



North South University

Department of Electrical & Computer Engineering

Project report

Project name : Hospital Management System

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Instructor name: Md Sajid ahmed

Course Code: CSE311IL

Course Name: Database management system

Group Name #: F

Section: 03

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Introduction:

The hospital management system is a web-based software program that controls all staff members' actions, workflows, and other aspects of the hospital. Our system will keep track of all medical professionals treating the patients, including doctors and nurses, as well as the specifics of the procedures they received and other pertinent information so that they may be tracked down at any time.

Background research:

The foundation of the healthcare system is hospitals. There is no better place to go if you need quality medical care than a hospital. We have created the hospital management system for a hospital that offers interfaces for the available medical facilities. It helps the hospital's everyday operations run smoothly. Our program makes it incredibly convenient for patients to look for a doctor without hassle. Therefore, it will be beneficial for all consumers. We were inspired to take on this project because of that.

Resources / Technologies stacks:

For this project, we utilized the code editor Visual Studio Code, also referred to as VS Code. for creating the database and tables, we used my SQL and xampp. for various purposes, we used HTML, CSS(Cascading Style Sheets, PHP. In web development, the frontend part was done with HTML as we wrote the code in HTML and styled them with CSS. We have used PHP to display our documents in web development so that we can connect our web pages with the database and function properly. We have used MS word to design the ER diagram.

Architecture:

The database can perform insert, update and delete operations or requests from the frontend by the users and the admin. And the MySQL database is responsible for showing the outputs in the frontend later.

Project design:

In this project, there are two main kinds of users. They are hospital authorities and patients. The patients can search for doctors to their needs, make appointments with doctors in their desired time, call ambulances, and view their reports. To do these things, a patient must first make an account of his own. after that, a patient needs to log in with his id to access these features. A doctor can view his patients and make reports for them.

User story:

Use case 1

The admin can see the administration view and control the system.

Use case 2

A patient can search for doctors, make an appointment with a doctor, view reports, book an ambulance, add, update and delete personal information and also can be informed about terms and conditions and FAQ.

Use case 3

A doctor can give prescriptions to patients, and view records of appointments and patients.

Problems and solution:

- o Online payment is not available in this version.
- o Data delete & edit system is not available for all sections.
- o User account not verified by Mobile SMS not available in this system.
- o Loss of data due to mismanagement.

Advantages:

Software aids in managing all aspects of hospital and healthcare facility administration. Such software typically contains several modules that assist doctors in managing their tasks and schedules, patient registration, store inventory records, medication administration, blood bank details (with available blood types), individual patient records with test results, nursing and housekeeping service details, financial information, including final billing & payments, insurance details, and much more. Patient care and hospital administration become simple tasks after the customized software is installed and integrated into the system.

Disadvantages:

There is no significant disadvantage here in this project. But a patient without the internet or any knowledge of technologies can not get any help from this system.

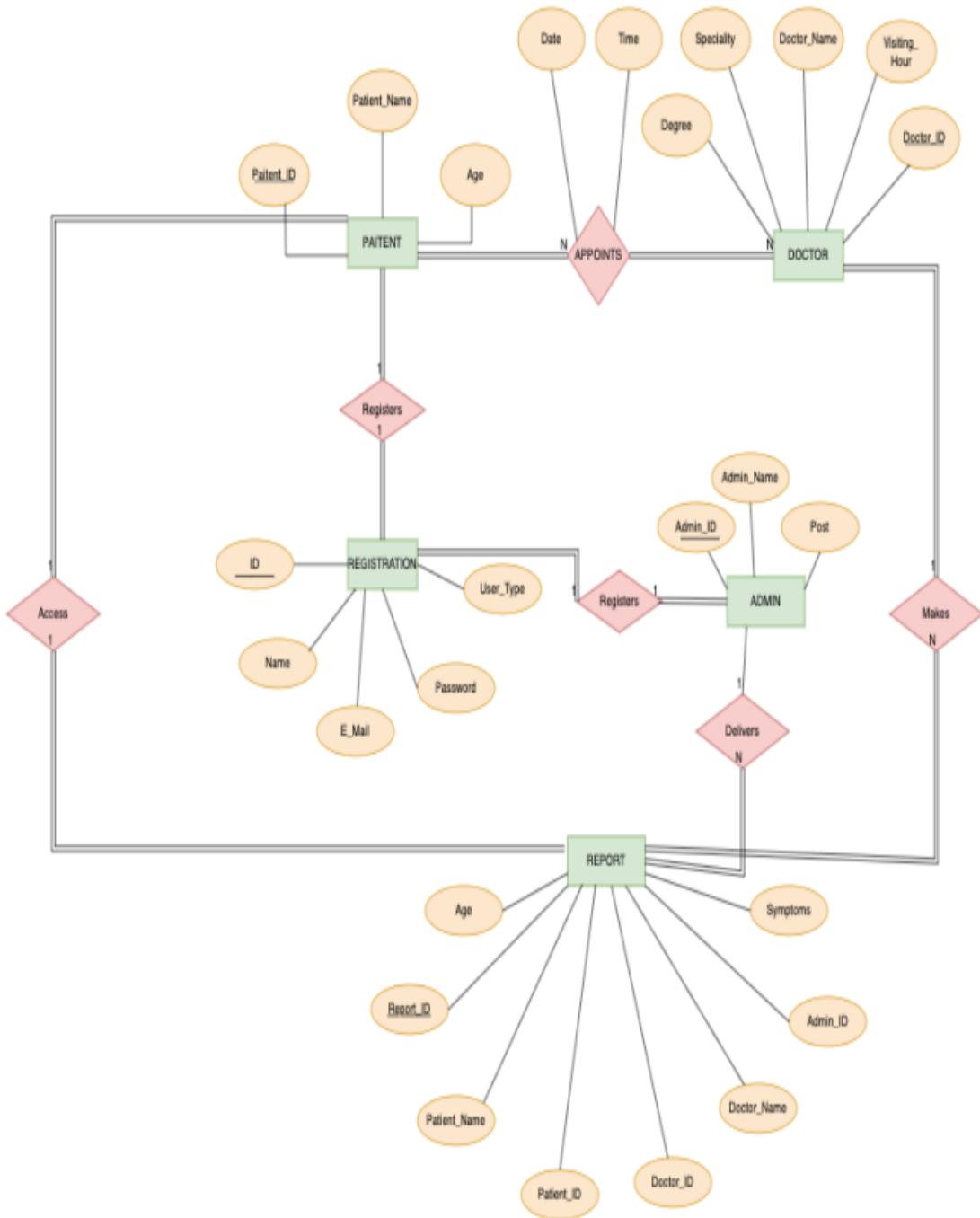
GitHub repository:

<https://github.com/Saad1054/Diagnostic-Center-Management-System-Group-F-Faculty-RIH-Saad-Rania-Sadman-Zarin>

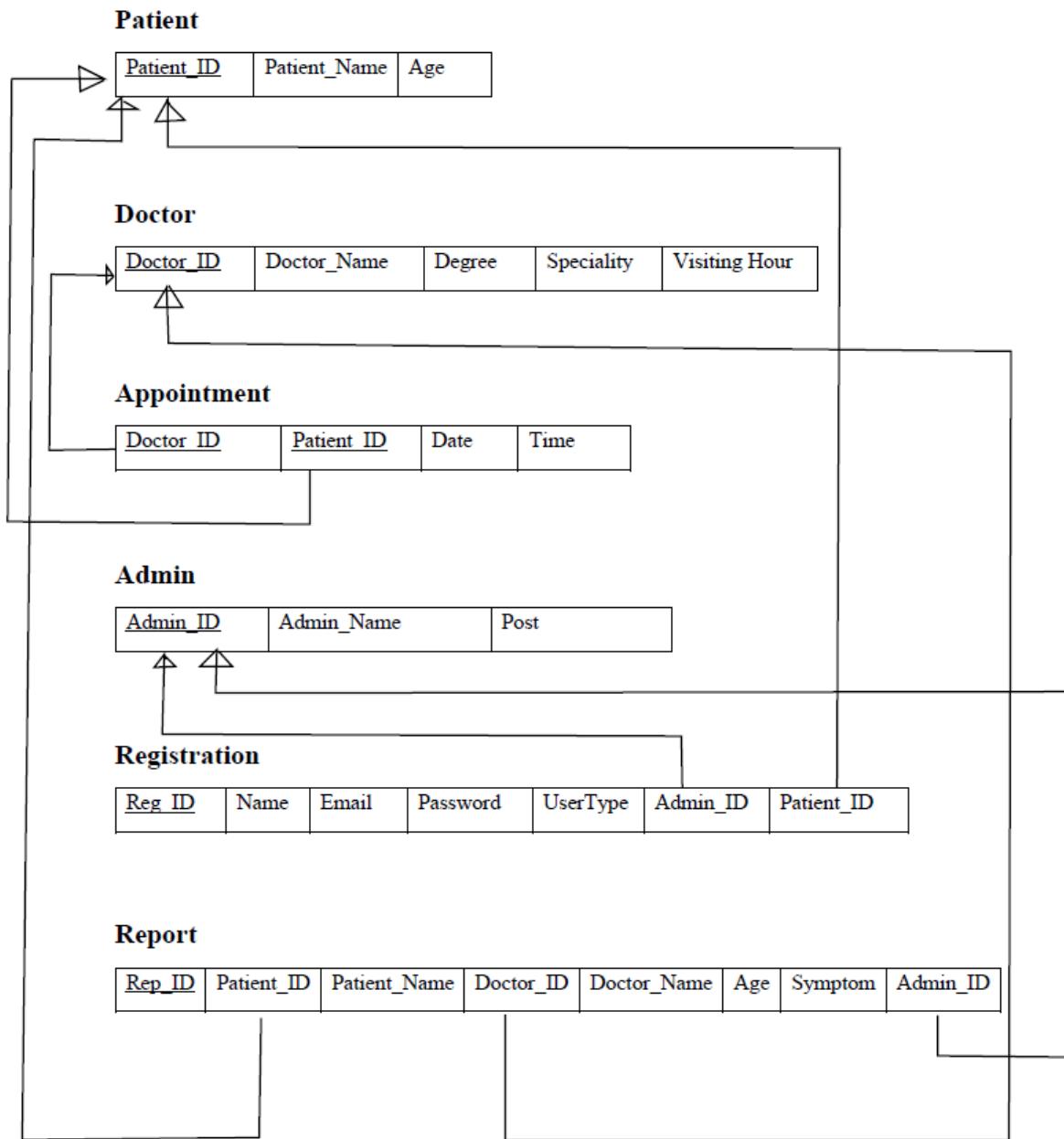
Budget and price:

This project is very budget friendly according to its features. Still, as there is a lot of patients and doctors in a hospital, it will be very expensive to operate its database. The API for calling to ambulance will be expensive. Other than this, the project is relatively inexpensive.

ER diagram:



Relational database schema :

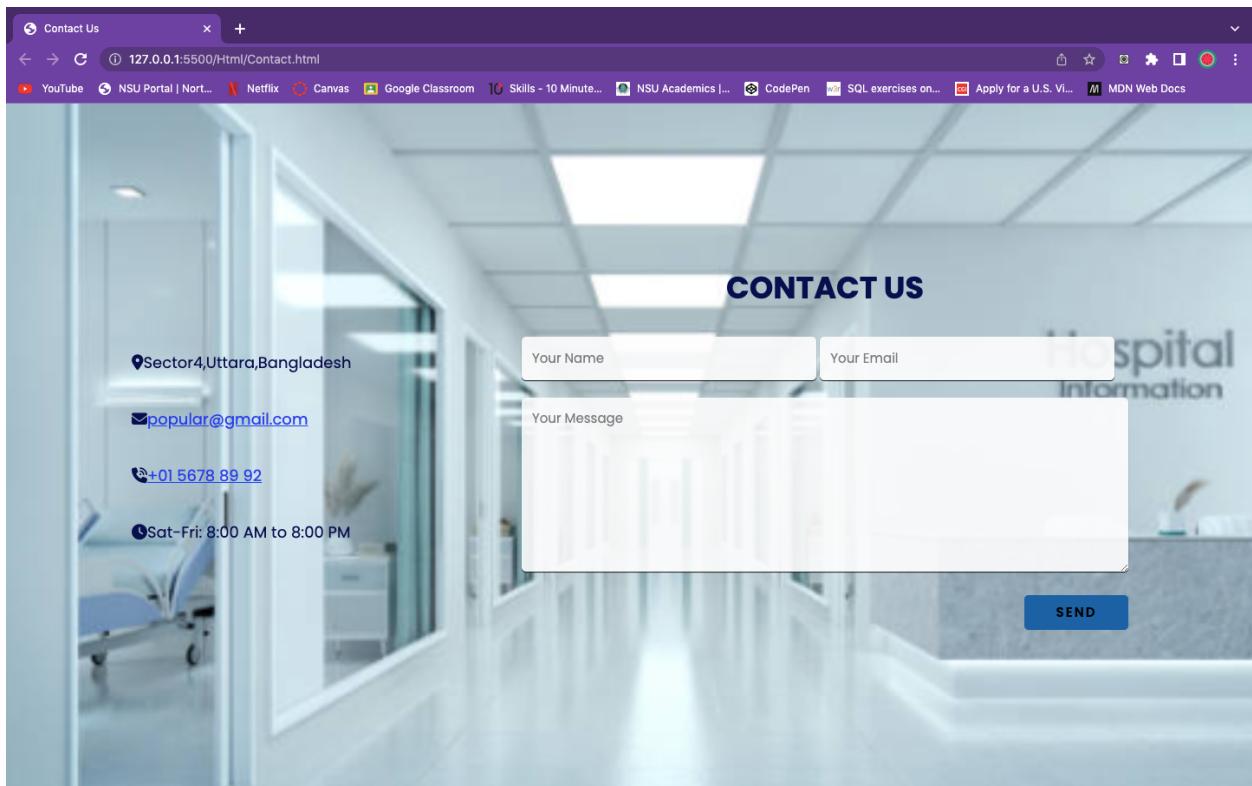


Database normalization steps :

- 1) We have normalized upto 3NF
- 2) Patient (Patient_ID,Patient_Name,Age)
 Doctor (Doctor_ID,Doctor_Name,Degree,Speciality, Visiting Hour)
 Appointment(Doctor_ID,Patient_ID,Date,Time)
 Admin(Admin_ID,Admin_Name,Post)
 Registration(Reg_ID,Name,Email,Password,UserType,Admin_ID,Patient_ID)
 Report
 (Rep_ID,Patient_ID,Patient_Name,Doctor_ID,Doctor_Name,Age,Symptom,Admin_ID)

- 3) It is in 1st normalization form because there is a primary key on which other attributes are dependent on and all the data are atomic.
- 4) It is in 2nd normalization form because, in all the schemas, there are no functional dependencies.
- 5) Finally, it is in the 3rd normalization form since there is no transitive dependency.
- 6) As we decided not to go further since it is not required. With 3NF, we reduced the redundancy.

Screenshots of the project:



Registration Form

127.0.0.1:5500/Html/reg.html

YouTube NSU Portal | Nort... Netflix Canvas Google Classroom Skills - 10 Minute... NSU Academics |... CodePen SQL exercises on... Apply for a U.S. Vi... MDN Web Docs

First Name :
Enter your First Name

Last Name :
Enter your Last Name

Email :
Enter your Email ID

Password :
Enter your Password

Submit

REPORTS

Id: Enter Patient's Id

Patient's Name: Enter Patient's Name

Age: Enter Age

SUBMIT

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FREQUENTLY ASK QUESTIONS (FAQS)

1. How do I make an Appointment?

To make appointment for Consultation with our Consultants who sit in our Out-patient Departments, please call our hotline 10888 from any phone anywhere in the country. You can call on this number to make appointments as well as investigations for any sort procedure enquiries.

2. Do you have Consultants available in the diagnostic center for 24 hours?

In out-patient department, to provide Consultation services, our Consultants are available from 7am till 9pm on weekdays (Saturday to Thursday). However, the visiting hour varies from Consultant to Consultant

3. What are the phone numbers of your hospital for one should call during Emergency?

To avail our emergency facility and ambulance service, please call in the following numbers:
Emergency Hotline (from any phone anywhere in the country): 10888
Ambulance: 01910 022222

4. Is there any pharmacy within the diagnostic center premises?

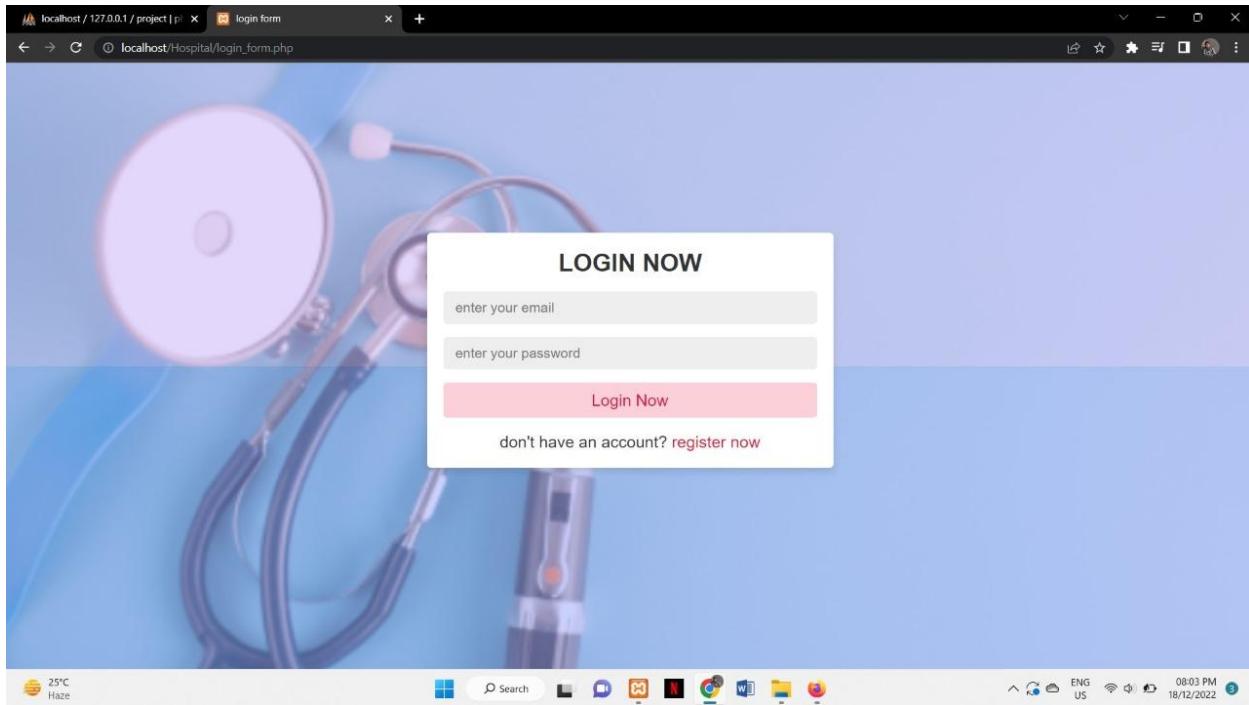
Pharmacy is available at the Ground floor (Lobby) of our diagnostic center which remains open for 16 hours (8am-12am) a day & 7 days a week.

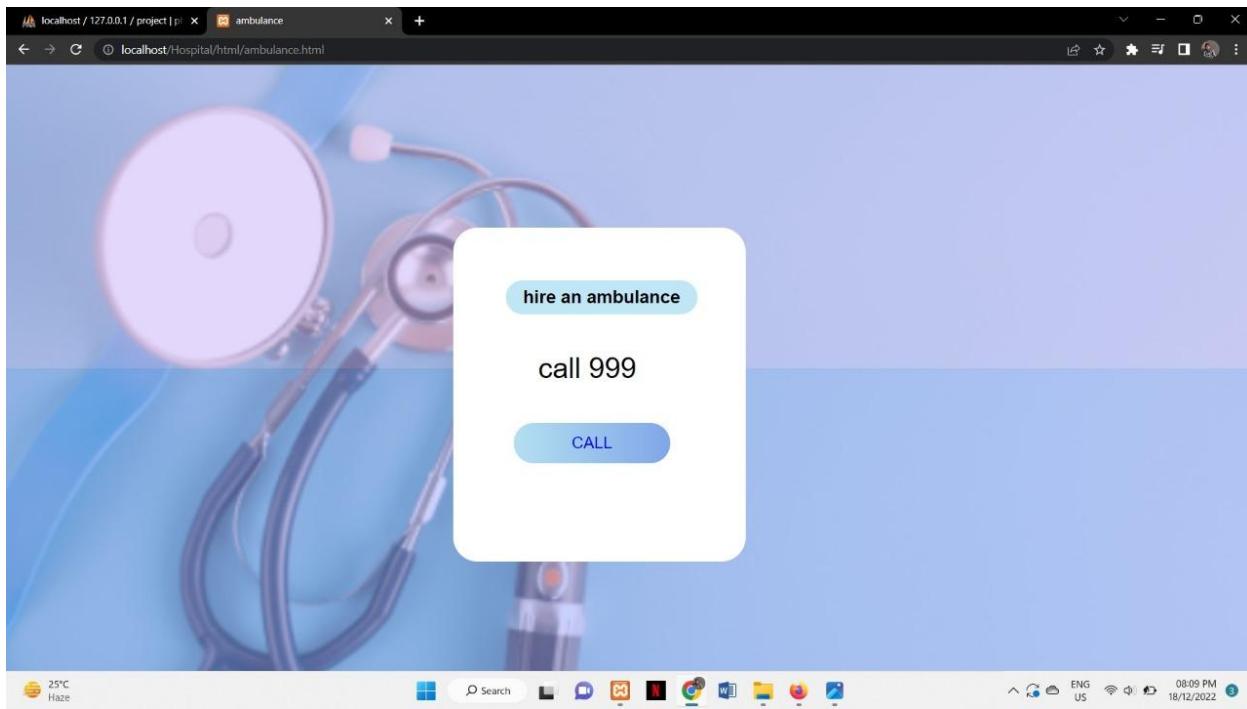
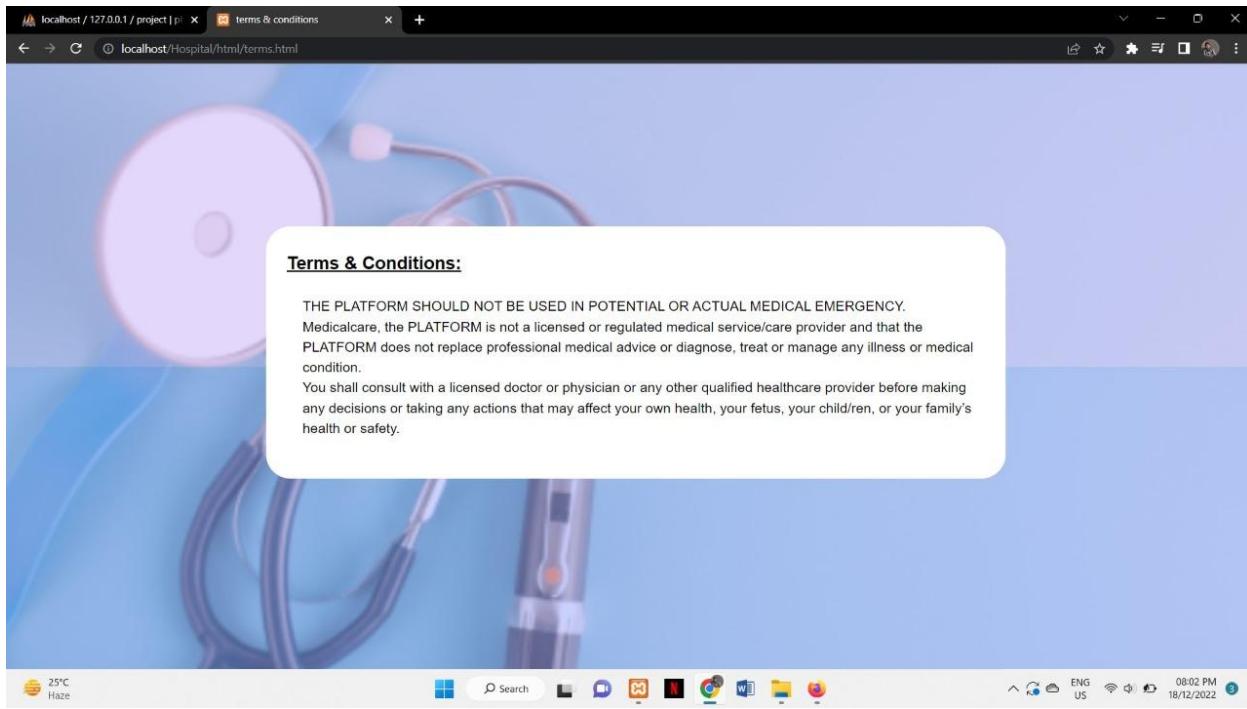
5. Does the diagnostic provide health information brochures/leaflets?

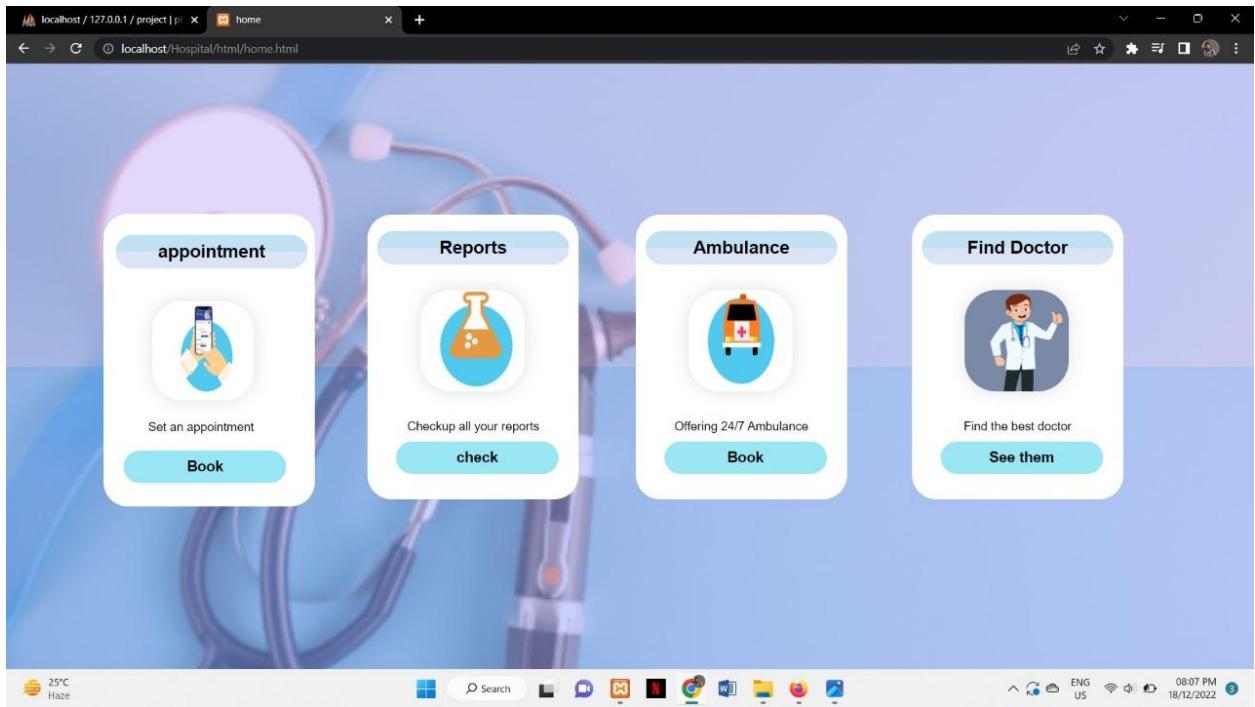
Yes, for awareness and better understanding about hospital facilities, disease and treatment options, we provide brochures, leaflets, cards in Bangla and English and also displays festoon and banners.

6. Where can I send my feedback or complaint?

A feedback/comment form is given to patients and their attendants in out-patient and in-patient area, where you can write down your feedback or recommendation. These are kept in a sealed box to be addressed by concerned authorities.







Conclusion & future work:

Users of this hospital administration system can schedule appointments, dispatch an ambulance, look for a physician, and see their reports. It helps hospitals increase employee productivity and decrease paperwork. Because it reduces paperwork, it also guarantees low costs. Compliance and removing any chance of error ensures complete patient data security & privacy.

A hospital's management system should ideally allow for digital connectivity with every component of the ecosystem, including patients, providers, payers, health organizations, insurance companies, diagnostics, pharmacies, and other personnel. However, the hospital is only connected to some of these staff members in our management system. We can concentrate on this area to make our web application better. Additionally, we can improve our system by more effectively implementing Cascading Style Sheets(CSS).