NORTH SOUTH UNIVERSITY
Department of Electrical & Computer Engineering (ECE)

Project Report

Course: CSE311L (Database Management System Lab)

Section: 9

Group: 6

Project Name: Hospital Management System

Submitted To:

Nazmul Alam Diptu

Part-Time Lab Instructor

Department of Electrical & Computer Engineering (ECE)

North South University

Submitted By:

Name	ID
Md. Asaduzzaman Chowdhury	2021355642
Shahran Rahman Alve	2022253042
Md. Masud Shohail	2022123642

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Introduction

The project "Hospital Management System" aims to computerize the Office Management of the Hospital to develop user-friendly, simple, fast, and cost-effective software. It is concerned with gathering patient information, diagnosis data, and so on. Previously, it was done by hand. The existing method requires plenty of paper forms, with data repositories spread over the hospital's administrative system. Information on forms is frequently missing or fails to reach management standards. Documents are frequently lost in transit between departments, requiring a thorough auditing process to guarantee that no essential data is lost. In the hospital, there are many copies of the same information, which might lead to data inconsistencies across different data storage. Patient's personal information, medical history, hospital employee information, ward and schedule, operating theater scheduling, and various facility waiting lists are often included in this information. All of this data needs to be managed in a reliable, error-free, and cost-effective manner. Our management system intends to include organizing, consolidating, maintaining data integrity, and preventing discrepancies. Additionally, the system's main job is to register and maintain patient and doctor information and access and meaningfully change this information as needed. Patient information and diagnosis information are entered into the system, and the system output is used to display these details on the screen. A username and password are required to access the Hospital Management System. A receptionist or an administrator can access it. They are the only ones who have access to the database. The information is easily accessible. The data is well-protected for personal use and the data processing is rapid.

❑ About Our Hospital Management System

The major goal of this project was to assist individuals by incorporating some valuable elements for them into our website. Essentially, our idea was health-related, and everyone might profit from it. Before implementing this concept, we conducted various types of research to see if there was any form of website similar to our idea, but we couldn't discover any, which pushed us to work on this project because the major goal of creating the project was to provide something for the general public. To build this website, the necessary things used such as HTML, CSS, PHP, Next Javascript, My SQL database and for writing the codes Vs code was used. During the development of this website, we needed to conduct various types of research in order to make the system even more useful and accessible to the general public. We encountered several difficulties implementing the features because some things were not possible as we intended, so we tried different approaches to solve those problems using relatively simple procedures. The website was not the greatest or most aesthetically pleasing, but it may be quite useful and simple to use for the users.

❑ Purpose and Benefits of Hospital Management System

The hospital management system follows to standard operating protocols, and there is no scope for deviation in any of the functional HMS processes. With the implementation of HMS in hospitals, you will be able to treat patients more effectively, and obtaining real-time reports and other information about the patients, as well as their historical clinical data and more, will be rapid and result in the best patient results. For better outcomes, the hospital management system makes workers' work more accessible and increases the pace of the entire process.

Benefits of Hospital Management System:

- Faster Processing Time and Better Outcomes

- Reasonably priced

- Errors are being reduced

- Updated Data Security and Retrieval Capability

- Patient Care Has Improved

- Better Quality & Complience

❏ Hospital Management System Features and description

The web page will open with the customer view at first. It will be general view and anyone accessing the domain will be able to view it. Viewer has to create an account first for service. Once a viewer has created an account, he/she can:

• Login

• Registration

• Patient Module

• Pathology

• Profile Update

 • Update/Delete List

• Payment Method

• Billing Method

Background

Our website is developed as a very simple dynamic website without any frameworks, with HTML, Next Javascript and CSS in the frontend portion, PHP on the server side, My SQL for the database, and XAMPP control panel for the apache server. Vs Code was used for the coding.

Github Link

Reasons behind using these particular tool:

a. **HTML, CSS:**

If someone wants to build a website the main structure must be created using the HTML because it is called the skeleton of a webpage, so for the structure of the particular web page we used html and on the other hand CSS is used to style web documents, it makes the web page more attractive and appealing to the eyes, we can do all sorts of styling using CSS in a web page. As, we didn't use any framework for our project we implemented all the styling using raw CSS.

b. **PHP:**

It is a server-side HTML-embedded scripting language which is often used for form processing and database access through the web which is also purely interpreted. That's why in the server-side section we used PHP.

c. **My SQL:**

The latest version of MySQL is one of the world's most popular databases. It is open source, reliable, compatible with all major hosting providers, cost-effective, and easy to manage. The application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications etc. These are the main reasons for us to choose My SQL as our database and since our website is very basic and we had knowledge about My SQL.

d. **XAMPP Control Panel:**

XAMPP provides a Control Panel for efficient management of the software in the XAMPP package. We can use the Control Panel to determine whether Apache and MySQL are currently running and to start or stop them. The XAMPP Control Panel can run continuously and ready for use at all times.

e. **Next Javascript:**

Next.js is clever enough to only load the Javascript and CSS that are needed for any given page. This makes for much faster page loading times, as a user's browser doesn't have to download Javascript and CSS that it doesn't need for the specific page the user is viewing. This increases performance as there is less for the user's browser to download and the user benefits from seeing the page content quicker

f. **Vs Code:**

Visual Studio Code features a lightning-fast source code editor, perfect for day-to-day use. With support for hundreds of languages, VS Code helps you be instantly productive with syntax highlighting, bracket-matching, auto-indentation, box-selection, snippets, and more. Intuitive keyboard shortcuts, easy customization and community-contributed keyboard shortcut mappings let you navigate your code with ease.

Methodology:

Website is one of the major and most important section of internet that is currently being used by people from all around the world for different purposes. All the websites that are used publicly are known as World Wide Web. There are also private websites as well. Private website has the access of a private network, such as a company's internal website or bank's internal website etc. In this project, publicly accessible website was designed to share necessary information and every person can get the access of all the features that were designed. Figure 1, shows that people can get access to all the features but before that, signing in is needed. Also, admin has the access of all the features and reports.
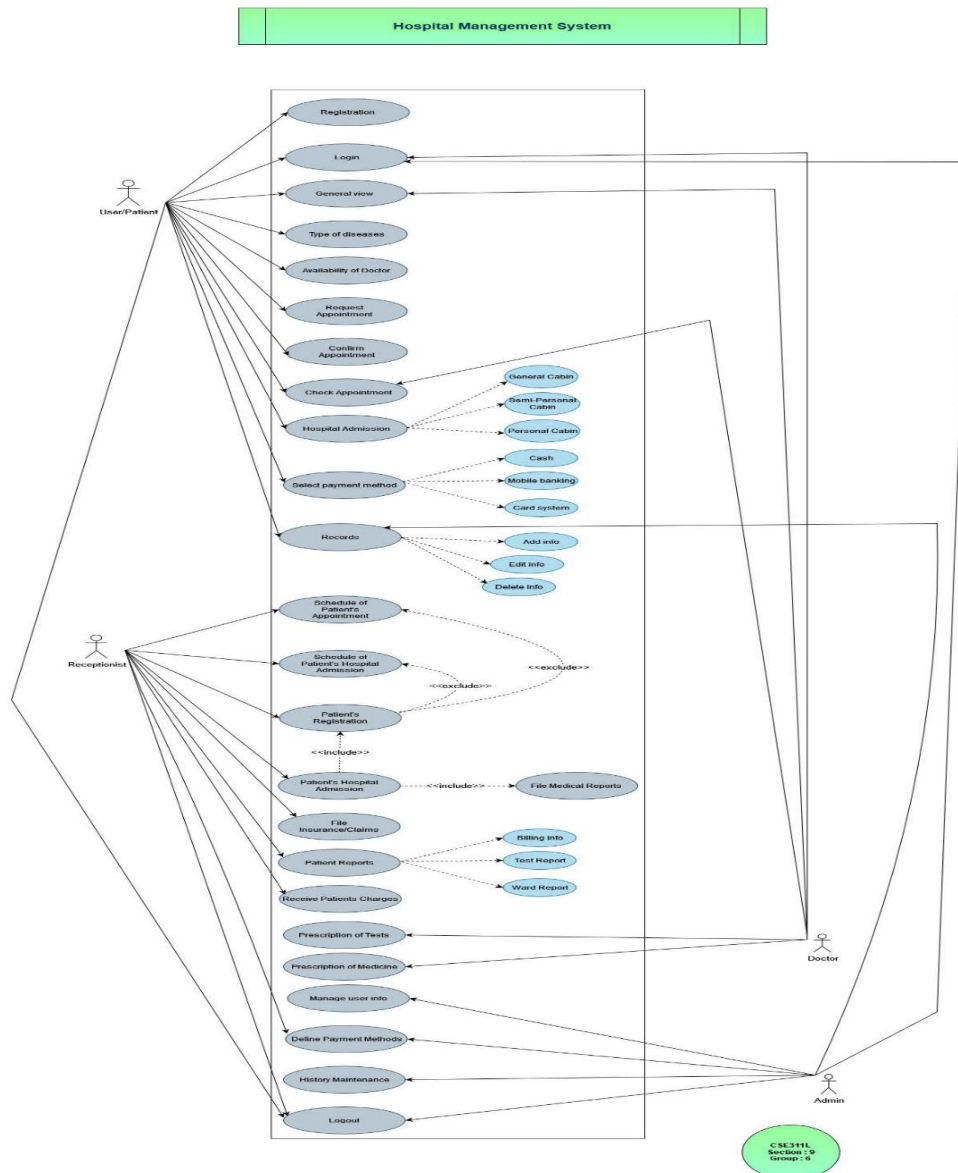
Figure 1 : Use Case Diagram

This project is designed for the benefit of the users. So, the working process is done in a way that users can register data in the features and users also can get data from the features. Figure-2, shows the table names, columns and the relations between them.
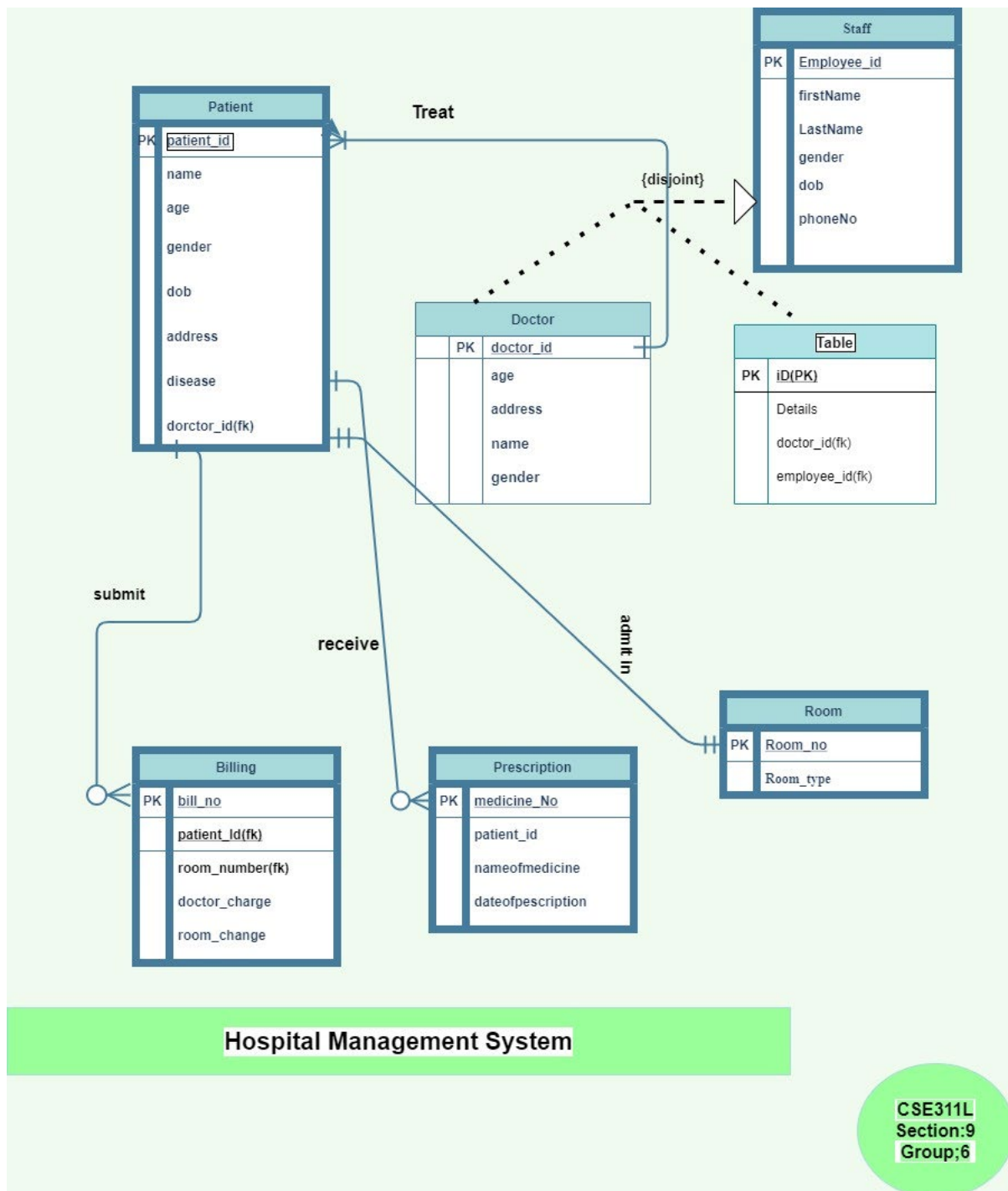
Figure 2 : Entity Relationship (ER) Diagram

All these tables were used to complete this project. Mainly this project was divided into two parts- Frontend and Backend. In the Frontend part, the interface of the website was designed. To design the interface Html, CSS and Next JS was used. The Hyper Text Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as

HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. For the backend part, PHP and database were used. Xampp localhost server was used for building the database and PHP was used to connect the database with frontend. XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages. Figure 3, shows schema diagram.
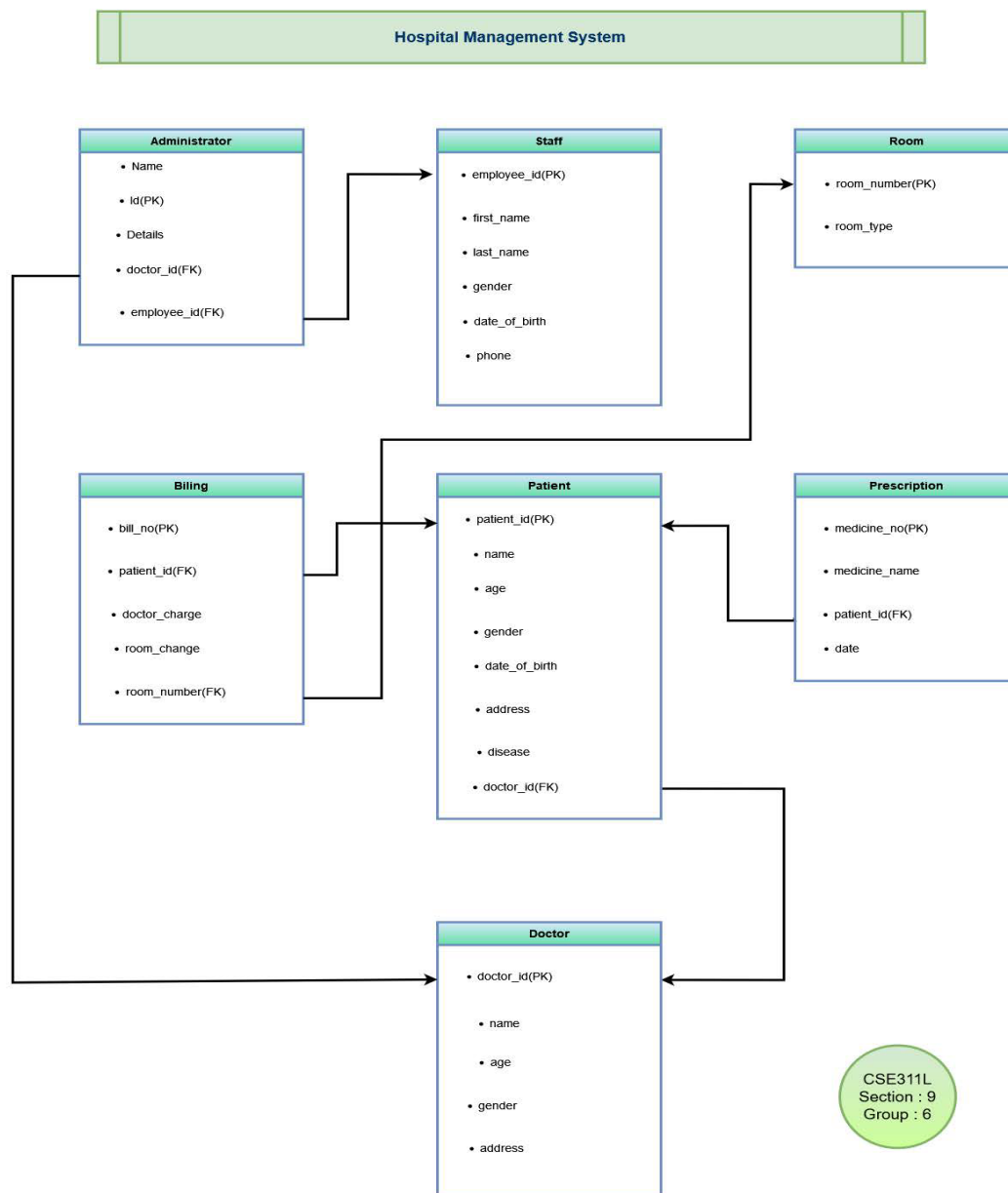

Figure 3 : Schema Diagram

Front-End Development:

There are some templates in plan

1. Main page
2. Login page
3. Register page
4. Sign up
5. Doctor page
6. Patient Page
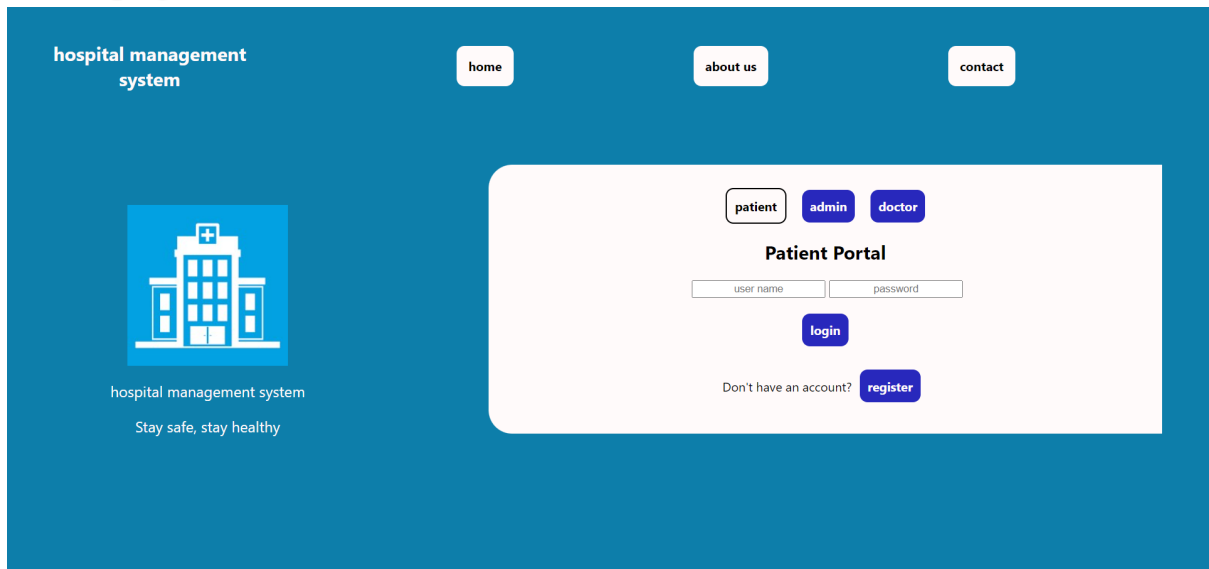7. About Us
8. Contact

Back-End Development:

1. Account Creating, Password Recover:
   a. Sign up form
   b. Login
   c. Forgot Password
2. Profile Management:
   a. Doctor Profile
   b. Patient Profile
   c. Admin Profile
3. Portal Management:
   a. Prescription Portal
   b. Appointment Portal

Tools & Technologies:
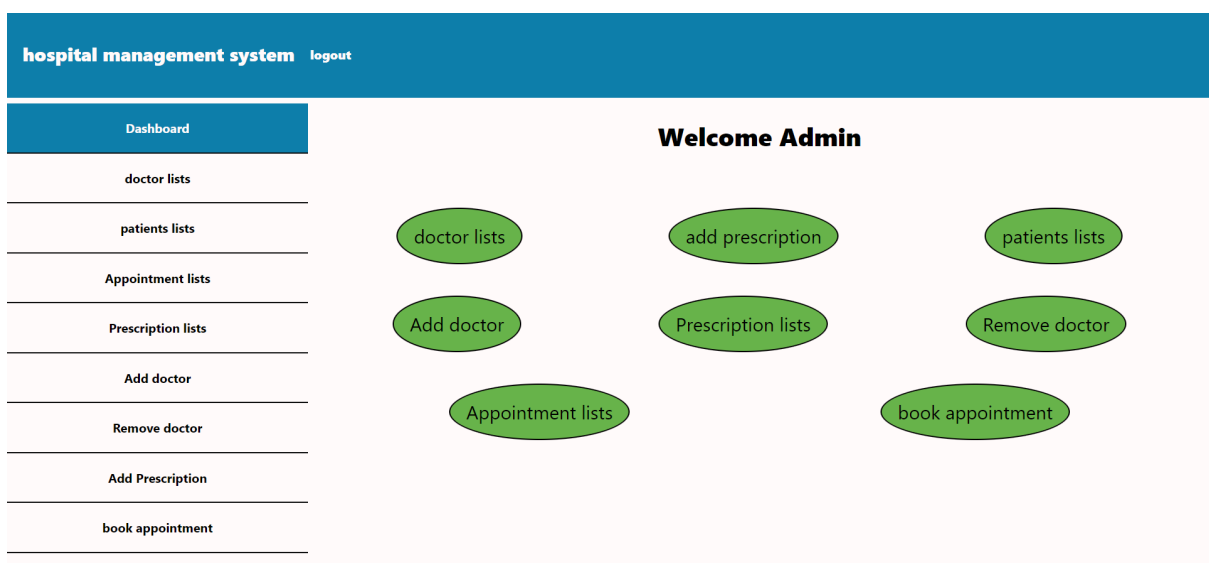
1. Database: Mysql
2. Protocol: Http
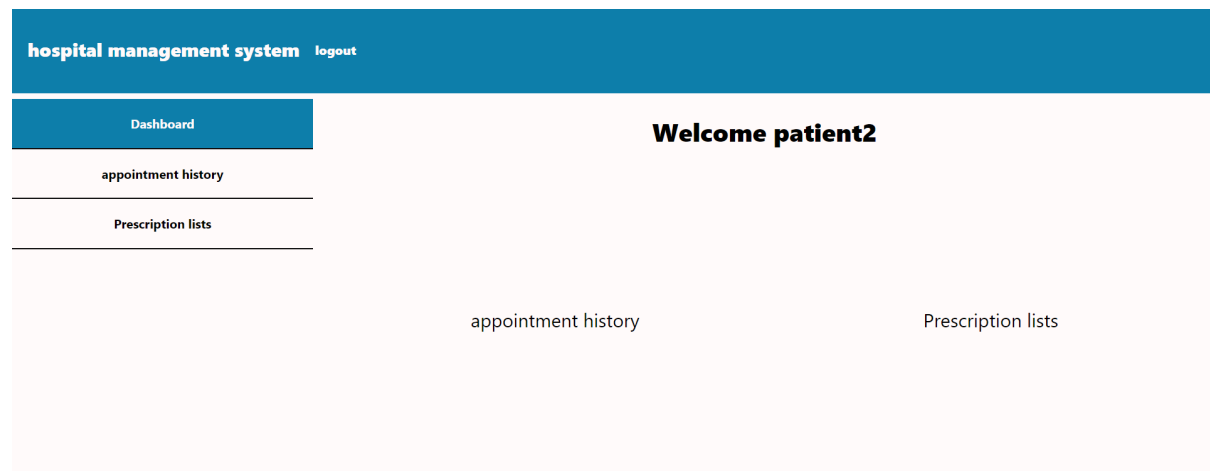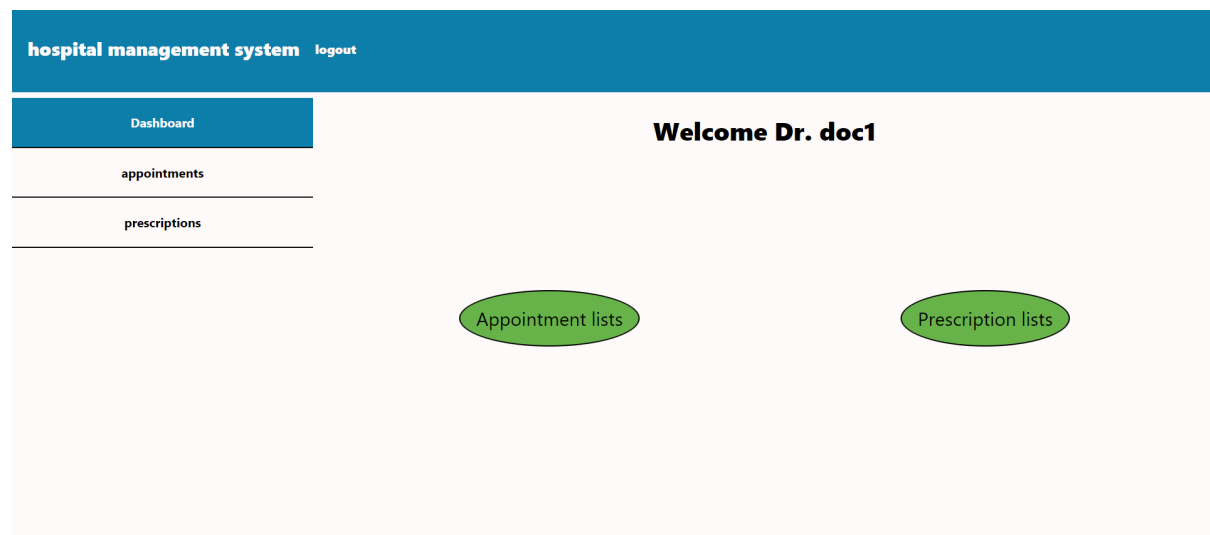3. Cloud Provider: Local Host
4. PHP

Screenshots:

Homepage

Admin Portal

Patient Portal

hospital management system logout	
Dashboard	**Welcome patient2**
appointment history	
Prescription lists	
	appointment history Prescription lists

Doctor Portal

hospital management system logout	
Dashboard	**Welcome Dr. doc1**
appointments	
prescriptions	
	Appointment lists Prescription lists

Conclusion:

The objective of the project was to develop a website which will help people from every level. This project is a small contribution from us to help people. Anyone can easily get access to this website. But for getting access users need to signup first. For signing up they need to give some information. After signing they can easily take any types of help from this website through features. If users have any type of question, they can contact with us through the website because in the website we provide our information and contact details. Users can contact us through Mail because we provide our email id in the website. To complete the whole project we use Html, CSS, Next JS, PHP and for the database My SQL. This website is a small contribution from us to help people and we believe that, this website will help people from every level whenever they need or they are in trouble.

Appendix:

Contact information-

- **Md. Asaduzzaman Chowdhury**

  Email: asaduzzaman.chowdhury@northsouth.edu

  North South University

- **Shahran Rahman Alve**

  Email: Shahran.alve@northsouth.edu

  North South University

- **Md. Masud Shohail**

  Email: masud.shohail@northsouth.edu

  North South University