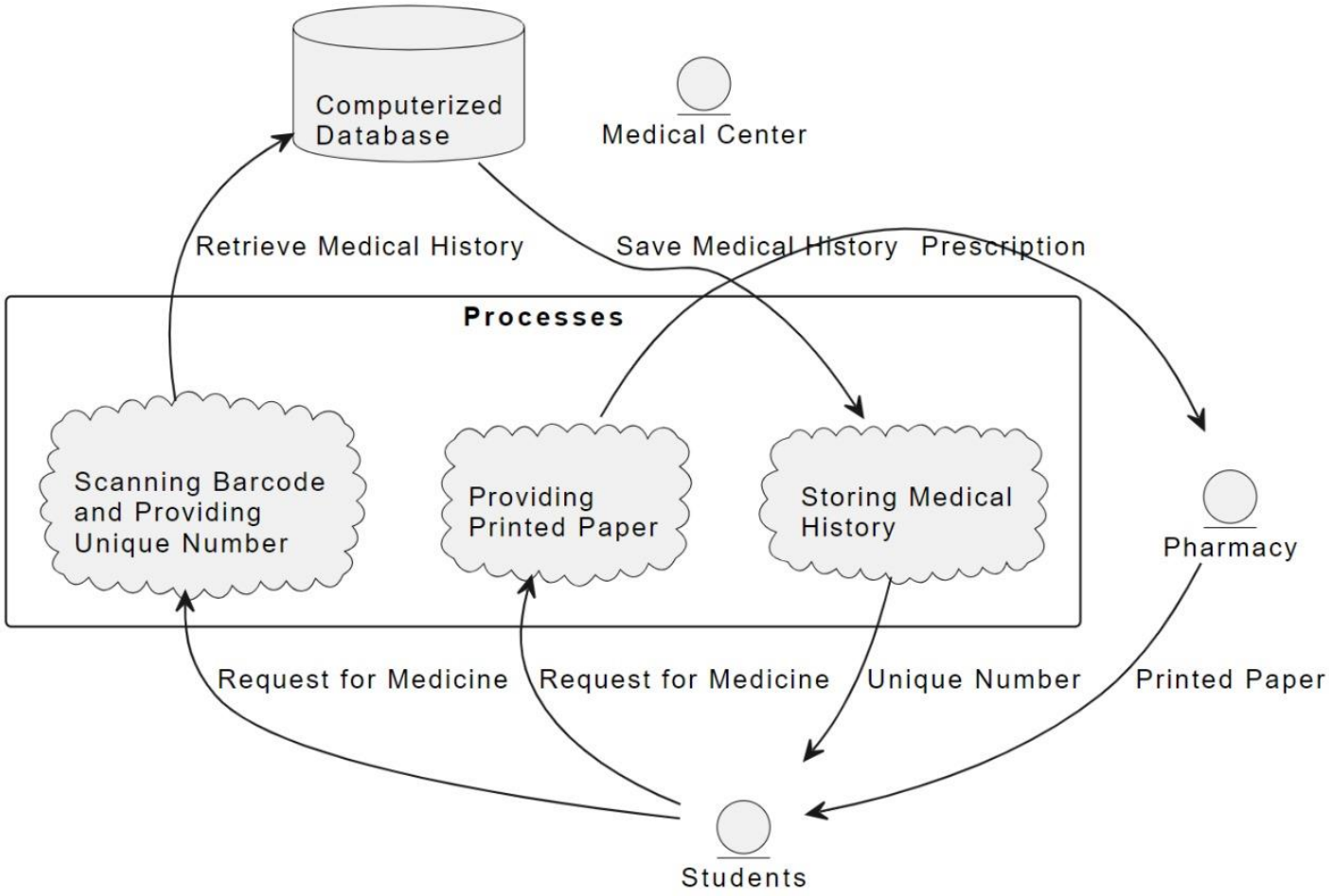
11.2. Database Diagram



11.3. User case diagram

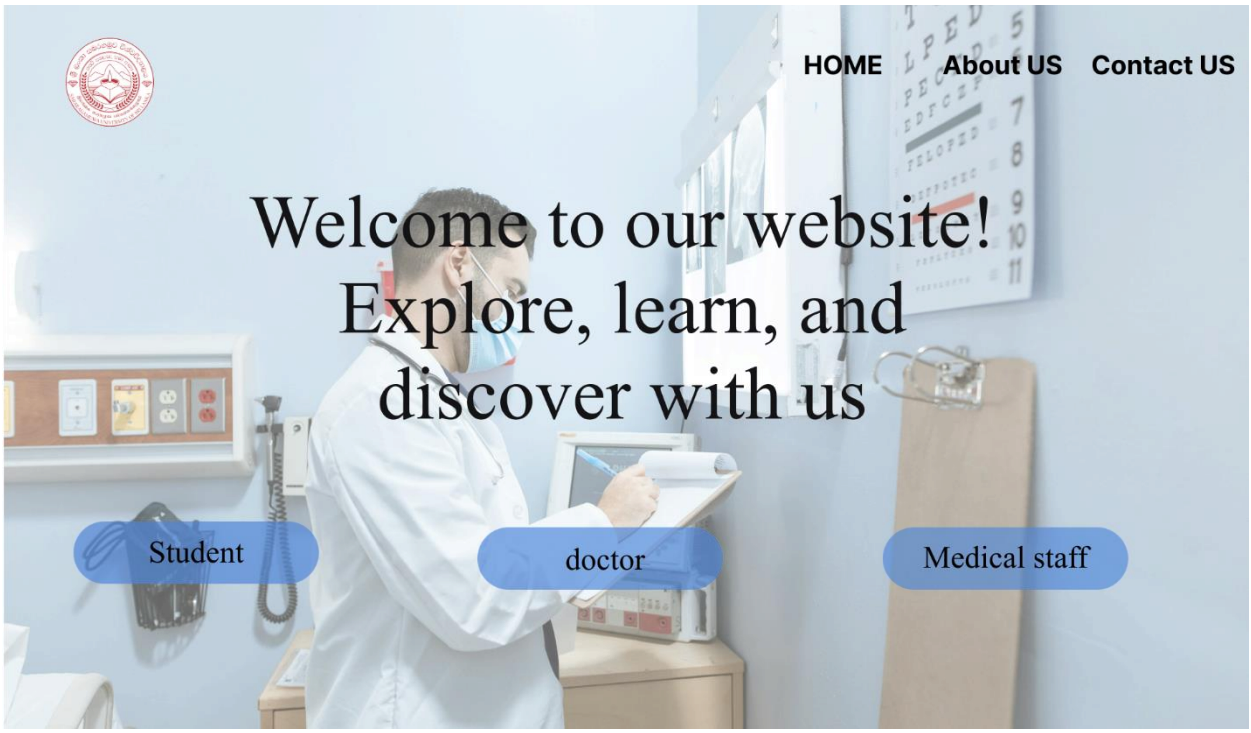


11.4. Data flow diagram

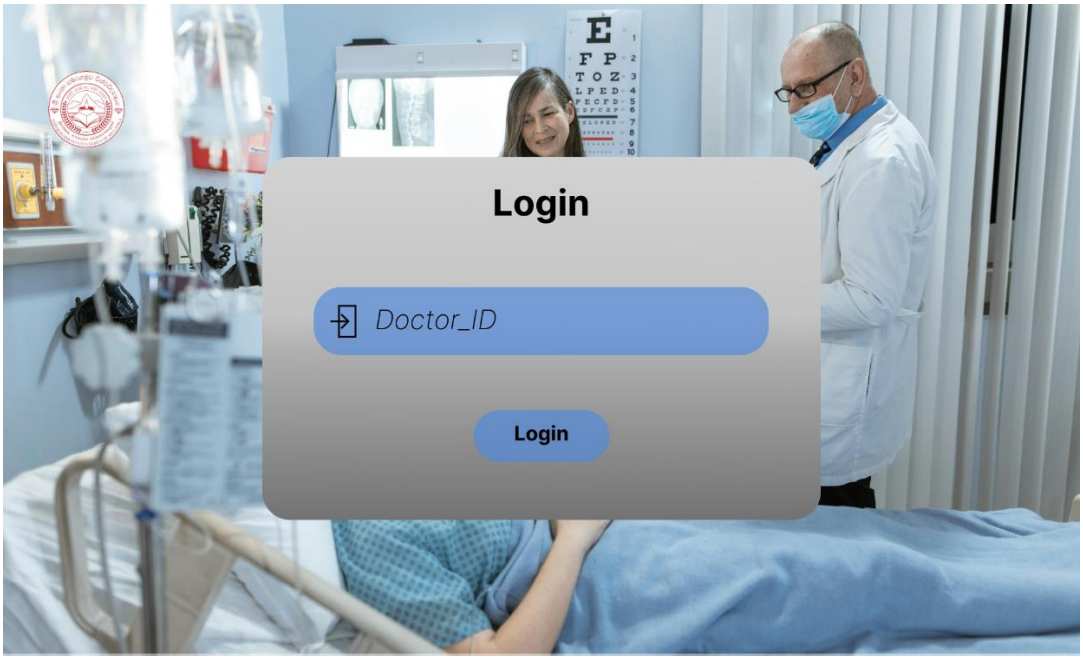


12. UI/UX Design

12.1 Home Page

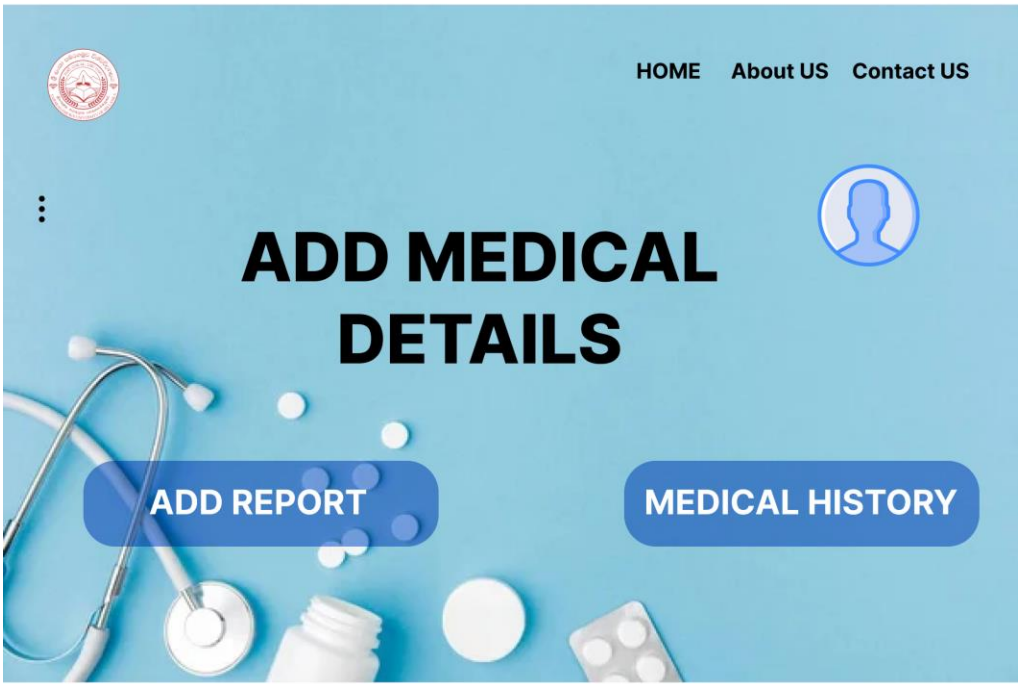


12.2 Doctor login page

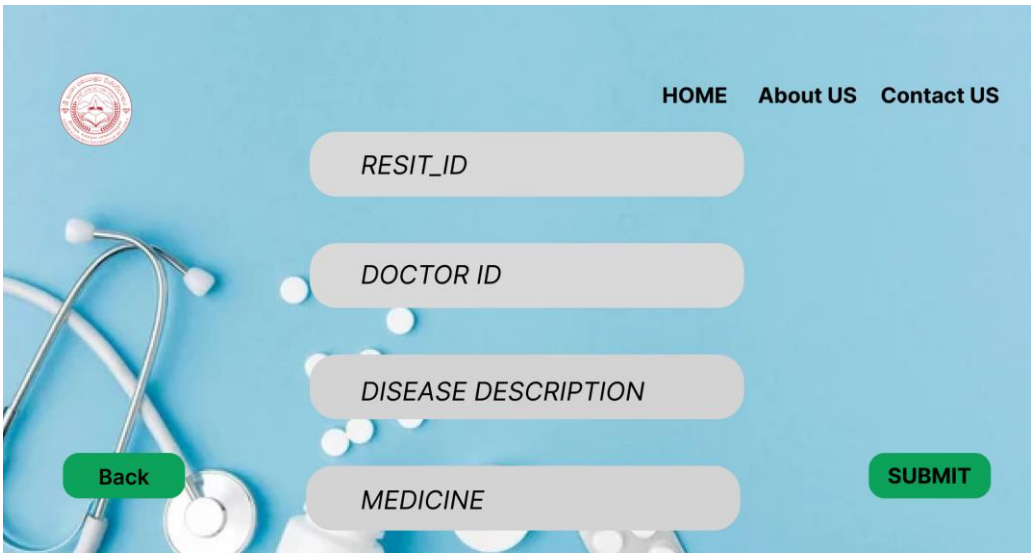


12.3 Doctor user page

12.4 Add receipt page

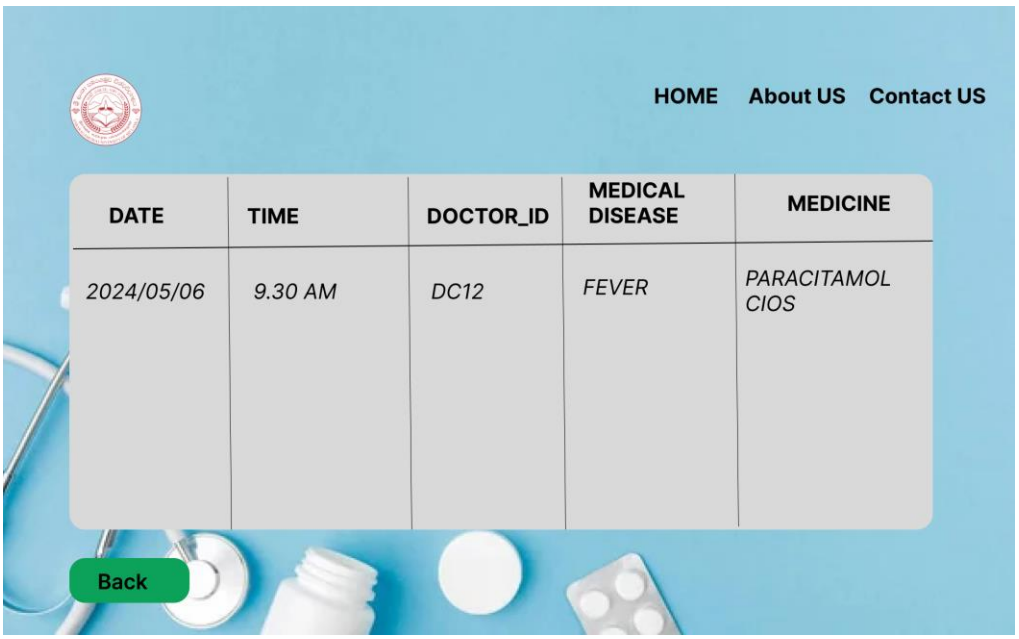


12.5 Form Submission

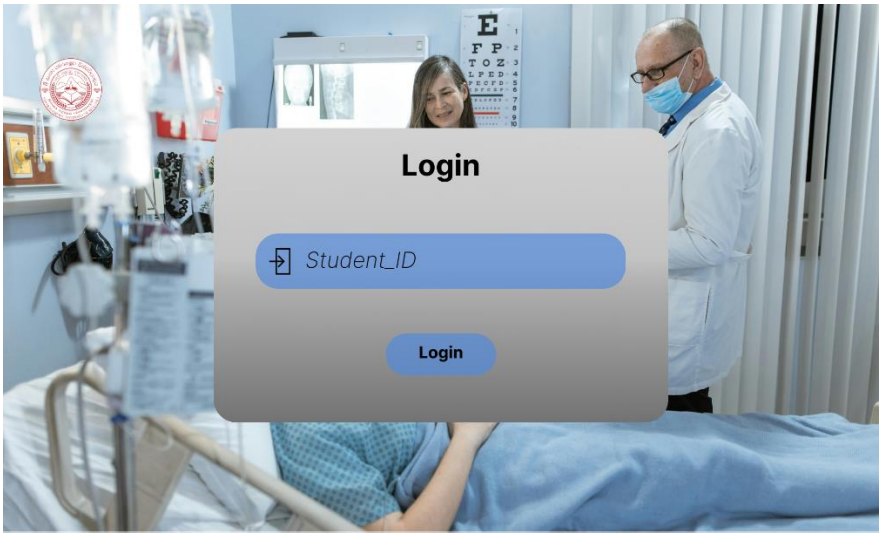


12.6 Student Details

12.7 Medicine history



12.8 Student Login

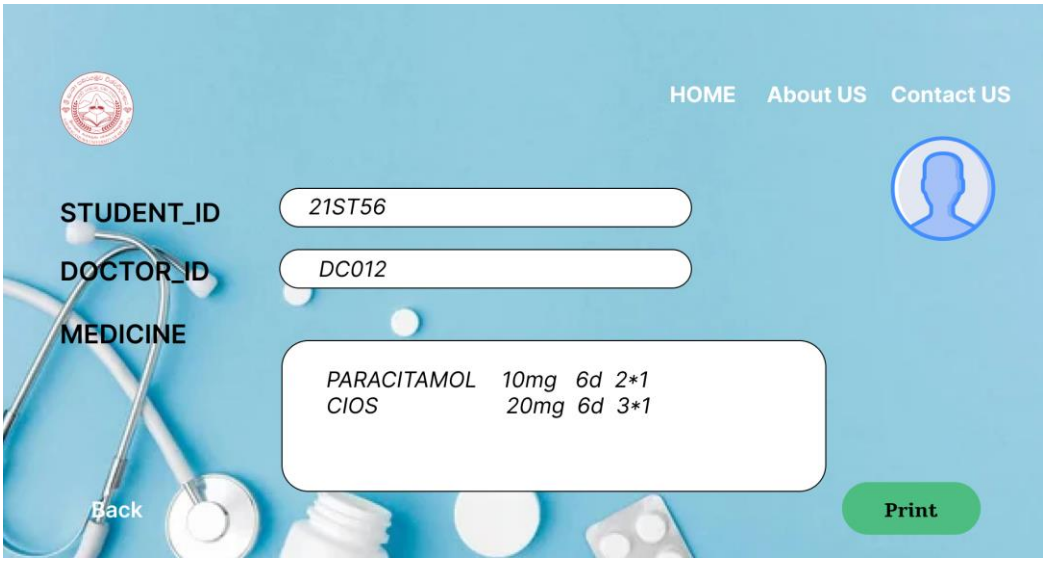


12.9 Student Register Form

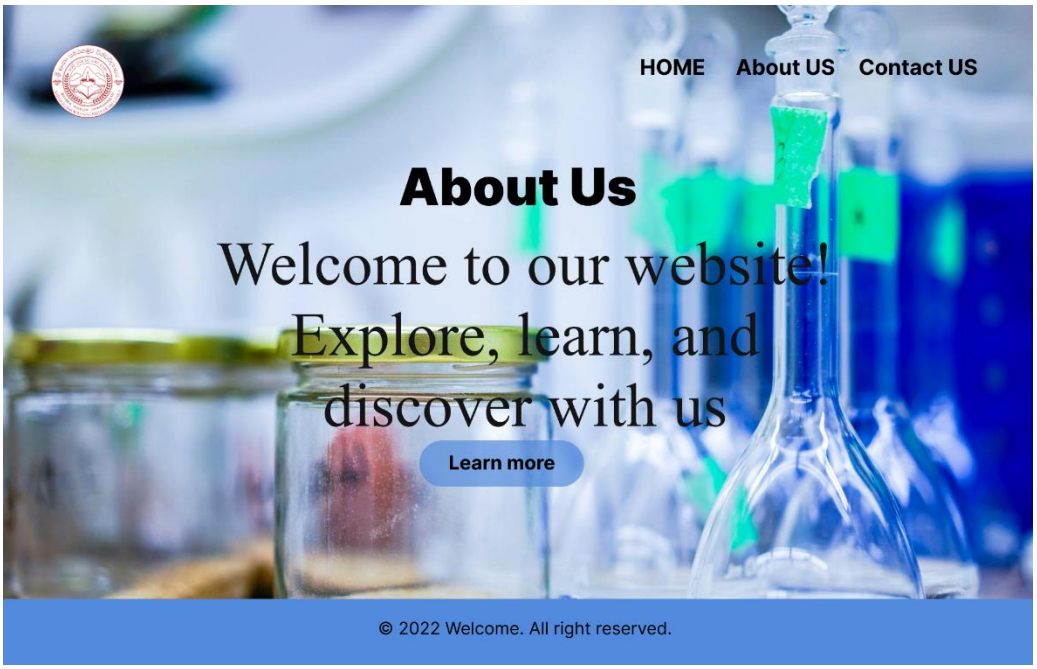
12.10 Staff Login Page

12.11 Staff user page

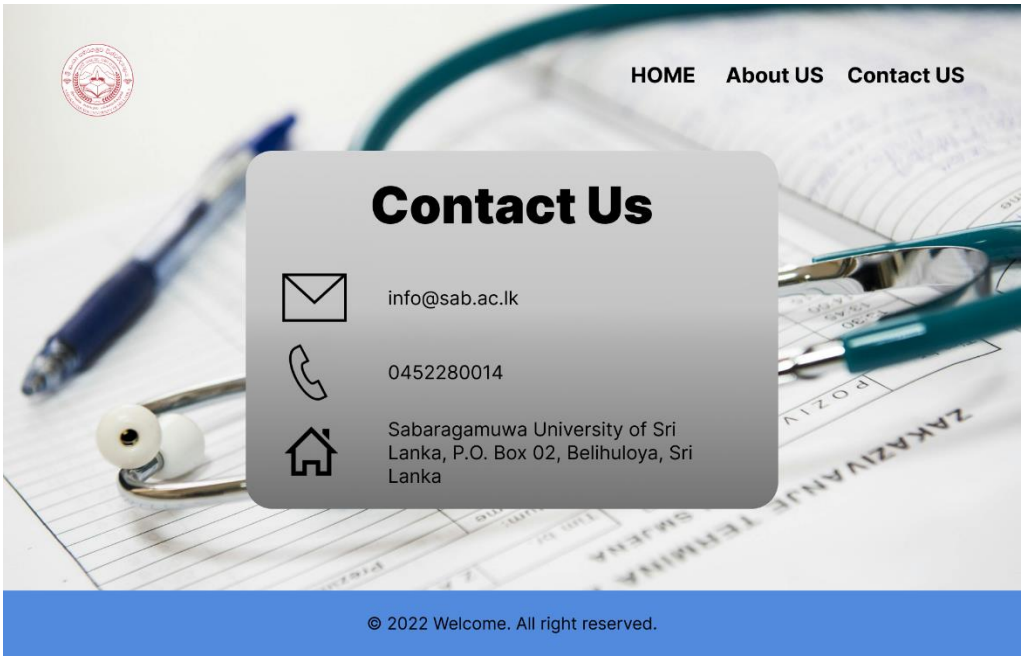
12.12 Medical Receipt



12.13 About Us



12.14 Contact Us



12.15 Figma Link

https://www.figma.com/file/S6WA1D7GzPAvKNrsJFxzH2/nexgen?type=design&node-id=63%3A28&mode=design&t=DNyb64tNPj7F8JeU-1