Project Title: Hospital Management System

Deliverable 4: Development Phase 2: Enhanced Functionality

Group Name: Geeky Techs

Group Members:

1. Yaramala Anusha

2. Rangineni Vishwitha

3. Dinesh Reddy Puthalapattu

4. Chenna Reddy Deepak Kumar Reddy

5. Sai Satya Pavan Pandu Vanka

6. Tejaswi Ganjinaboina

7. Chandrupatla Divya Anusha

8. Jaswanth Makala

Introduction:

This stage represents a move, toward creating a Hospital Management System (HMS). This phase will include the core functionalities and enhanced the advanced features of Hospital management system and have improved the overall user experience.

Requirements:

Search and Filter operation:

We have implemented this functionality where the doctor can search for his/her patient once after the patient have been created an appointment with doctor. It will give best experience to not to search for all the patients instead of that doctor can easily find the particular patient to whom he wish to add the medical history or prescription.

Patient Communication:

We have implemented this functionality where the patient can send a message to the hospital management. So, that the admin can view that messages and know about the queries that the patient have. This functionality is present as contact form in our application dashboard.

Reviews from Patients:

Patients can give a ratings and reviews for a doctor in a form of a message where the admin can able to see the reviews and ratings which are visible to the doctor. For the sake of doctor's privacy we have implemented to view the ratings and reviews only to admin.

Appointment Remainder:

Once after the Patient has scheduled with an appointment, he/she can see the appointment in appointment history tab and also he/she can be able to get the remainder for an appointment. Similarly, doctor can also be able to see the patients who scheduled an appointment with him/her in his profile under appointment history tab.

Healthcare Services:

Patient can be able to see the hospital services under the services tab in our application. This feature is enhanced to visible to the users without login. So that the user can see the services that hospital offers and if the service which he/she wanted is available then they can create an account with our application and schedule an appointment.

Feedback Submission:

After the service the patients can give the feedback about the services they have been offered. This feedback is viewed by admin. Once after the admin logged in, he can navigate to unread queries tab. There he/she can view the feedback or queries that are given by patients.

Admin Panel:

We have implemented a admin panel for administrative tasks where he can able to see the doctors and the patients. He will be able to add the doctors. In our application access to the doctors should be given by the admin itself. He also can see the login time of Doctors and Patients.
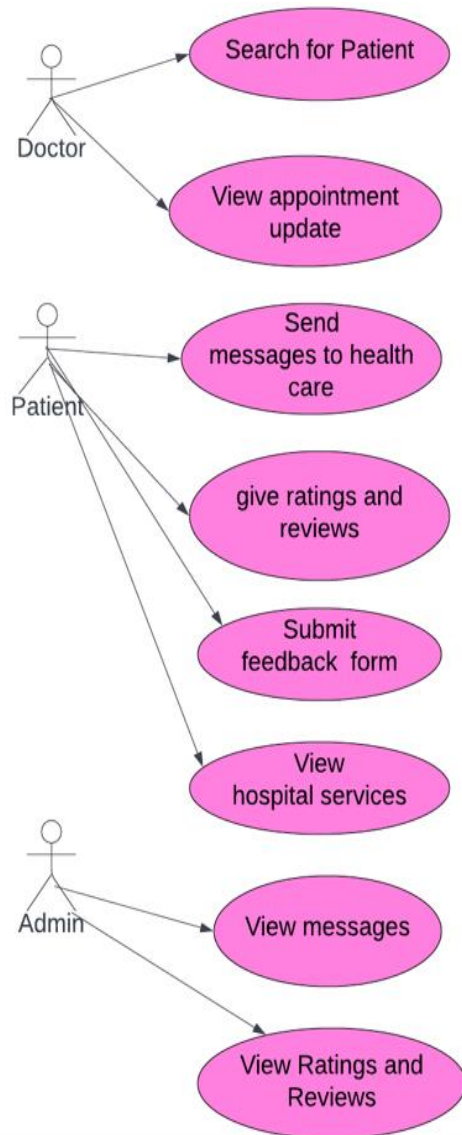
Mobile app optimization:

We thought to implement the app optimization but as we are using php to implement our application Compatibility with various mobile operating systems and browsers adds a layer of complexity to the development process. The mobile app needs to be scalable in order to meet the growing demand as both the user base and data volume rise. Scalability and performance optimization of PHP code guarantees that the mobile application can manage many concurrent users without crashing or slowing down. But to replace this we have implemented mobile responsiveness functionality.
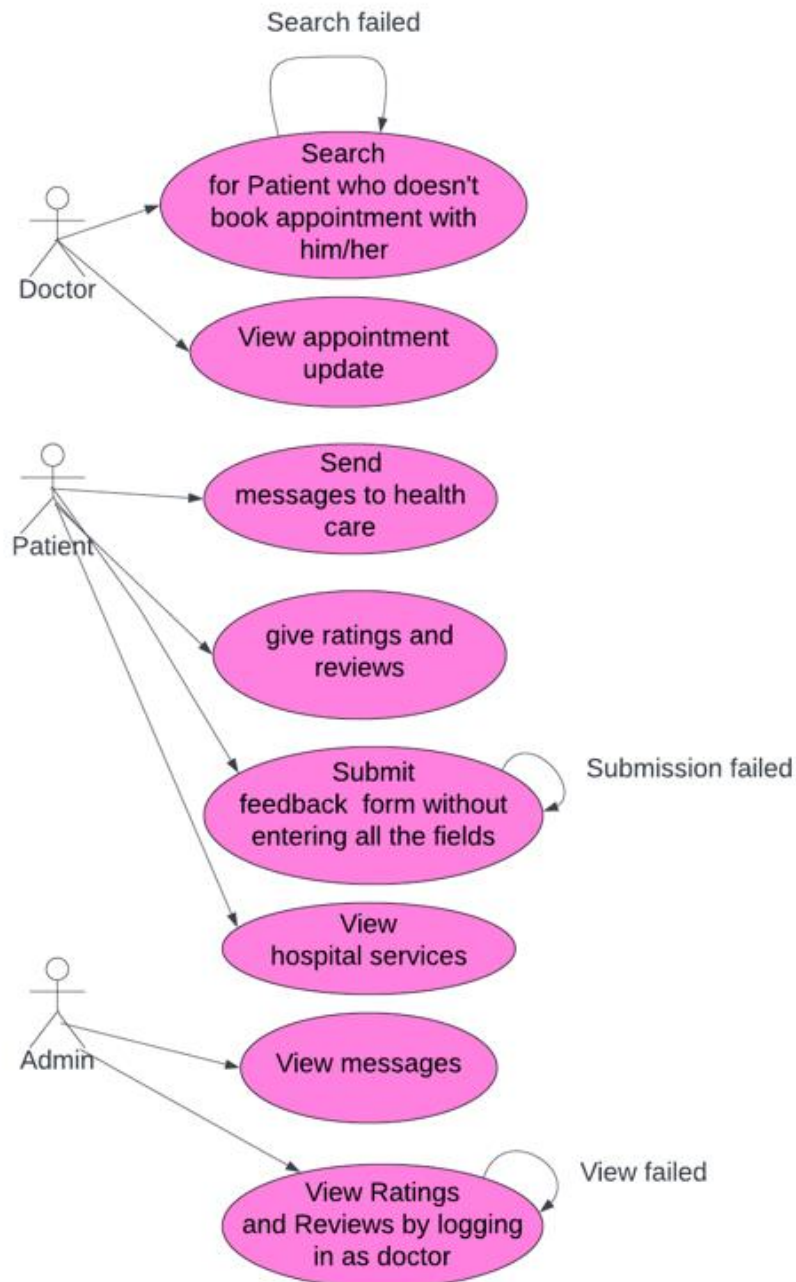
Advanced Security Measures:

While implementing the website, we have followed secure coding guidelines. These should include parameterized queries, input validation, output encoding, and appropriate error handling in order to avoid typical security flaws.
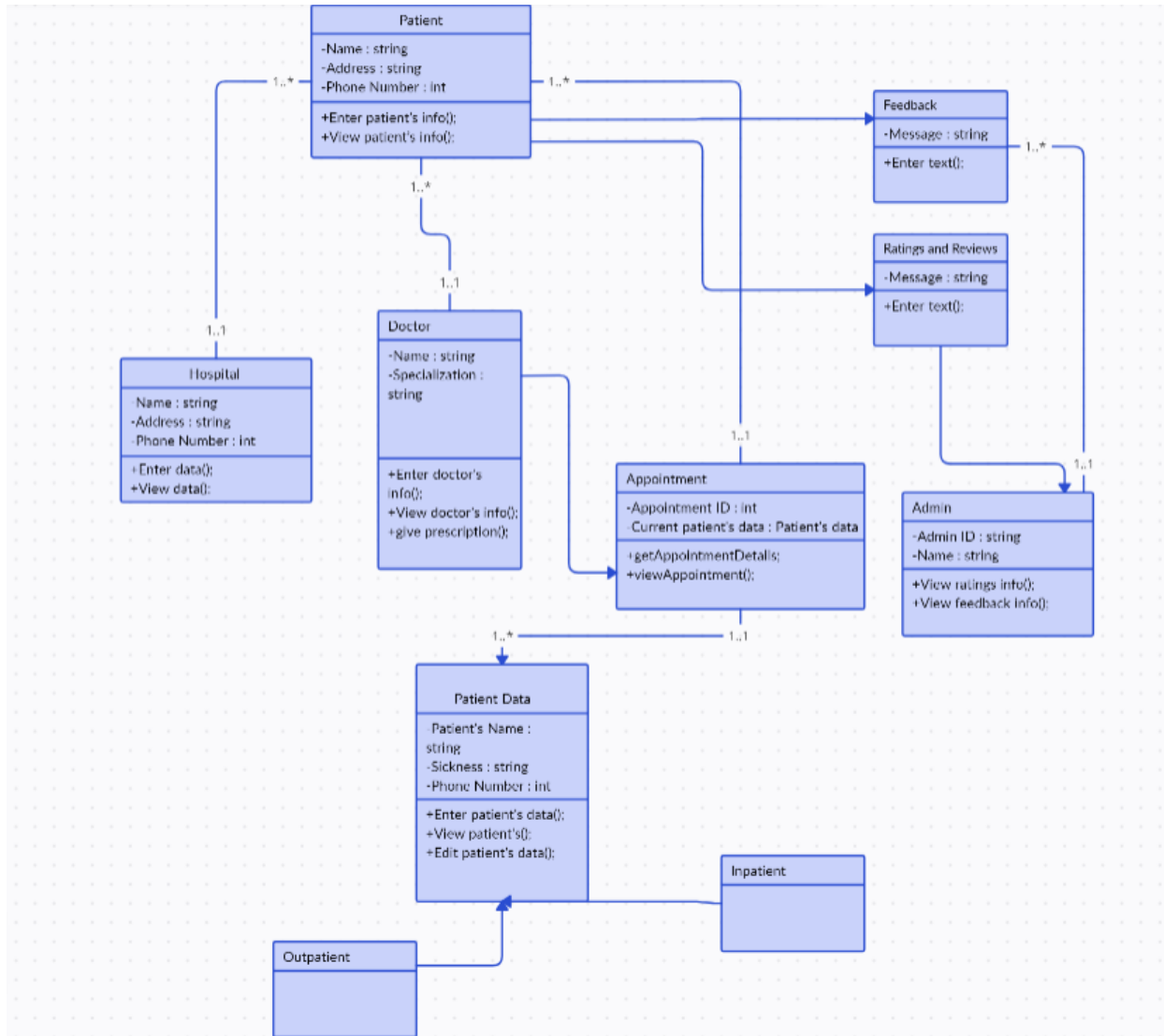
UML Diagrams:

Use Case Diagram:

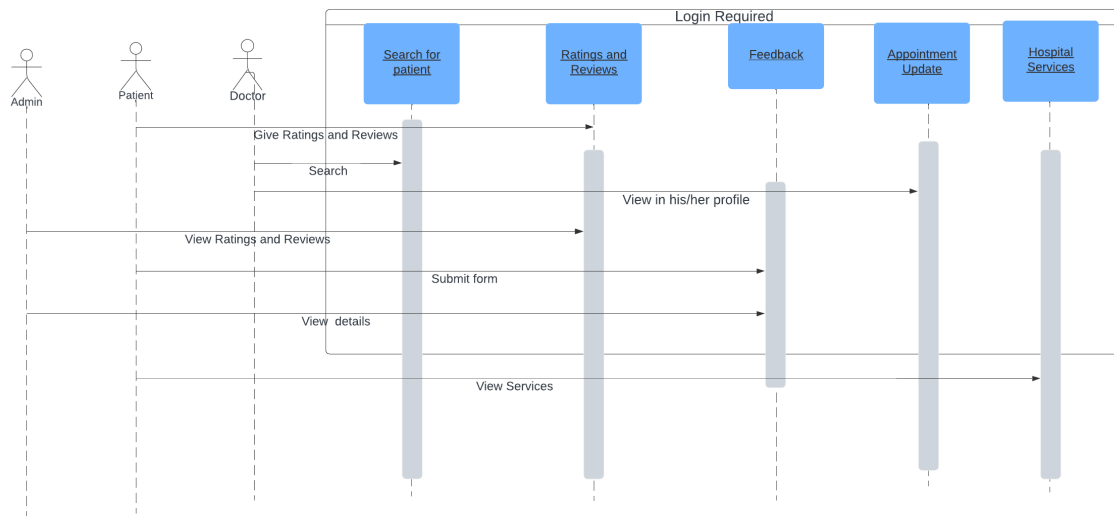Doctor
- Search for Patient
- View appointment update

Patient
- Send messages to health care
- give ratings and reviews
- Submit feedback form
- View hospital services

Admin
- View messages
- View Ratings and Reviews

Error Use Case Diagram:

Class Diagram:

Patient

-Name : string
-Address : string
-Phone Number : int

+Enter patient's info();
+View patient's info();

Feedback

-Message : string

+Enter text();

Ratings and Reviews

-Message : string

+Enter text();

Hospital

Name : string
-Address : string
-Phone Number : int

+Enter data();
+View data();

Doctor

-Name : string
-Specialization :
string

+Enter doctor's
info();
+View doctor's info();
+give prescription();

Appointment

-Appointment ID : int
-Current patient's data : Patient's data

+getAppointmentDetails;
+viewAppointment();

Admin

-Admin ID : string
-Name : string

+View ratings info();
+View feedback info();

Patient Data

-Patient's Name :
string
-Sickness : string
-Phone Number : int

+Enter patient's data();
+View patient's();
+Edit patient's data();

Inpatient

Outpatient

1..* 1..* 1..* 1..1 1..1 1..1 1..1 1..* 1..1 1..*

Sequence Diagram:

Integration Test Cases:

Functionality	Input	Output	Expected
Patient Search	Valid Name of Patient	Successful Search	Successful Search with patient name
Patient Search	Invalid Name	Search not found	Search not found
Patient Communication	All fields entered	Message sent	A prompt indicating that successfully submitted
Patient Communication	All fields not entered	A message indicating to fill out this field	A message indicating to fill out this field
Reviews	Input the contact form with some empty fields	Error	A prompt indicating the missing fields

Reviews	Input the contact form by entering all fields	Review sent	A prompt indicating that successfully submitted
Appointment Remainder	Schedule an appointment	Exists in appointment history tab	Able to see the appointment remainder
Appointment Remainder	Not Scheduled an appointment	Appointment history tab will be empty	Not able to see any appointment reminder
Add Patient	Enter the patient's information in the blank spaces.	Error indicating that there are fields missing	Error indicating that there are fields missing
Add Patient	Input the Patient details with all the fields filled	A prompt will popup indicating that a patient successfully added	A prompt will popup indicating a patient successfully added
Book appointment	Choose a specialty without having a doctor on file.	The doctors list will be empty	The list of physicians with that specialization is empty.
Book Appointment	Select the specialization with doctors who are registered	A doctors list will be appeared.	A doctors list will be appeared.
Book Appointment	Schedule a visit with the same physician at the	An error message stating that there is not enough time allotted.	An error message stating that there is not enough time allotted.

	same time and date.		
Reports	Choose previous dates	A list of patient records appears for those added within the selected period	A list of patients' records added within the selected period
Admin Login	Correct credentials	Redirect to admin dashboard	Redirect to admin dashboard
Admin Login	Incorrect credentials	Error	Invalid credentials

Unit Test Cases:

| Functionality	Input	Output	Expected
Patient Search	Valid Name of Patient	Successful Search	Successful Search with patient name
Patient Search	Invalid Name	Search not found	Search not found
Patient Communication	All fields entered	Message sent	A prompt indicating that successfully submitted
Patient Communication	All fields not entered	A message indicating to fill out this field	A message indicating to fill out this field
Reviews	Input the contact form with some empty fields	Error	A prompt indicating the missing fields
Reviews	Input the contact form by entering all fields	Review sent	A prompt indicating that successfully submitted
Appointment Remainder	Schedule an appointment	Exists in appointment history tab	Able to see the appointment remainder
Appointment Remainder	Not Scheduled an appointment	Appointment history tab will be empty	Not able to see any appointment reminder
Feedback	Enter the all fields in contact form	Feedback sent indicating with a prompt	Feedback sent indicating with a prompt

		successfully submitted	successfully submitted
Feedback	Miss the fields to enter	Please enter the field	Please enter the field
Services	Open the website and navigate to services with login	No services tab found	Unable to see the services that the hospital offers
Services	Open the website and navigate to services without login	Redirects to the services page	Able to see the services that the hospital offers
Admin Login	Correct credentials	Redirect to admin dashboard	Redirect to admin dashboard
Admin Login	Incorrect credentials	Error	Invalid credentials

User Manual:

Each person using the Hospital Management System needs to have an account with specific login information. These consist of a special password and a unique username or email address. While patients create their own accounts, the administrator creates the accounts for doctors. Additionally, each user gets a dashboard customized to fit the category to which they belong; for example, the dashboards for the categories of Doctor, Administrator, and Patient are distinct.

Admin Panel:

Login as admin with credentials username: Admin Password: Test@12345 After giving correct credentials admin can be able to login successfully and it redirects to admin dashboard. Where admin can perform administrative tasks
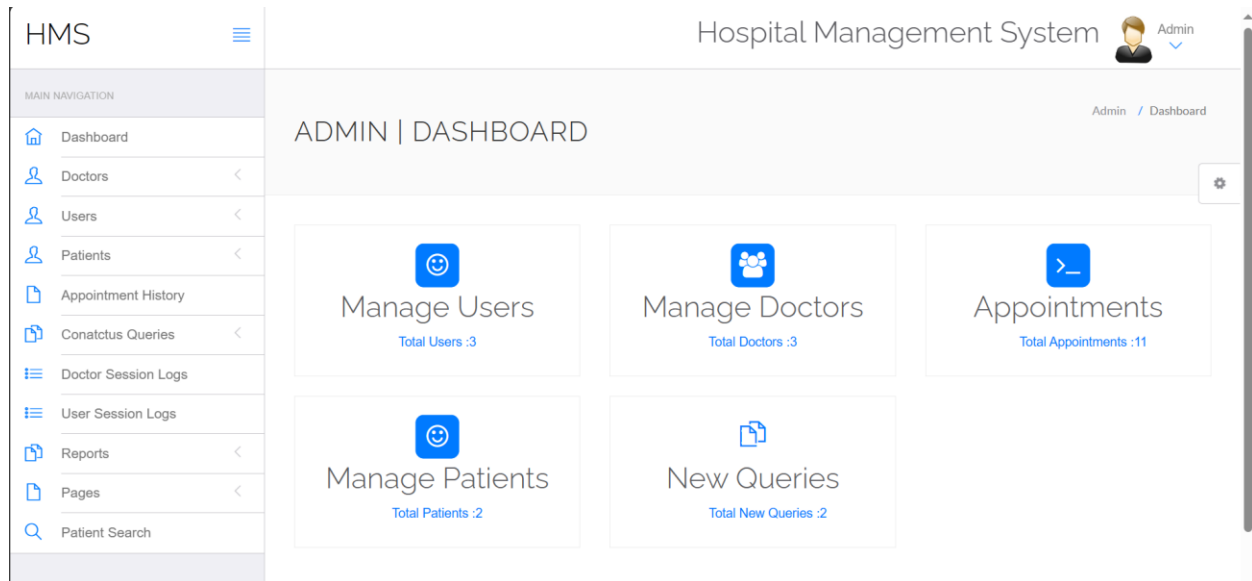

Mobile Responsiveness:

We have implemented mobile responsiveness functionality where if we maximize and minimize the dimensions and it is possible to see our application in a mobile view. The application website will be set according to the screen resolution. Below are two images where first image is

minimized and second image is maximized.
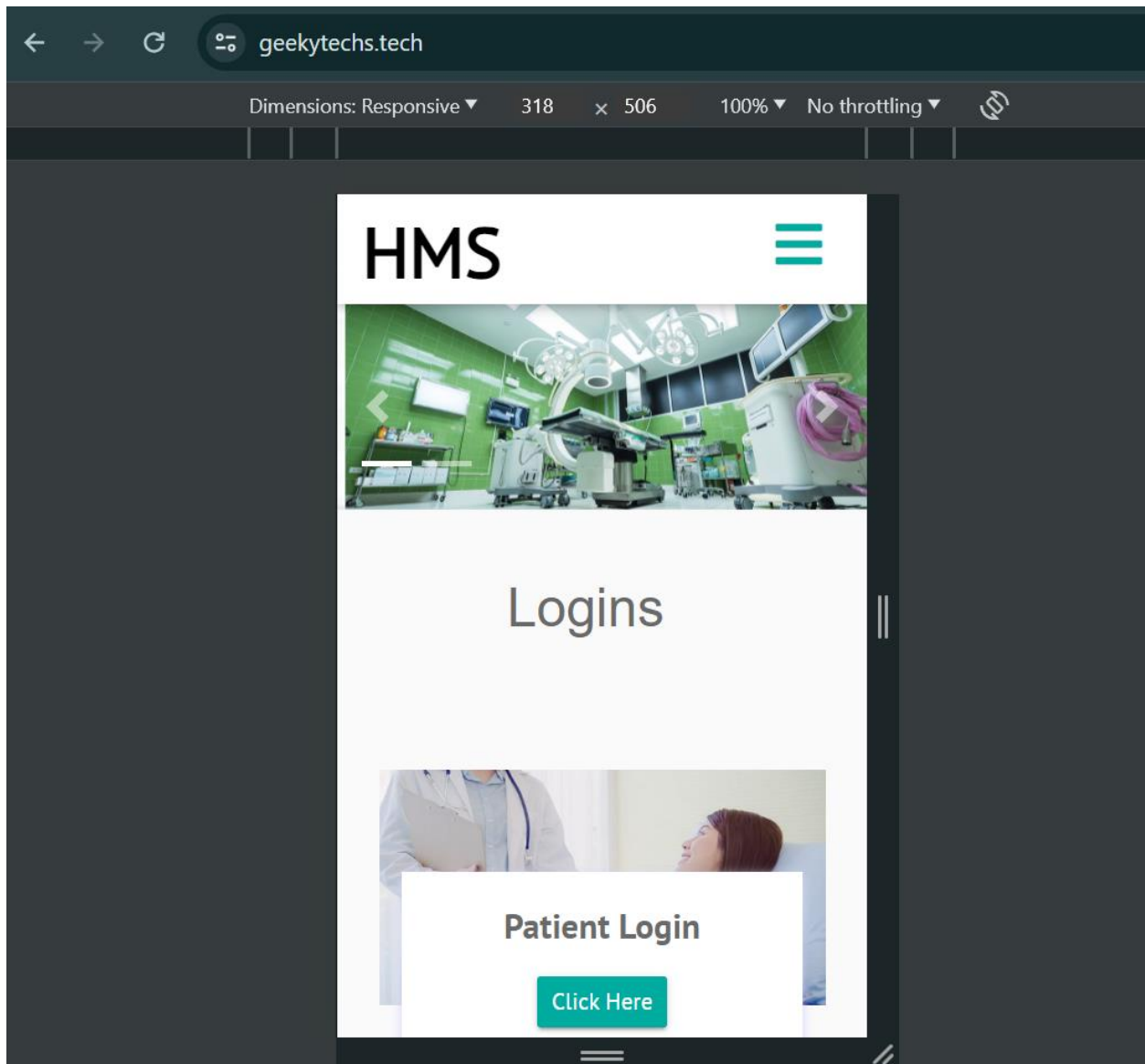
Based on the dimensions the application will fit to the screen.
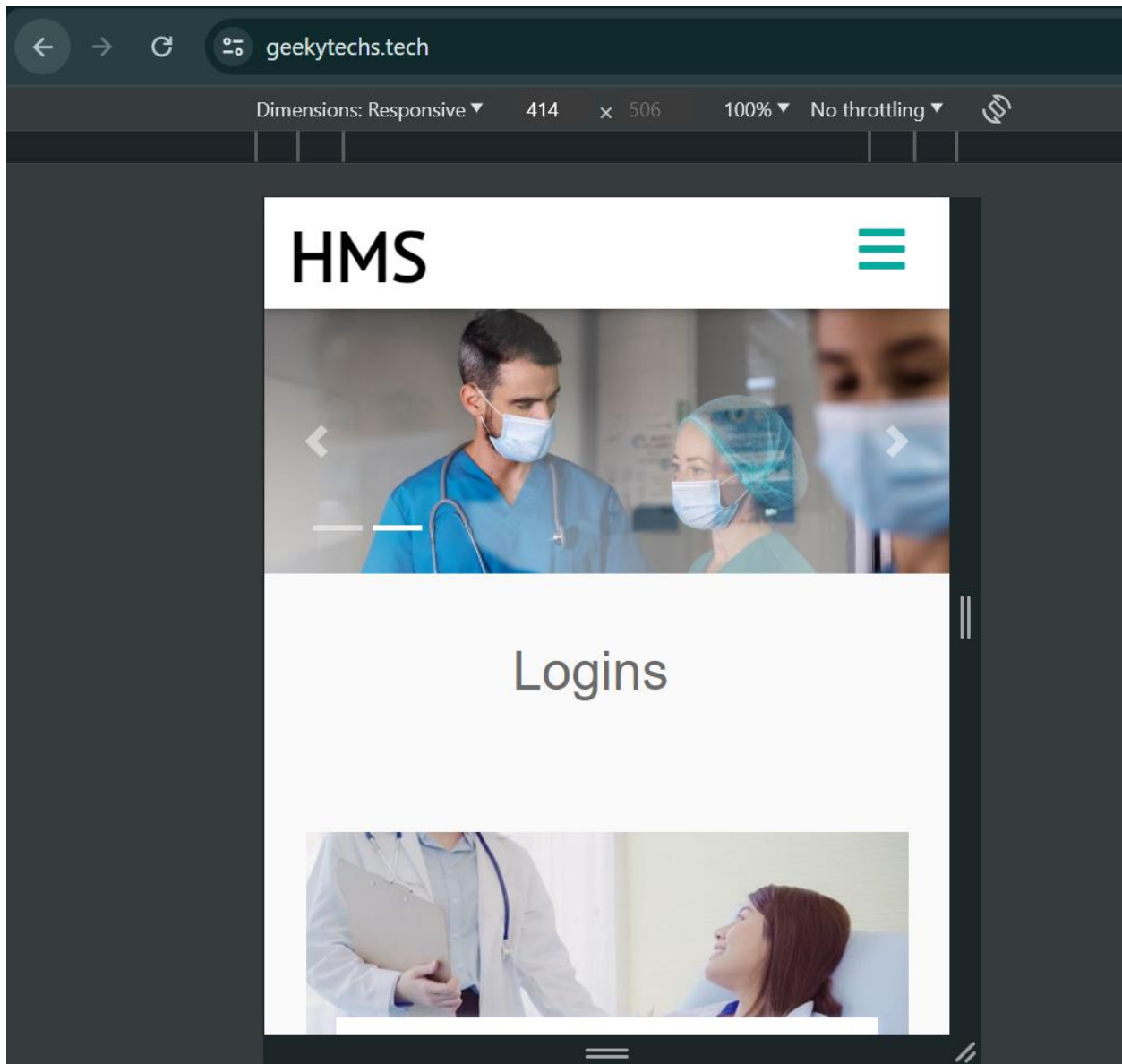
Ratings and Reviews and Communication:

Patient can give ratings, reviews about the services that the hospital has offered. Once after opening the website and navigate to contact us tab there they can find the form where they can submit their queries and reviews.
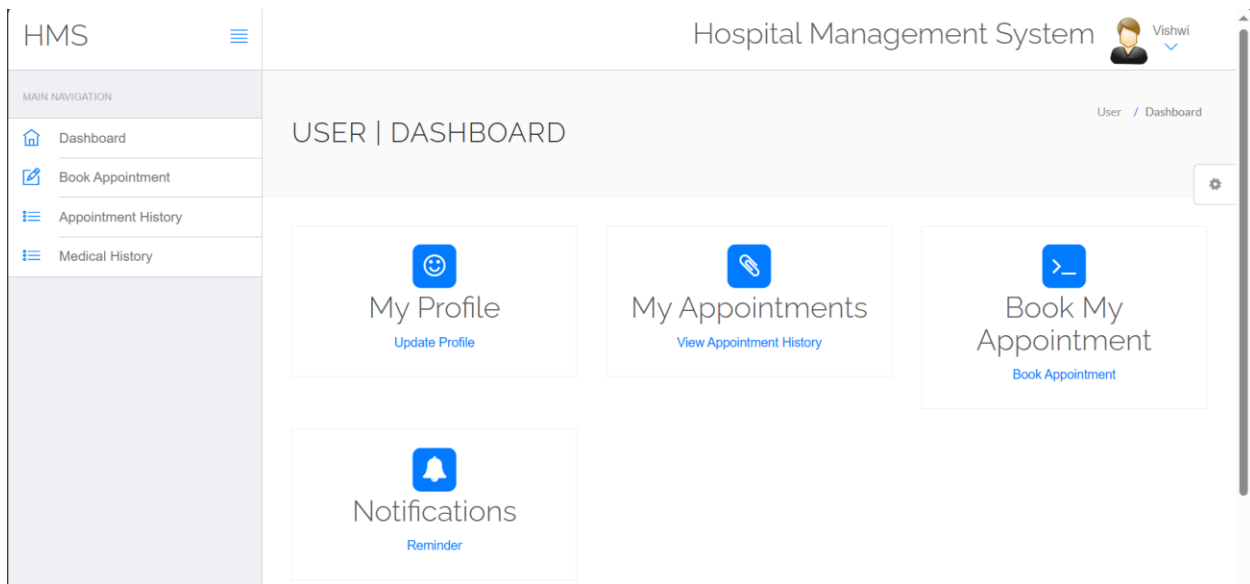

Appointment Remainder:

Once after the user has scheduled an appointment with particular doctor then they can see the appointment in appointment history tab and also in notifications tab where they can set remainder for appointment so that it will ask for email and phone number. Upon giving the details the remainder will be sent to patient email. But we have used phpmailer which is free subscription so it is limited to two users only So everyone cannot get remainder email.

Feedback form:

Patient can give feedback about the doctors or services that the hospital has offered. Once after opening the website and navigate to contact us tab there they can find the form where they can submit their queries and reviews.

Instructions:

The Xampp web server environment setup was used to develop and test this project. To install the system, do the following steps:

1. Start by downloading a web server that supports PHP, such Xampp, from the provided URL. The download link is https://www.apachefriends.org After selecting "Next" on each pop-up, select "Finish."

2. Next, launch Xampp and click the start button to confirm that the SQL and Apache servers are up and running.

3. Copy the Source_code_Phase2 folder and clone the code from github.

4. Next, launch XAMPP on local disk C, go to htdocs, and put the Source Code Phase 2 folder there.

5. Click Admin on MySQL in Xampp now. This will take you to phpMyAdmin, where you can click New to create a new database named hms.

6. Next, open the database you established, hms, and import the hms.sql file from the Source_Code_Phase2 backend folder (Path: Source_Code_Phase2/Backend).

7. To launch the project, open Xampp, choose Admin under Apache or MySQL, and then type this URL: http://localhost/Source_Code_Phase2

Code Inspection session:

In the Code Inspection Session, They commended the well-organized and clean codebase as well as the mobile responsiveness design, which ensures a seamless user experience. we responded to inquiries. resolved any questions raised by the Debug Dynasty group. Their advice was very useful in identifying areas for improvement and feature additions. One significant recommendation was to include user comments to the code, which is a modification we've already implemented to make it easier to read and comprehend.

In addition, the stakeholders provided suggestions for feature enhancements, like integrating with services, improving reporting capabilities, and bolstering security measures. Even though some of these improvements have been implemented, we have. Accepted the remaining recommendations for phases of development. All things considered, the workshop helped us fine-tune our tactics and identify opportunities for improvements to deliver a reliable and user-friendly HMS platform.

Reflections:

What has been accomplished: As stated in deliverable 2, we have implemented the functionality of our second development phase.

What went well: Was support and teamwork. Everyone who helped and participated in learning PHP and used it to create the second stage of our project. We have initiated a meetings, for every meeting all team members were attended so that it helped us to discuss everything to all teammates in the meetings itself.

What could be improved: There was some misinterpretation of what we understood. For a successful implementation, we must make improvements to that. We need to plan the functionalities accordingly like which should be implemented first and which should be the last so that will help us to complete our project in a sequential manner.

Member Contribution Table:

Member name	Contribution description	Overall Contribution (%)	Note (if applicable)
Anusha	Worked on the notification for appointment remainder functionality and drawn use case error diagram in report	100%	
Vishwitha	Worked on the Admin panel and wrote requirements and user manual in report	100%	
Pavan	Worked on the feedback form, search and filter functionalities and	100%	

	drawn usecase diagram in report		
Dinesh	Worked on the messaging and ratings and reviews functionalities and drawn class diagram in report.	100%	
Deepak	Worked on the services page functionality and wrote integration and unit testcases and instructions in report.	100%	
Jaswanth	Worked on the backend database and drawn sequence diagram in report.	100%	
Divya Anusha	Worked on the mobile responsiveness functionality and wrote code inspection feedback in report	100%	
Tejaswini	Worked on the appointment remainder functionality and wrote reflections in report.	100%	