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# G.L.A. UNIVERSITY

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## Institute of Engineering & Technology

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MINI PROJECT - II (2021 -22)

“ E – Health Care Website ”

Project Report

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## DECLARATION

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project **“E – Health Care Website”**, in partial fulfillment of the requirements for the award of the **Bachelor of Technology ( Computer Science & Engineering )** and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Akash Kumar Choudhary , Technical Trainer, Institute of Engineering & Technology , GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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## ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the instructor : **Mr. Akash Kumar Choudhary** , our technical trainer and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

**Thanking You**

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## CERTIFICATE

This is to certify that the project entitled “ **E – Health Care Website** “, carried out in **Mini Project – II** for the academic session **2021 - 22** , is a bonafide work by **Ayush Sharma , Yashraj Singh & Shivendra Singh Chauhan** that is submitted in partial fulfillment of the requirements for the award of the degree **Bachelor of Technology (Computer Science & Engineering)**.

**Signature of Supervisor:**

**Name of Supervisor:** Mr. Akash Kumar Choudhary

**Technical Trainer , Institute of Engineering & Technology , GLAUniversity.**

**Date:** May 26 , 2022

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# INTRODUCTION

## ■ About the project

E Health Care Online Appointment System is a Web Development Project. It is a smart appointment booking system that provides patients or any user an easy way of booking a doctor's appointment online. This is a website that overcomes the issue of managing and booking appointments according to user's choice or demands. The task sometimes becomes very tedious for the compounder or doctor himself in manually allotting appointments for the users as per their availability. Hence this project offers an effective solution where users can view various booking slots available and select the preferred date and time. The already booked space will be view in "My Appointment" Button. The application uses HTML , CSS & JavaScript as a front-end and SQL database and PHP as the back-end.

## ■ Primary Reason to choose the Project

- Patients are increasingly looking at convenient ways to book appointments. They prefer to use options available on their mobile or laptop to book appointments. The pandemic has made sure that digital modes are embraced even by sections of society that was either hesitant earlier or had limited access to the internet or such tools. Patients are also likely to be more welcoming of these tools. Having a presence on the internet is a starting point. Having a convenient appointment system using which patients can reach you is the next step. Every doctor should adopt digital tools lest they be left behind. This will save the time of both patient and the doctor and it also save the manpower. So , this is Primary Reason to choose this Project.

## ■ The main objective of the Project

- ***24\*7 booking: Anytime Anywhere :***  
A doctor appointment booking system, available on the internet, allows patients to book an appointment from the comfort of their homes, using their computer, laptop or mobile, and at any time. No matter where they are, they can contact doctors of their choice in any location. Even when they are traveling they can consult with their doctor.
- ***Organise your schedule better :***  
Imagine a situation where multiple appointments are queued up because of manual error. As a doctor, you control the number of people who would be at your clinic at any point of time. This is particularly important given that social distancing is becoming the new normal. With an online appointment booking system, the doctor is in full control and can plan his/her day without any sense of trepidation.

- ***Making employees and staff more productive :***  
A doctor appointment booking system is a self-service tool for patients to book appointments. Your staff have their time released from handling phone calls from patients desiring appointments. Instead they can focus on other tasks and improve their productivity.
- ***Access appointments on your computer, laptop and mobile phone :***  
As a doctor, you can access the patient appointment information on any device. You should have the ability cancel appointments in the event of any emergency. The online appointment system give you all the appointment details at any day time.
- ***Improves patient satisfaction :***  
Patient experience is of paramount importance. No patient would like an experience that is not smooth. An online doctor appointment system enhances patient satisfaction. Patients no longer have to be worried about the wait times in your clinic. They can plan their daily schedule better. They spend less time waiting to meet the doctor. All this goes a long way to enhance patient satisfaction.
- ***Multiple locations and multiple doctors :***  
A good online doctor appointment booking system can manage multiple locations and multiple doctors. Your clinic may be operational in multiple places and each clinic may have multiple doctors each of who is available in a particular time slot. Does your system have the capability of managing these complexities? There should also be no requirement to have multiple staff to manage all this. Instead the system should manage multiple locations and doctors.
- ***Time-Saving :***  
The staff spends less time on managing appointments, and phone booking, and can, therefore, use their free time for more urgent and vital tasks. The patients can also save time as there is no need for calling the hospital and booking an appointment in the middle of their busy schedule.

## ■ **Scope of the Project**

### ***The project can be implemented in hospitals and clinics :***

E Health Care Online Appointment System provides patients or any customer an easy way of booking a doctor's appointment online. This is an internet based system that overcomes the issue of managing and booking appointments according to customer's choice or requirements. The task sometimes becomes very tedious for the compounder or doctor himself in manually allotting appointments for the customer as per their availability. Hence this project offers an effective solution where customers can view many booking slots available and select the preferred date and time. The system uses HTML , CSS & JavaScript as a front-end and MySQL database and PHP as the back-end. The Doctor Appointment System. It can also maintain list of users & doctors , available appointment time, book appointment, cancel appointment, view his appointment history.

## ■ Working Methodology Of the Project

E – Health Care Appointment booking website is a web-based Project that allows clients to self-book appointments. These tools centralize employee scheduling and appointment management into one digital solution. Beyond managing appointments and staff availability. Relying on one central scheduling solution eliminates double bookings and helps streamline operations. With hours back into their work day, your staff will have more time to serve clients and create a stellar experience. Most teams already manage some aspect of appointment scheduling digitally. Online booking tools reduce your manpower and give you better results. From a web portal you can manage every thing related to the appointment scheduling.

### • *Who Can Uses Online Appointment System Website .*

- Any business that makes client appointments can benefit from automated scheduling Website , including:
  - Doctor's clinic
  - Salons and spas
  - Home services companies
  - Real estate companies
  - Gyms
  - Organizations that offer tours, such as museums and universities
  - Health care organizations , etc

## ■ Sources

The source of our project (including all the project work, documentations and presentations) will be available at the following link > [https://github.com/sschauhan7/E-Health\\_Care](https://github.com/sschauhan7/E-Health_Care)



## **Details About the Hardware and the Software**

### ■ **System Requirements :**

#### **Supported Operating System :**

- Windows(7/8/10/11) : This project can easily be configured on windows operating system. For running this project on Windows system, you will have to install WAMP or XAMP on your system.

#### **Software Required:**

- Web Browser : Google Chrome, Mozilla Firefox, Microsoft Edge etc.
- DATA BASE - MySQL Database.
- Web Server – XAMPP, WAMP, LAMP etc.

### ■ **Hardware Requirements :**

- Hardware Devices: Computer System
- Processor: Intel i3
- RAM : Min. 2GB
- Hard disk : Minimum 32GB.
- Display : 1280x1024 or higher.

## **Listing out testing technology**

### **Frontend and Backend :**

**Frontend :-** HTML , CSS & JavaScript

HTML : Page layout has been designed in HTML.

CSS & JavaScript : CSS & JavaScript has been used for all the designing part.

**Backend :-** PHP & SQL

PHP: All the frontend logic has been implemented in PHP.

MySQL : MySQL database has been used as database for the project.

## **Objective of The Project**

The main objective of the E – Health Care Website is to manage all the information about Doctor, Appointment & User. E – Health Care Appointment booking website is a web-based Project that allows clients to self-book appointments. These tools centralize employee scheduling and appointment management into one digital solution. Beyond managing appointments and staff availability. Relying on one central scheduling solution eliminates double bookings and helps streamline operations. With hours back into their work day, your staff will have more time to serve clients and create a stellar experience. Most teams already manage some aspect of appointment scheduling digitally. Online booking tools reduce your manpower and give you better results. From a web portal you can manage every thing related to the appointment scheduling.

### **Features of Doctor Appointment System are as follows:**

- Organise your schedule better
- Provides the searching facilities. such as Doctor.
- The transactions are executed in off-line mode, hence on-line data for Doctor, Patient capture and modification is not possible.
- It tracks all the information of Patient , Doctort & Appointment.
- Manage the information of Patient.
- Shows the information and description of the Doctor.
- To increase efficiency of managing the Doctor, Patient
- Manage the information of Doctor
- Editing, adding and updating of Records is improved which results in proper resource management of Doctor data.
- Integration of all records of Booking Number
- Minimise patient no-shows
- Making employees and staff more productive
- Access appointments on your computer, laptop and mobile phone
- Improves patient satisfaction
- Centralized Information System

## Module Description

A module description provides detailed information about the module and its supported components, which is accessible in different manners.

**User (patient) Module :** The Users have to first register themselves to login into the system and main objective of this module is provide all the functionality related to patient.

- User Registration Page  
This module will help the user to register by providing the details.
- User Login Page  
This module will help the user to Login by providing the Email & Password
  - Edit Profile For User
  - Forgot password for User
  - Change Password for User
- Book appointment page  
This module will help for the user by booking the appointment of the doctor.
- Consulting (to doctor)  
In this module patient can consult to the doctor by dropping the message.

**Doctor Module :** The main objective for developing this module is provide all the functionality related to doctor. This is a role based module where admin can perform each and every operations on data. The access level restrictions has also been implemented on the project.

- Doctor Registration Page
- Doctor Login Page
  - Edit Profile For Doctor
  - Forgot password for Doctor
  - Change Password for Doctor
- Appointment Request Page (Approve and reject the appointments)
- Update Schedule page
- Message page
- Doctor : With Limited Access

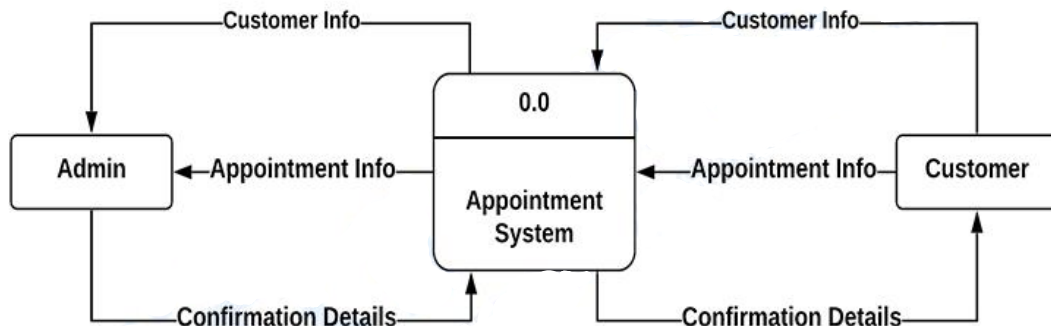
**Admin Module :** The system is under supervision of admin who manages the bookings made and main objective of this module is provide all the functionality related to admin.

- Admin can Add New Doctors
- Manage Doctors Registration Request page
- Admin will be able to delete the records of the patient
- Admin : With Full Access
- Admin Can View :
  - Registered users
  - Registered Doctors
  - List of all Appointments

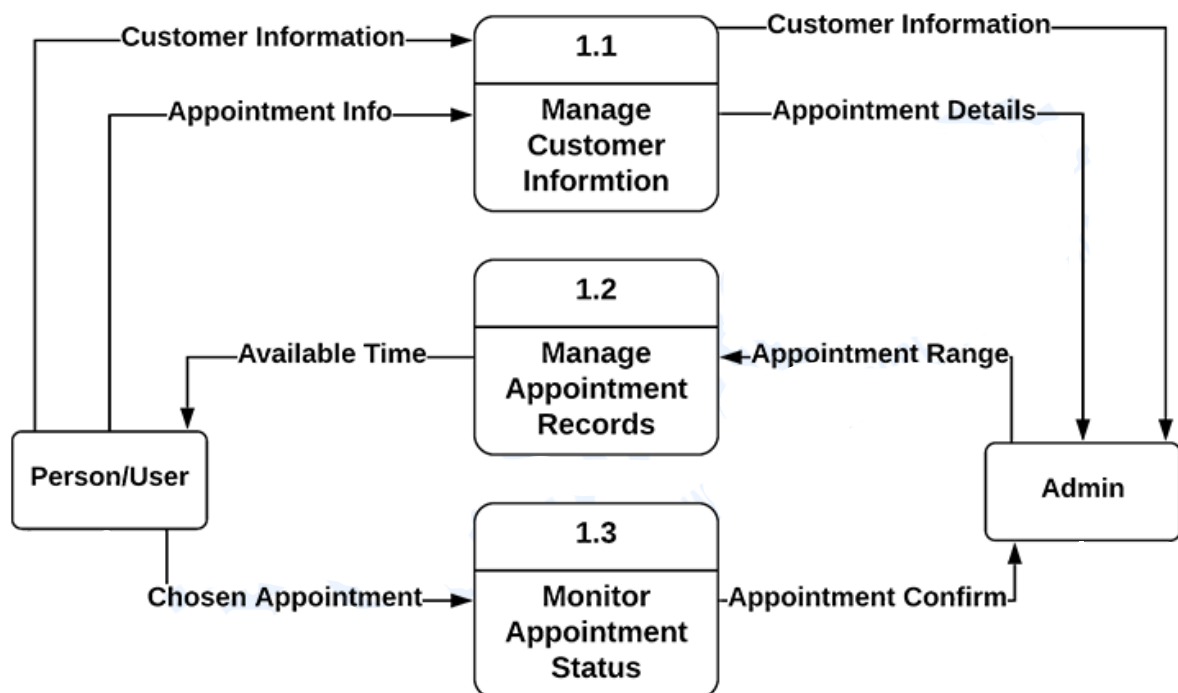
## Data Flow Diagrams

**DFD:-** A data flow diagram (DFD) illustrates how data is processed by a system in terms of inputs and outputs. As its name indicates its focus is on the flow of information, where data comes from, where it goes and how it gets stored.

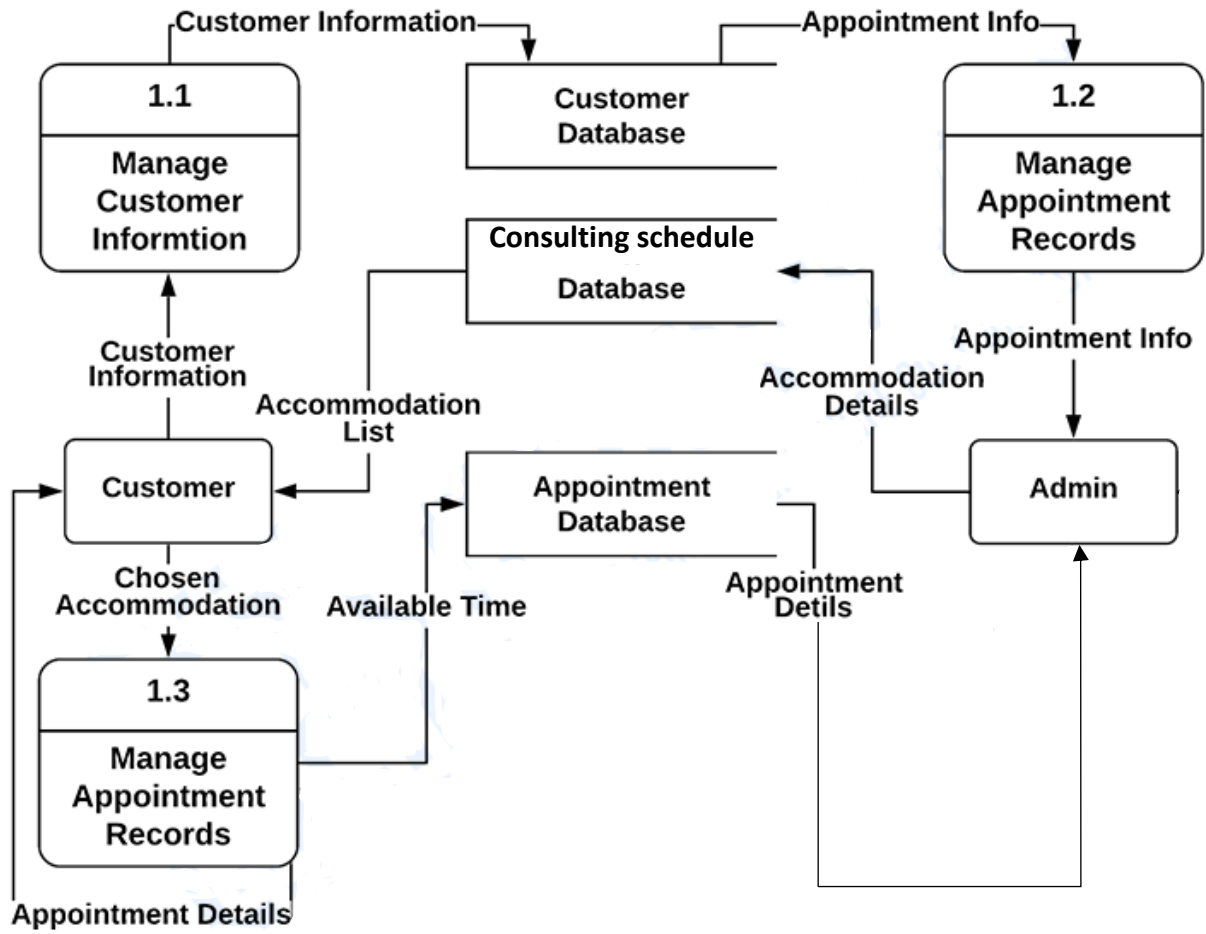
### 0 Level DFD:-



### 1 Level DFD:-



2 level DFD:-



## **Future Scope of the Project**

E Health Care Online Appointment System provides patients or any customer an easy way of booking a doctor's appointment online. This is an internet based system that overcomes the issue of managing and booking appointments according to customer's choice or requirements. The task sometimes becomes very tedious for the compounder or doctor himself in manually allotting appointments for the customer as per their availability. Hence this project offers an effective solution where customers can view many booking slots available and select the preferred date and time. The system uses HTML , CSS & JavaScript as a front-end and MySQL database and PHP as the back-end. The Doctor Appointment System. It can also maintain list of users & doctors , available appointment time, book appointment, cancel appointment, view his appointment history.

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

- We can give more advance Web Application or software for Doctor Appointment System including more facilities
- We will host the platform on online servers to make it accessible worldwide
- Integrate multiple load balancers to distribute the loads of the system
- Create the master and slave database structure to reduce the overload of the database queries
- Implement the backup mechanism for taking backup of codebase and database
- on regular basis on different servers

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Doctor and Appointment. Also, as it can be seen that now-a-days the players are versatile, i.e so there is a scope for introducing a method to maintain the Doctor Appointment System. Enhancements can be done to maintain all the Doctor, Appointment, Patient, Booking or we also can start medicine facilities in future by adding medicine section. We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them. In the last we would like to thanks all the persons involved in the development of the system directly or indirectly. We hope that the project will serve its purpose for which it is develop there by underlining success of process.

# User Interface

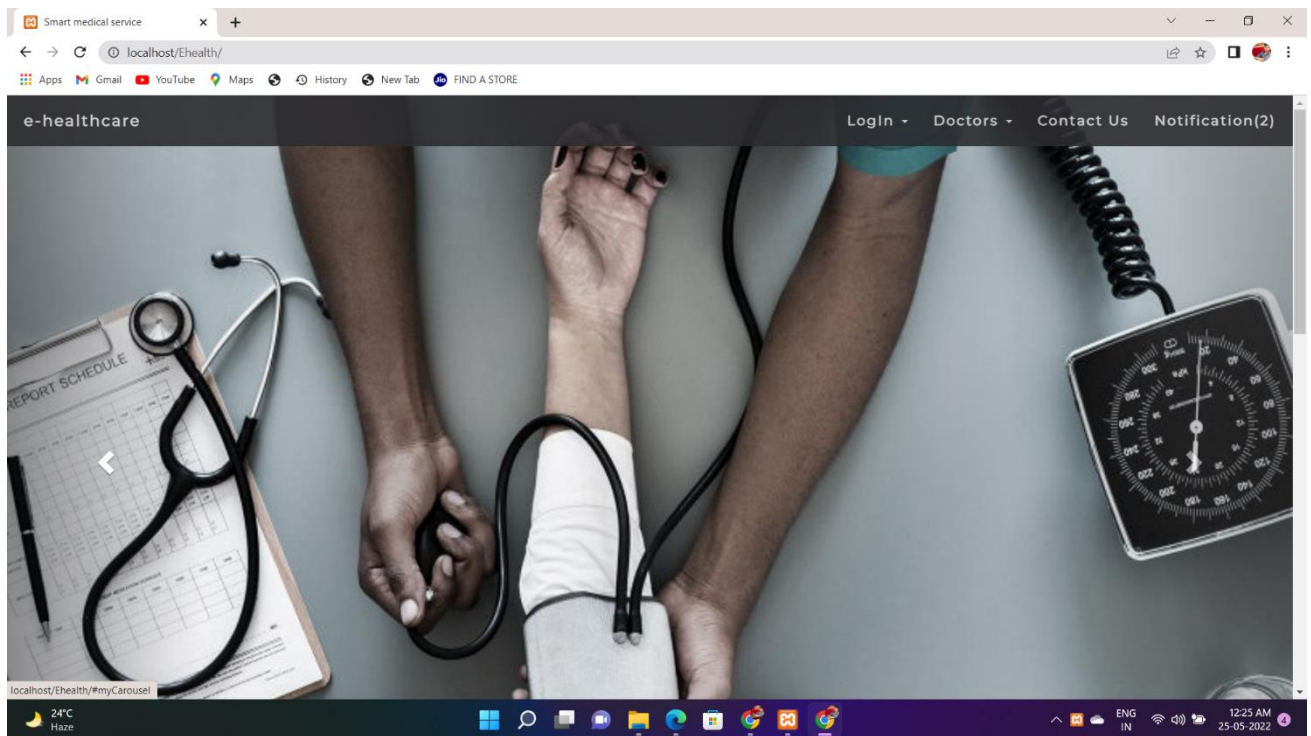


Figure 1 : Website Home Page

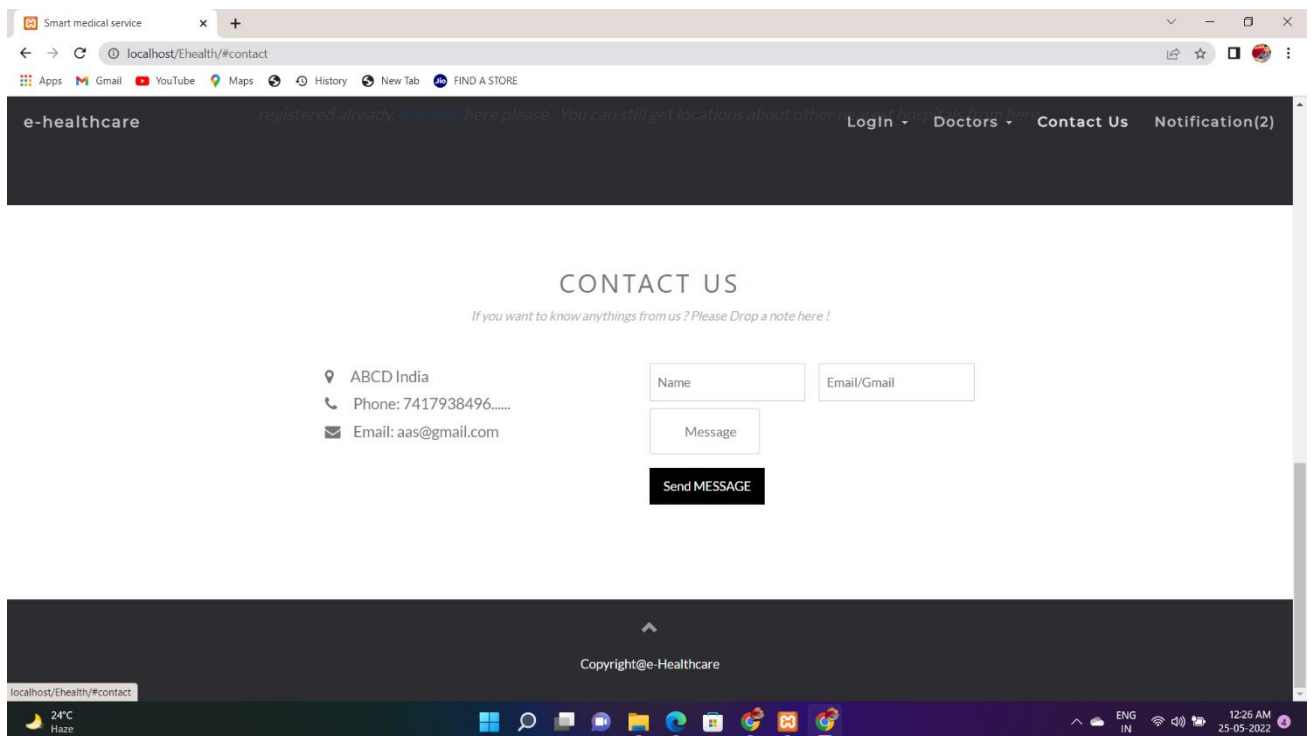


Figure 2 : Contact Us

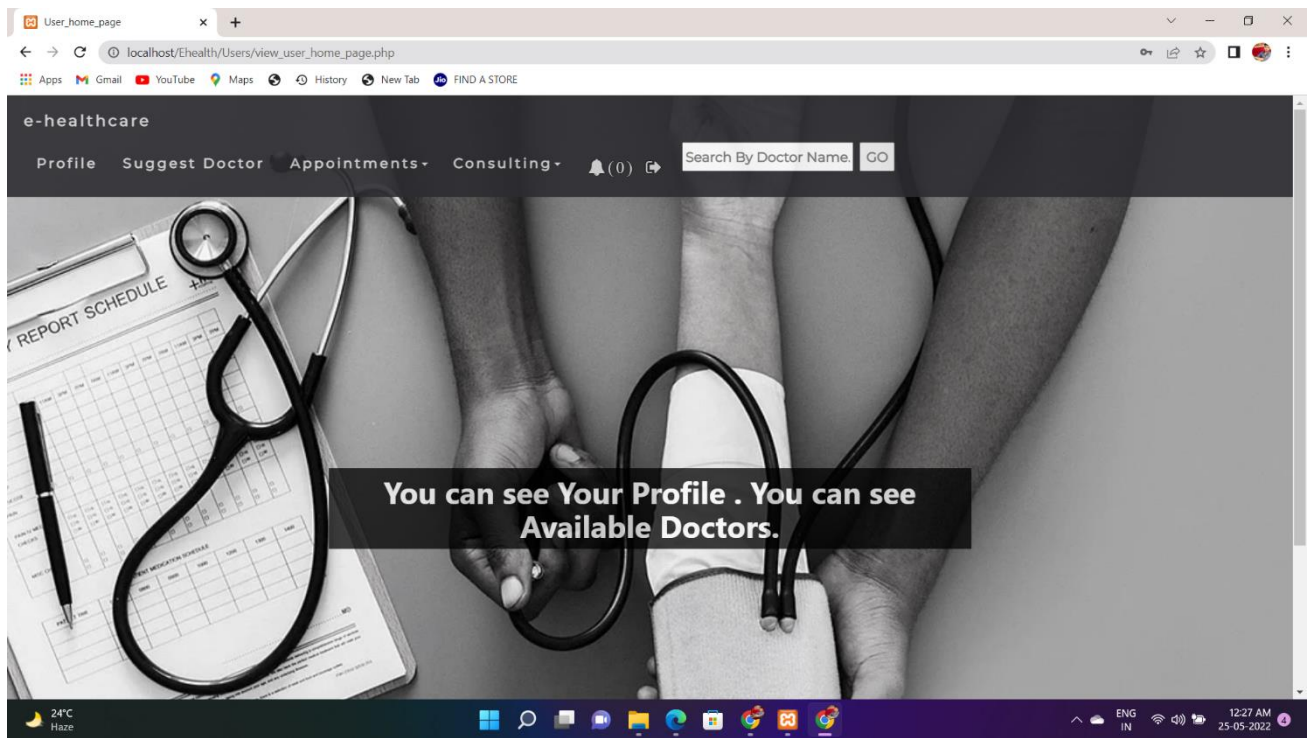


The screenshot shows a web browser window with the address bar displaying 'localhost/Ehealth/Users/registration.php'. The page title is 'Registration' with a subtitle 'Please fill in this form to create an account.' The form contains the following fields: 'First Name: \*' with input 'Enter Your First Name', 'Last Name: \*' with input 'Enter Your Last Name', 'Email Address: \*' with input 'Enter Your Email Address', 'Contact Number: \*' with input 'Enter Your Contact Number', 'Address:' with input 'Enter Your Address', and 'DOB: \*' with an empty input field. The Windows taskbar at the bottom shows a temperature of 35°C, the date 25-05-2022, and the time 03:53 PM.

Figure 3 : User Registration page

The screenshot shows a web browser window with the address bar displaying 'localhost/Ehealth/Users/login.php'. The page features a background image of a medical setting with a stethoscope, a clipboard labeled 'REPORT SCHEDULE', and a blood pressure monitor. A white login form is centered on the page with a black header 'User Login'. The form includes an 'Email' section with input 'Enter e-mail', a 'Password' section with input 'Enter Password', and a black 'Login' button. Below the button are links for 'Not Yet A Member? Register' and 'Back To Home Page'. The Windows taskbar at the bottom shows a temperature of 24°C, the date 25-05-2022, and the time 12:26 AM.

Figure 4 : User Login Page



**Figure 5 : After Login of User**

A screenshot of a web browser displaying the 'doctor\_registration' page. The browser's address bar shows 'localhost/Ehealth/Doctor/doctor\_registration.php'. The page has a light green header with the title 'Registration' and the instruction 'Please fill in this form to create an account.' The registration form contains the following fields: 'First Name' (with a person icon), 'Last Name' (with a person icon), 'Email Address', 'Contact Number', 'Specialist' (a dropdown menu currently showing 'Orthopedic'), and 'Qualification'. Each field has a corresponding input box with placeholder text like 'Enter Your First Name'. The Windows taskbar at the bottom shows the date as 25-05-2022 and the time as 03:53 PM.

**Figure 6 : Doctor Registration page**

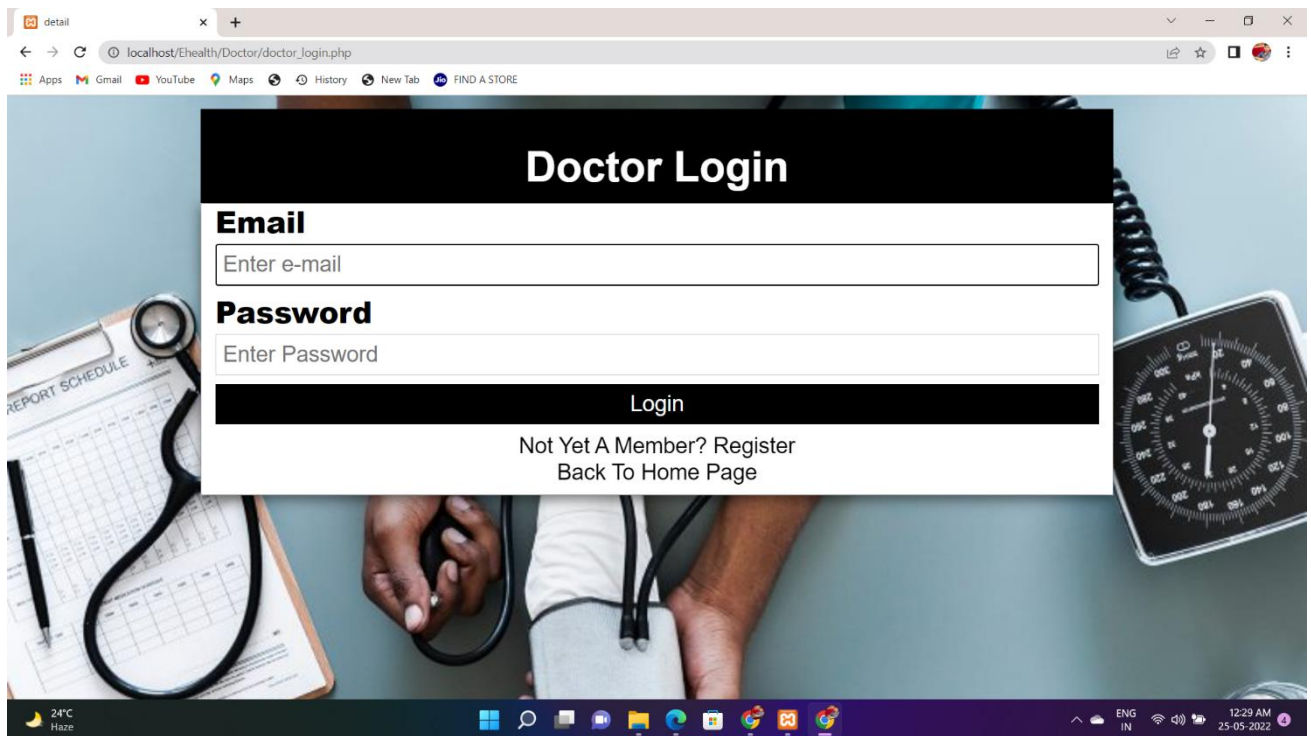


Figure 7 : Doctor Login Page

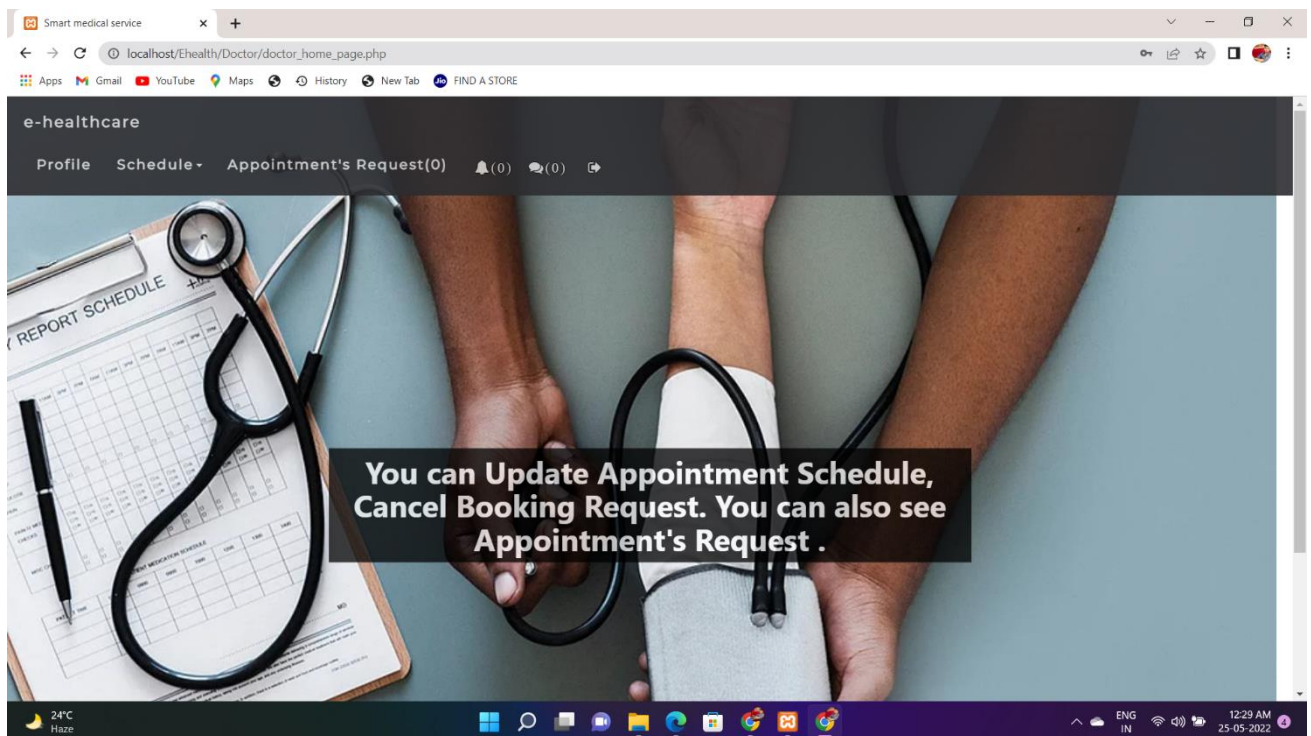
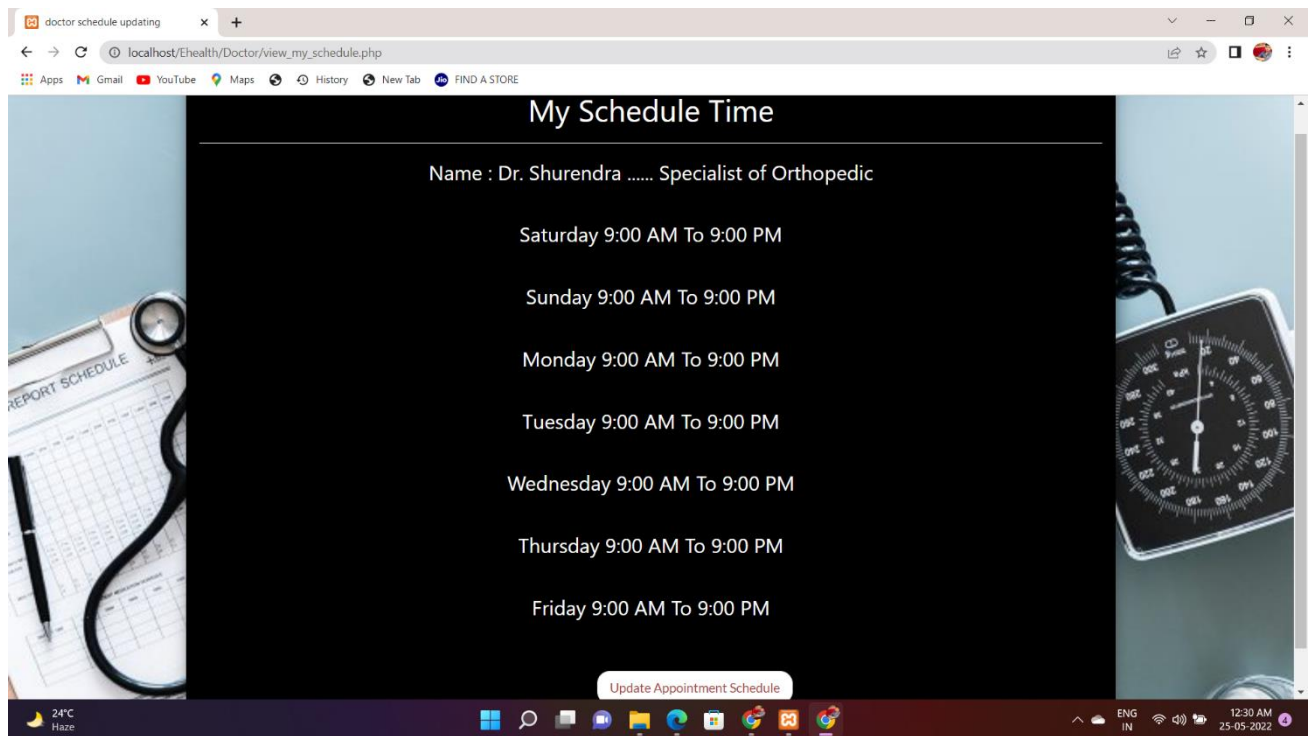
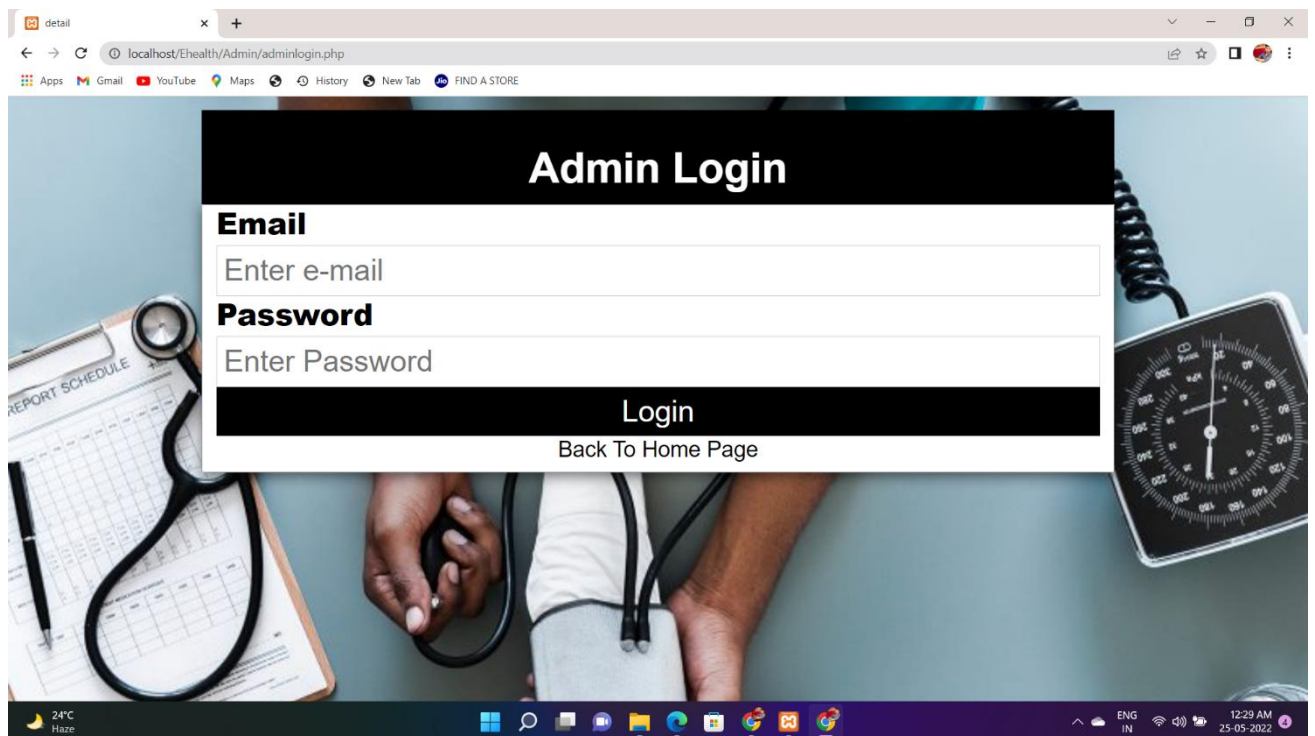


Figure 8 : After Login of Doctor



**Figure 9 : Update Schedule Page For the Doctor**



**Figure 10 : Admin Login**



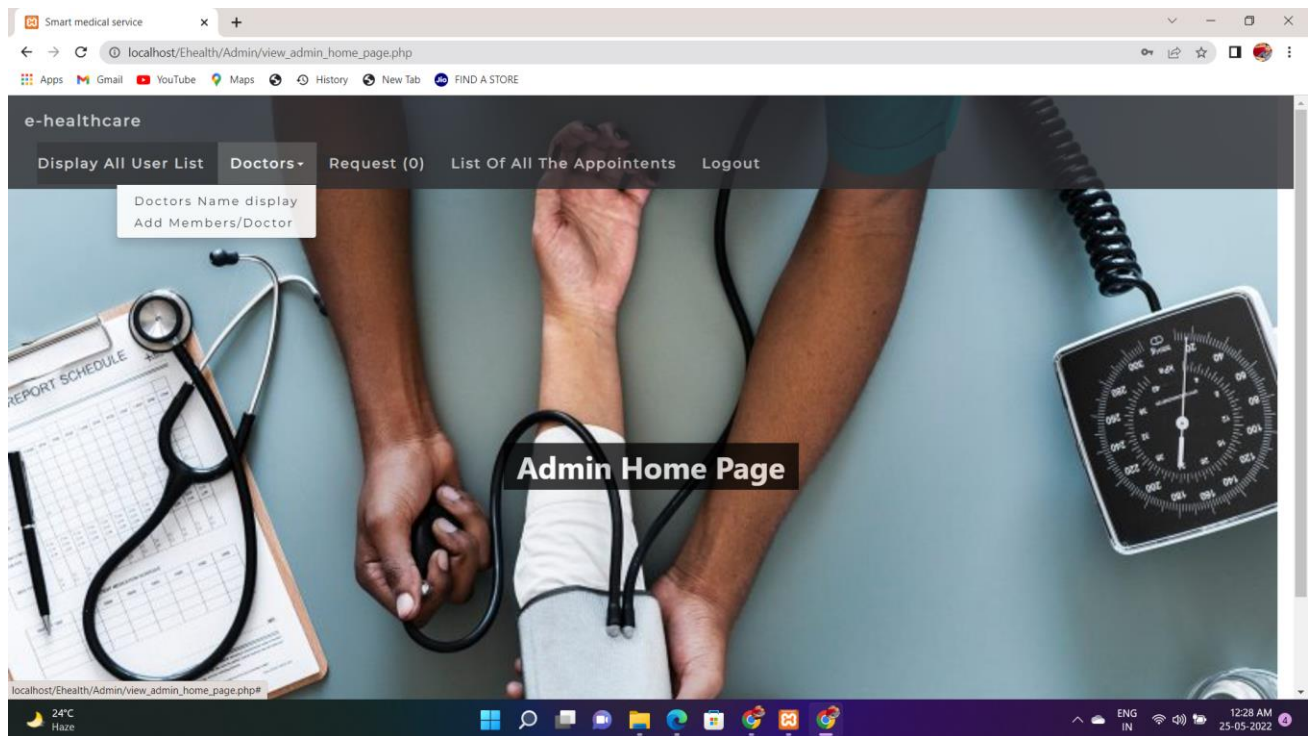


Figure 11 : After Admin Login

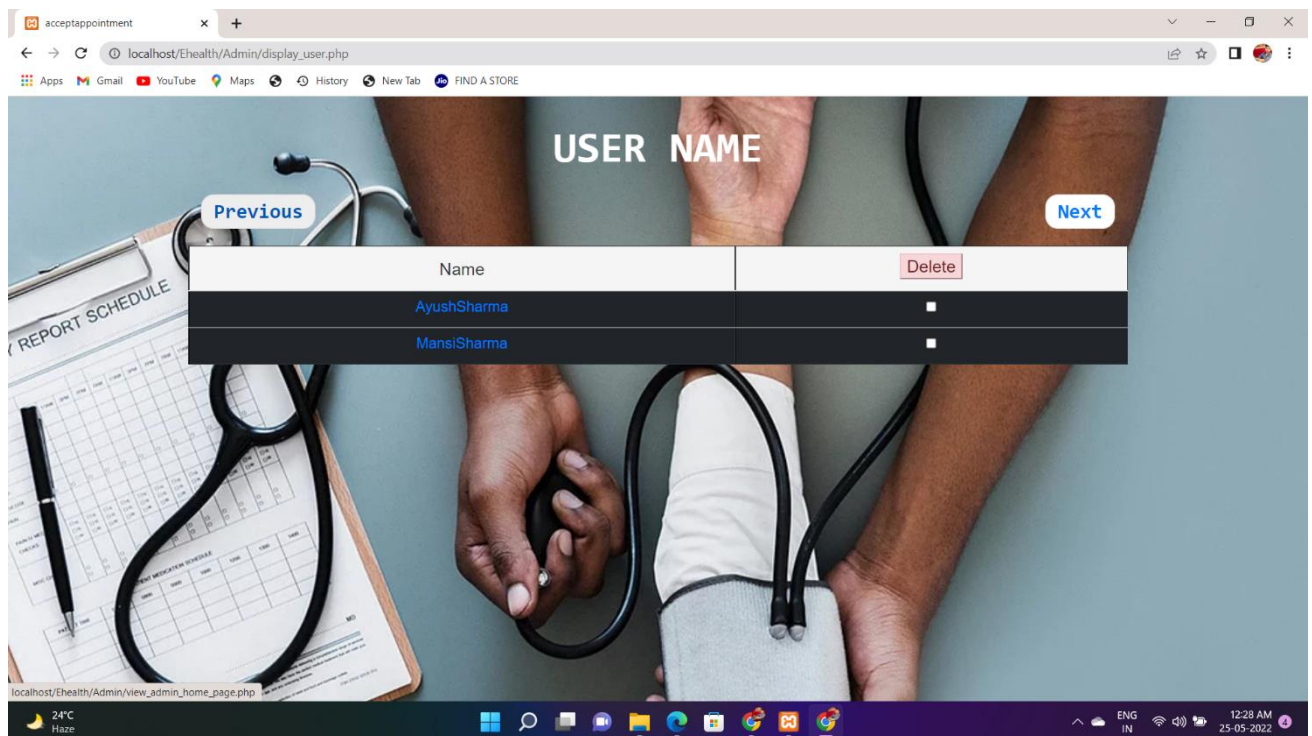


Figure 12 : Display All User List By Admin

## Testing

Web app testing aims to ensure that websites deliver a highly functional, bug-free experience across browsers and devices. On the other hand, mobile app testing aims to identify any compatibility issues or bugs for the native or hybrid mobile app across a wide range of Android and iOS devices.

A web application is a program delivered through the internet in the form of a browser interface. The purpose of a web app is efficiently communicating and exchanging information with its users while being compliant with a variety of browsers and operating systems (OSs).

Web app testing, or web testing, is a software testing practice that helps ensure the quality and functionalities of the app according to the requirements. Web testing must detect all underlying issues, such as functional discrepancies, security breaches, integration problems, environmental issues, or traffic stress before it is delivered.

Web applications are software applications that reside on web servers and are accessed using a web browser. These applications are developed using popular technologies like HTML, CSS, JavaScript, PHP and are utilized through multiple browsers like Chrome, Safari, Firefox, etc.

Adequately optimized web applications can also be viewed across multiple devices like mobiles, tablets, and desktops that provide active internet connections.

### Unit Testing of E- Health Care

Test cases	Description	Expected Outcome	Result
1	Home Page	Display All functions of activity where you need to go the activity.	Pass
2	User Registration Page	Should display register activity where you need to fill the required details	Pass
3	User Login Page	Should display login screen And ask for your User	Pass
4	View User Profile Page	Should display the information that you have entered	Pass
5	Suggest Doctor Page	Should display Suggest Doctor Page	Pass
6	Book Appointment Page	Should display Book Appointment Page	Pass

7	Search Doctor Page	Should give the details of the Doctor that you have searched	Pass
8	Doctor registration page	Should display register activity where you need to fill the required details	Pass
9	Doctor Login page	Should display login screen And ask for your Doctor	Pass
10	View doctor Profile Page	Should display the information that you have entered	Pass
11	Update Schedule page	Should display Update Schedule Screen where doctor can update the schedule	Pass
12	Appointment request page	Should display All Appointment requests	Pass
13	Admin Login Page	Should display login screen for Admin	Pass
14	Display all user list page	Should display all user list	Pass
15	Doctors name display page	Should display all registered doctor	Pass
16	Add Doctor page	Should display Add Doctor page	Pass
17	All doctors registration request page	Should display All doctors registration request	Pass
18	List of all the appointments	Should display List of all the appointments	Pass
19	Previous	Should display the previous Page	Pass
20	Logout	Sign out you from Your Account	Pass

## ■ Website Testing Techniques

### • *Functionality Testing of a Website :*

Functionality Testing of a Website is a process that includes several testing parameters like user interface, APIs, database testing, security testing, client and server testing and basic

website functionalities. Functional testing is very convenient and it allows users to perform both manual and automated testing. It is performed to test the functionalities of each feature on the website.

- ***Interface Testing :***

Three areas to be tested here are – Application, Web and Database Server

**Application:** Test requests are sent correctly to the Database and output at the client side is displayed correctly. Errors if any must be caught by the application and must be only shown to the administrator and not the end user.

**Web Server:** Test Web server is handling all application requests without any service denial.

**Database Server:** Make sure queries sent to the database give expected results.

Test system response when connection between the three layers (Application, Web and Database) cannot be established and appropriate message is shown to the end user.

- ***Compatibility testing:***

Compatibility tests ensures that your web application displays correctly across different devices. This would include-

**Browser Compatibility Test:** Same website in different browsers will display differently.

You need to test if your web application is being displayed correctly across browsers, JavaScript, AJAX and authentication is working fine. You may also check for Mobile Browser Compatibility.

The rendering of web elements like buttons, text fields etc. changes with change in Operating System. Make sure your website works fine for various combination of Operating systems such as Windows, Linux, Mac and Browsers such as Firefox, Internet Explorer, Safari etc.

- ***Performance Testing :***

This will ensure your site works under all loads. Software Testing activities will include but not limited to –

- Website application response times at different connection speeds
- Load test your web application to determine its behavior under normal and peak loads
- Stress test your web site to determine its break point when pushed to beyond normal loads at peak time.
- Test if a crash occurs due to peak load, how does the site recover from such an event
- Make sure optimization techniques like gzip compression, browser and server side cache enabled to reduce load times



## **Conclusion**

Patients are increasingly looking at convenient ways to book appointments. They prefer to use options available on their mobile or laptop to book appointments. An online doctor booking appointment system that integrates seamlessly with an Electronic Health Record (EHR) is ideal for doctors as well. It reduces fatigue and frustration. Adopting digital technologies involving the use of appropriate tools is recommended for doctors. The pandemic has made sure that digital modes are embraced even by sections of society that was either hesitant earlier or had limited access to the

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