

Doctor Patient Consultation WebApp

Project Report Submitted in Partial Fulfilment of the Requirements for
the Degree of

Bachelor of Engineering *in* **Information Technology Engineering**

Submitted by

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Under the Supervision of

Dr. Shrawan Ram
(Associate Professor)



Department of Computer Science and Engineering
MBM University, Jodhpur
June 2022

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CERTIFICATE

This is to certify that the work contained in this report entitled “**Doctor Patient Consultation WebApp**” is submitted by the group members Mr Suraj Paliwal (Roll. No: 19UITE9017), Mr. Suresh Kumar (Roll No: 19UITE9018) to the Department of Computer Science & Engineering, M.B.M. Engineering College, Jodhpur, for the partial fulfilment of the requirements for the degree of **Bachelor of Engineering in Information Technology**.

They have carried out their work under my supervision. This work has not been submitted else-where for the award of any other degree or diploma.

The project work in our opinion, has reached the standard fulfilling of the requirements for the degree of Bachelor of Engineering in Information Technology in accordance with the regulations of the Institute.

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DECLARATION

We, **Suraj Paliwal** and **Suresh Kumar**, hereby declare that this project titled “**Doctor Patient Consultation WebApp**” is a record of original work done by me under the supervision and guidance of **Dr. Shrawan Ram (Associate Professor)**.

We, further certify that this work has not formed the basis for the award of the Degree/Diploma/Associateship/Fellowship or similar recognition to any candidate of any university and no part of this report is reproduced as it is from any other source without appropriate reference and permission.

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Finally, yet most importantly, we would like to express our heartfelt thanks to our beloved parents and family for their blessings, wishes and support for the successful completion of this work.

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ABSTRACT

The Internet has been a steady source of medical data previously; it has just as of late been utilized for online private patient-doctor consultations. As of late, the market has seen a surge in applications providing healthcare services on the go.

Sometimes you come across small problems where you to need consult doctors about your health problems or for the nearest ones and follow their prescriptions. Online Doctor System will provide you the power of direct interaction between doctors of your choice as and when required for your small problems. Using this web Online Doctor System applications, patients will able to fill online form in just few seconds before entering to the virtual office room.

To make a truly Online Doctor System system to have meet/chat with online doctors, all manual process has been automated through this system. Patient have to fill online form by which id and password created and sent to their email and upon accepting data, automatic login to patient panel. Through this panel, patients can select the doctors and have chat with them on their time from their own place.

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Chapter 1

Introduction



Doctor Patient Consultation WebApplication (DocHelp)

The DocHelp is Online Doctor Patient consultation system which is an end user support and online consultation project. Here we propose a system that connects patients to available doctors for online consultation. Our proposed system aims to build an environment where various patients needing doctor help at their home can consult doctors, chat with doctors, tell them their issues and discuss remedies. It also consists of a doctor login panel where doctor may login to the system and then see patient requests for consultations. The system then schedules those requests and serves them to doctor one after another. This allows doctors to chat with patients and discuss their problems. The system will prove helpful to urgent cases that do not reach hospital, for emergency cases that do not have doctors in area, during late night emergencies and also for preliminary examination of patients.

Problem Statement

It might have happened so many times that you or someone yours need doctors help immediately, but they are not available due to some reason. The DocHelp system is an end user support and online consultation project. Here we propose a system that allows

users to get instant guidance on their health issues through an intelligent DocHelp care system online.

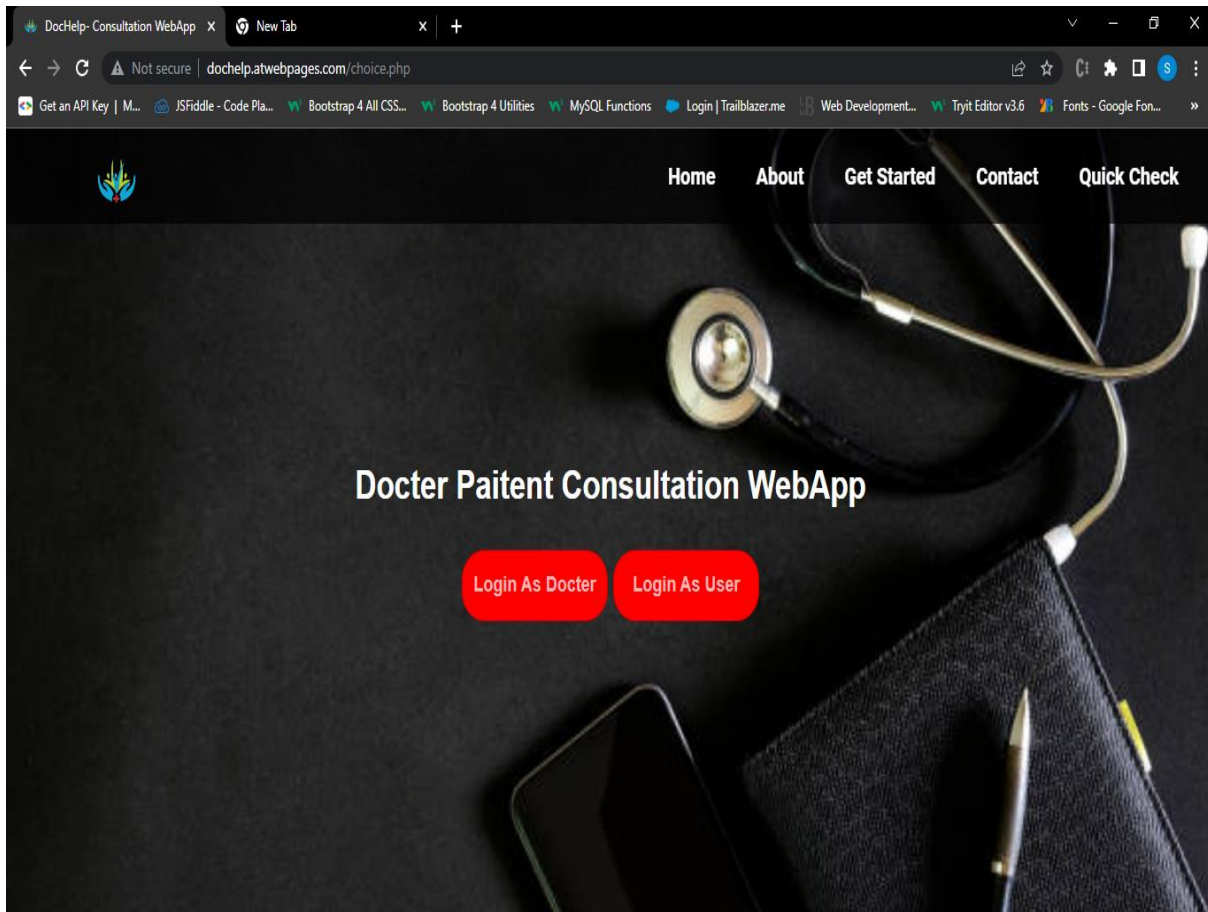


Figure 1: Home Page

Advantages

- User can search for doctor's help at any point of time.
- User can talk about their illness and get the required medicine's prescription.
- Doctors can handle emergency situation by providing primary help, till the patient can be taken to the hospital.

Disadvantages

- One or the other doctor has to be online to help the patient.

Chapter 2

Technology Used

Front-end web development is the development of the graphical user interface of a website, through the use of HTML, CSS, and JavaScript, so that users can view and interact with that website. The part of a website that the user interacts with directly is termed the front end. It is also referred to as the 'client side' of the application. It includes everything that users experience directly: text, colours, and styles, images, graphs and tables, buttons, and navigation menu. HTML, CSS, and JavaScript are the languages used for Front End development. The structure, design, behaviour, and content of everything seen on browser screens when websites, web applications, or mobile apps are opened up, is implemented by front End developers.

2.1 HTML

HTML stands for HyperText Markup Language. It is used to design web pages using a markup language. HTML is the combination of Hypertext and Markup language.

Hypertext defines the link between the web pages. A markup language is used to define the text document within tag which defines the structure of web pages. This language is used to annotate (make notes for the computer) text so that a machine can understand it and manipulate text accordingly. Most markup languages (e.g. HTML) are human-readable. The language uses tags to define what manipulation has to be done on the text.

Elements and Tags: HTML uses predefined tags and elements which tell the browser how to properly display the content. Remember to include closing tags. If omitted, the browser applies the effect of the opening tag until the end of the page.

HTML page structure: The basic structure of an HTML page is laid out below. It contains the essential building-block elements (i.e. doctype declaration, HTML, head, title, and body elements) upon which all web pages are created.

- `<DOCTYPE html>`: This is the document type declaration (not technically a tag). It declares a document as being an HTML document. The doctype declaration is not case-sensitive.
- `<html>`: This is called the HTML root element. All other elements are contained within it.
- `<head>`: The head tag contains the “behind the scenes” elements for a webpage. Elements within the head aren’t visible on the front-end of a webpage. HTML elements used inside the `<head>` element include:
 - `<style>`
 - `<title>`
 - `<base>`
 - `<noscript>`
 - `<script>`
 - `<meta>`
 - `<link>`
- `<body>`: The body tag is used to enclose all the visible content of a webpage. In other words, the body content is what the browser will show on the front-end.



Figure 2: HTML

An HTML document can be created using any text editor. Save the text file using .html or .htm. Once saved as an HTML document, the file can be opened as a webpage in the browser.

Features of HTML

- It is easy to learn and easy to use.
- It is platform-independent.
- Images, videos, and audio can be added to a web page.
- Hypertext can be added to the text.
- It is a markup language.

Benefits HTML

- It is a simple markup language. Its implementation is easy.
- It is used to create a website.
- Helps in developing fundamentals about web programming.
- Boost professional career.

2.2 CSS : Cascading Style Sheets

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, variations in display for different devices and screen sizes as well as a variety of other effects.

Advantages of CSS

- **CSS saves time** – You can write CSS once and then reuse same sheet in multiple HTML pages. You can define a style for each HTML element and apply it to as many Web pages as you want.
- **Pages load faster** – If you are using CSS, you do not need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So less code means faster download times.
- **Global web standards** – Now HTML attributes are being deprecated and it is being recommended to use CSS. So its a good idea to start using CSS in all the HTML pages to make them compatible to future browsers.



Figure 3: CSS

Who Creates and Maintains CSS?

CSS is created and maintained through a group of people within the W3C called the CSS Working Group. The CSS Working Group creates documents called specifications.

When a specification has been discussed and officially ratified by the W3C members, it becomes a recommendation.

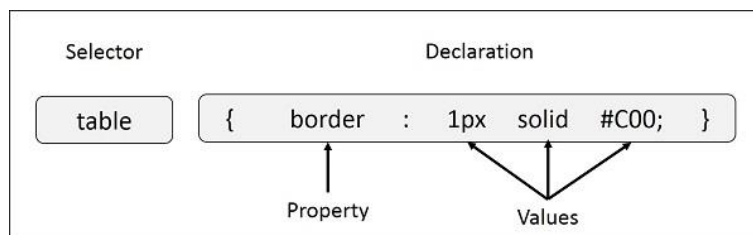
CSS Versions

Cascading Style Sheets level 1 (CSS1) came out of W3C as a recommendation in December 1996. This version describes the CSS language as well as a simple visual formatting model for all the HTML tags.

CSS2 became a W3C recommendation in May 1998 and builds on CSS1. This version adds support for media-specific style sheets e.g. printers and aural devices, downloadable fonts, element positioning and tables.

CSS - Syntax

`selector {property: value}`



2.3 Bootstrap

Bootstrap is the popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website.

Our Bootstrap tutorial includes all topics of Bootstrap such as jumbotron, table, button, grid, form, image, alert, wells, container, carousel, panels, glyphicon, badges, labels, progress bar, pagination, pager, list group, dropdown, collapse, tabs, pills, navbar, inputs, modals, tooltip, popover and scrollspy.

- Bootstrap is the most popular HTML, CSS and JavaScript framework for developing a responsive and mobile friendly website.
- It is absolutely free to download and use.
- It is a front-end framework used for easier and faster web development.
- It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many others.
- It can also use JavaScript plug-ins.
- It facilitates you to create responsive designs.



Figure 4: BootStrap

History of Bootstrap

Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter. It was released as an open-source product in August 2011 on GitHub.

In June 2014 Bootstrap was the No.1 project on GitHub.

Why to use Bootstrap

Following are the main advantage of Bootstrap:

- It is very easy to use. Anybody having basic knowledge of HTML and CSS can use Bootstrap.
- It facilitates users to develop a responsive website.

- It is compatible on most of browsers like Chrome, Firefox, Internet Explorer, Safari and Opera etc.

What Bootstrap package contains:

- **Scaffolding:** Bootstrap provides a basic structure with Grid System, link styles, and background.
- **CSS:** Bootstrap comes with the feature of global CSS settings, fundamental HTML elements style and an advanced grid system.
- **Components:** Bootstrap contains a lot of reusable components built to provide iconography, dropdowns, navigation, alerts, pop-overs, and much more.
- **JavaScript Plugins:** Bootstrap also contains a lot of custom jQuery plugins. You can easily include them all, or one by one.
- **Customize:** Bootstrap components are customizable and you can customize Bootstrap's components, LESS variables, and jQuery plugins to get your own style.

2.4 JavaScript

JavaScript (js) is a light-weight object-oriented programming language which is used by several websites for scripting the webpages. It is an interpreted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document. It was introduced in the year 1995 for adding programs to the webpages in the Netscape Navigator browser. Since then, it has been adopted by all other graphical web browsers. With JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses js to provide several forms of interactivity and simplicity.

Although, JavaScript has no connectivity with Java programming language. The name was suggested and provided in the times when Java was gaining popularity in the

market. In addition to web browsers, databases such as CouchDB and MongoDB uses JavaScript as their scripting and query languages.



Figure 5: JavaScript

Features of JavaScript

There are following features of JavaScript:

1. All popular web browsers support JavaScript as they provide built-in execution environments.
2. JavaScript follows the syntax and structure of the C programming language. Thus, it is a structured programming language.
3. JavaScript is a weakly typed language, where certain types are implicitly cast (depending on the operation).
4. JavaScript is an object-oriented programming language that uses prototypes rather than using classes for inheritance.
5. It is a light-weighted and interpreted language.

Backend Web Development — this is the part that typically processes, stores, and manipulates data. It's how the website or application works. Back-end developers are generally good problem solvers, logical thinkers who are interested in the functionality of a website or application. Back-end development is usually associated with server side languages such as PHP.

It focuses on databases, scripting, website architecture. It contains behind-the-scene

activities that occur when performing any action on a website. It can be an account login or making a purchase from an online store. Code written by back-end developers helps browsers to communicate with database information.

2.5 PHP: Hypertext Preprocessor

What is PHP?

- PHP is an acronym for "PHP: Hypertext Preprocessor"
- PHP is a widely-used, open-source scripting language
- PHP scripts are executed on the server
- PHP is free to download and use
- It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)!
- It is deep enough to run large social networks!
- It is also easy enough to be a beginner's first server-side language!



Figure 6: PHP

What is a PHP File?

- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code is executed on the server, and the result is returned to the browser as plain HTML
- PHP files have extension ".php"

What Can PHP Do?

- PHP can generate dynamic page content
- PHP can create, open, read, write, delete, and close files on the server
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in your database
- PHP can be used to control user-access
- PHP can encrypt data

2.6 MySQL

What is MySQL?

- MySQL is a relational database management system
- MySQL is open-source
- MySQL is free
- MySQL is ideal for both small and large applications
- MySQL is very fast, reliable, scalable, and easy to use
- MySQL is cross-platform
- MySQL is compliant with the ANSI SQL standard
- MySQL was first released in 1995

- MySQL is developed, distributed, and supported by Oracle Corporation
- MySQL is named after co-founder Monty Widenius's daughter: My

Who Uses MySQL?

- Huge websites like Facebook, Twitter, Airbnb, Booking.com, Uber, GitHub, YouTube, etc.
- Content Management Systems like WordPress, Drupal, Joomla!, Contao, etc.
- A very large number of web developers around the world



Figure 7: MySQL

Show Data On Your Web Site

To build a web site that shows data from a database, you will need:

- An RDBMS database program (like MySQL)
- A server-side scripting language, like PHP
- To use SQL to get the data you want
- To use HTML / CSS to style the page

Chapter 3

Work Details

3.1 Code snapshots and UI Design

Home Page

It is the introductory page of a website, typically serving as a table of contents for the site. This is the default web page or the start-up page on a browser. This page consists of navigation bar, Website name, featured buttons, etc.

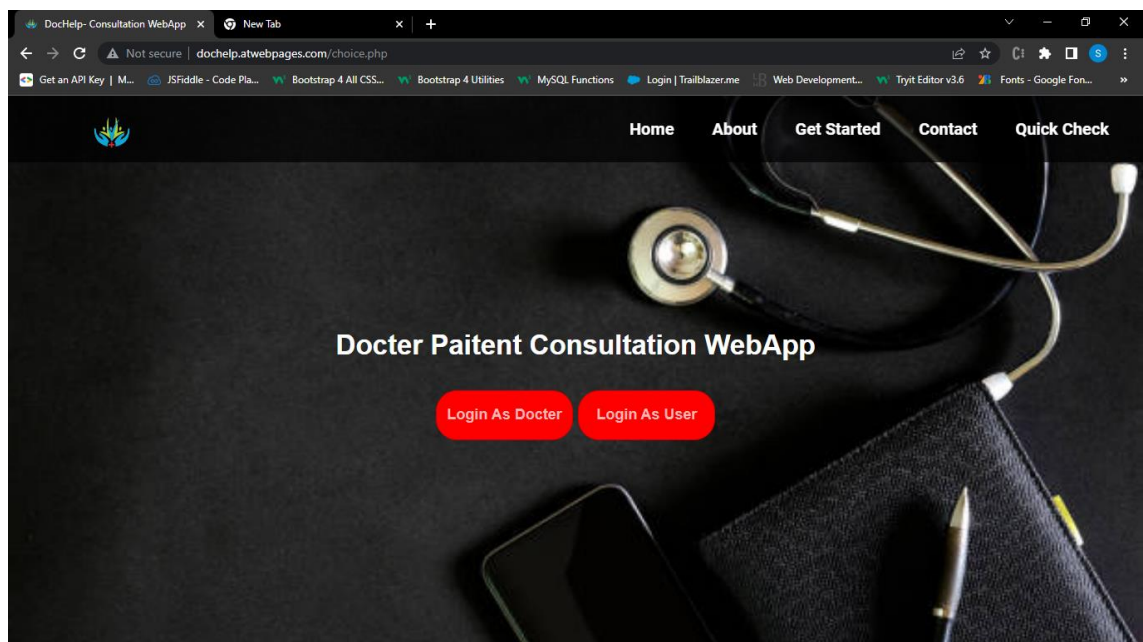


Figure 8: Home page

- **Logo/Home**– Both directs us to the homepage irrespective of our current position.
- **About** – We can explore about the website on this page.
- **Get Started** – Using this we can enter in Doctor patient login and signup panel.

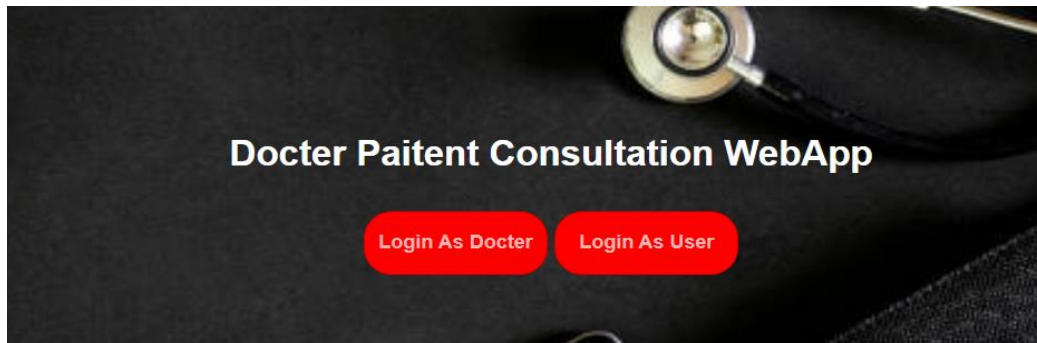


Figure 9: Get Started Page

- **Login (Doctor)** – It has two options, login and signup. Once you are logged in then it will get changed to “profile” and enter into the chatting area.

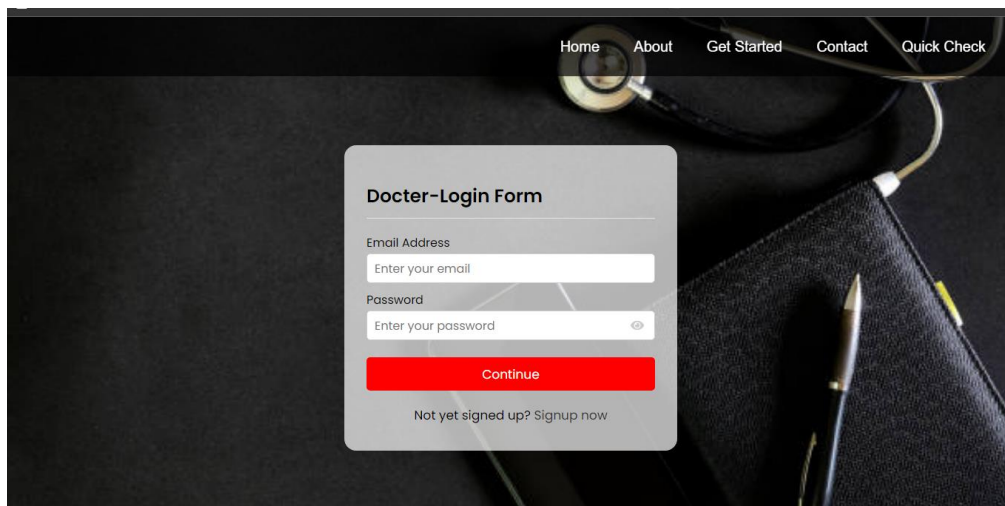


Figure 10: Doctor Login page

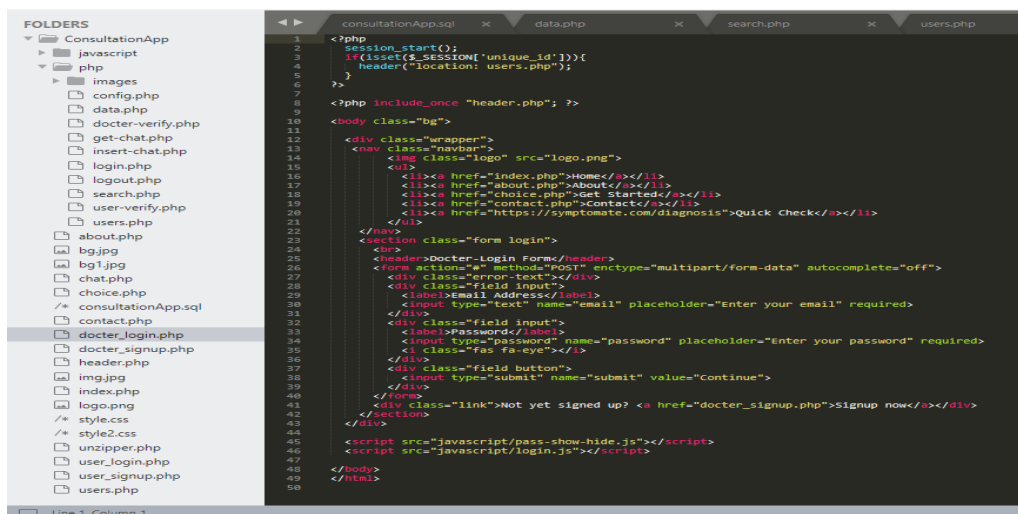


Figure 11: Login page Source Code

- **Quick Check:** This link will redirect the user to Symptomate (<https://symptomate.com/diagnosis/0>) which Check your symptoms website

In brief it is a short (3 min) health checkup. The information you give is safe and won't be shared. Your results will include:

- Possible causes of symptoms.
- Recommendations on what to do next.

“About” Page

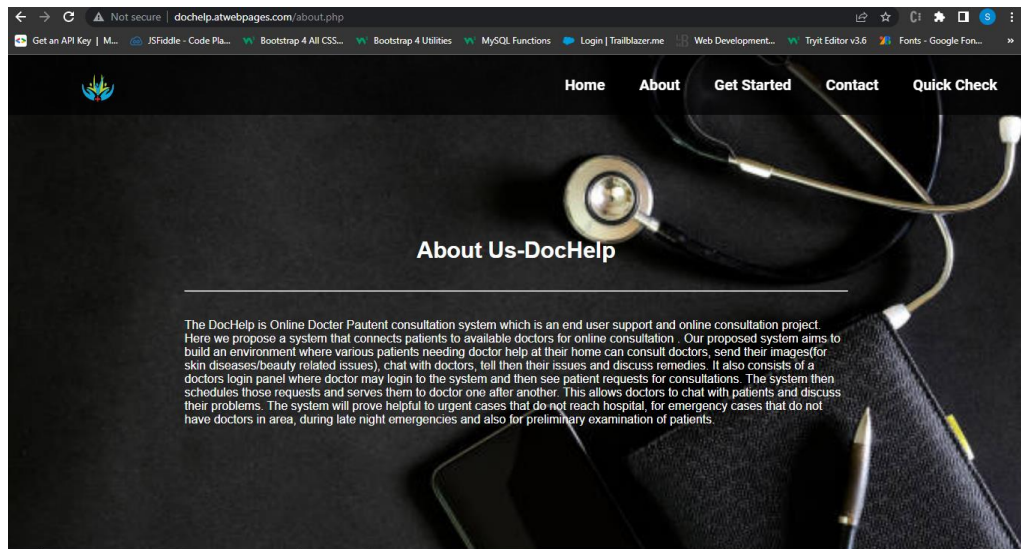


Figure 12: About Page

```

1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5
6 <title>DocHelp - About</title>
7
8 <link rel="icon" href="logo.png" type="image/icon type">
9
10 <!-- CSS -->
11 <link href="style2.css" rel="stylesheet">
12
13
14
15 <!-- Fonts -->
16 <link rel="preconnect" href="https://fonts.gstatic.com">
17 <link href="https://fonts.googleapis.com/css2?family=HandLee&display=swap" rel="stylesheet">
18
19
20 </head>
21
22 <body>
23 <div class="wrapper">
24 <nav class="navbar">
25 
26 <ul>
27 <li><a href="index.php">Home</a></li>
28 <li><a href="about.php">About</a></li>
29 <li><a href="choice.php">Get Started</a></li>
30 <li><a href="contact.php">Contact</a></li>
31 <li><a href="https://symptomate.com/diagnosis">Quick Check</a></li>
32 </ul>
33 </nav>
34 <div class="center">
35 <h2>About Us- DocHelp</h2>
36 <br>
37 <br>
38 <br>
39 <br>
40 <p style="color: white;">The DocHelp is Online Doctor Pautent consultation system which is an end user support and online consultation project. Here we propose a system that connects patients to available doctors for online consultation . Our proposed system aims to build an environment where various patients needing doctor help at their home can consult doctors, send their images(for skin diseases/beauty related issues), chat with doctors, tell then their issues and discuss remedies. It also consists of a doctors login panel where doctor may login to the system and then see patient requests for consultations. The system then schedules those requests and serves them to doctor one after another. This allows doctors to chat with patients and discuss their problems. The system will prove helpful to urgent cases that do not reach hospital, for emergency cases that do not have doctors in ares, during late night emergencies and also for preliminary examination of patients.
41 </p>
42 </div>
43
44
45
46 </body>
47 </html>

```

Figure 13: About Page Source Code

“Sign Up” Page

Figure 14: Sign-up Page

In this section we use simple HTML Form element.

An HTML form is a section of a document which contains controls such as text fields, password fields, checkboxes, radio buttons, submit button, menus etc.

This HTML form facilitates the user to enter data that is to be sent to the server for processing such as name, email address, password, phone number, etc.

The HTML `<input>` element is the most used form element.

The `<input>` element of the form tag can be used in many ways, depending on the type attribute such as we use in that form.

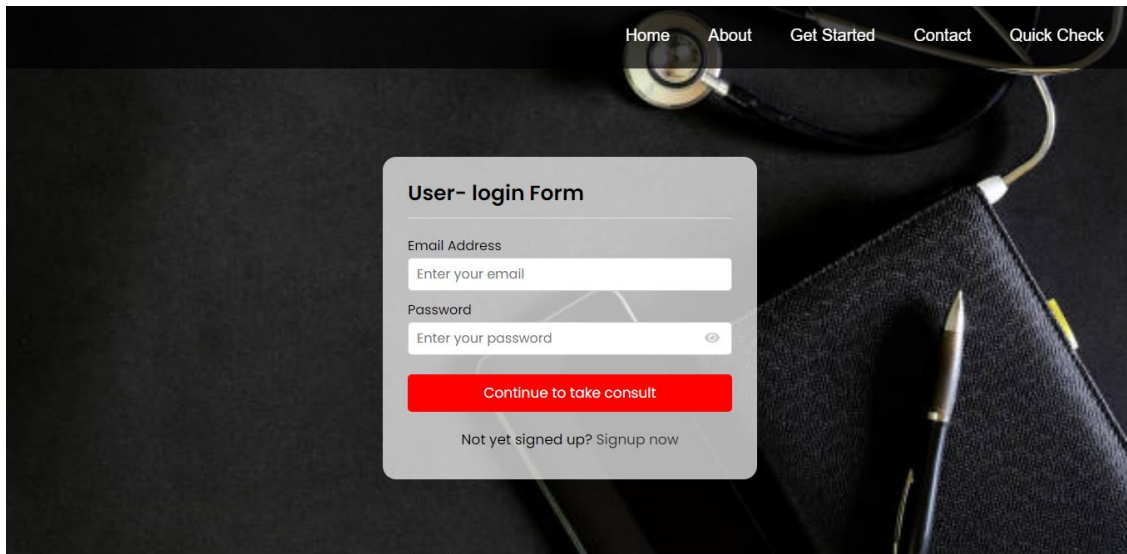
Doctor Registration Form Includes Name, Last-name, Email, password and profile picture fields

While User Registration Form Includes Name, Last-name, Email, password and profile picture fields.

Type	Description
<code><input type="text"></code> <code><input type="number"></code>	Displays a single-line text input field Eg: name, email Eg: Phone number
<code><input type="checkbox"></code>	Displays a checkbox (for selecting zero or more of many choices) Eg: I'm robot or not
<code><input type="submit"></code>	Displays a submit button (for submitting the form) Eg: SignUp Button

Table 1: Input Type Description Table

“Login” Page



The screenshot shows a web page with a dark background featuring a stethoscope and a pen. At the top, there is a navigation bar with links: Home, About, Get Started, Contact, and Quick Check. In the center, a white box titled "User- login Form" contains the following elements:

- Email Address: A text input field with the placeholder "Enter your email".
- Password: A text input field with the placeholder "Enter your password" and a toggle icon (an eye) to the right.
- A red button labeled "Continue to take consult".
- A link below the button: "Not yet signed up? Signup now".

Figure 15: Login Page

“Contact” Page

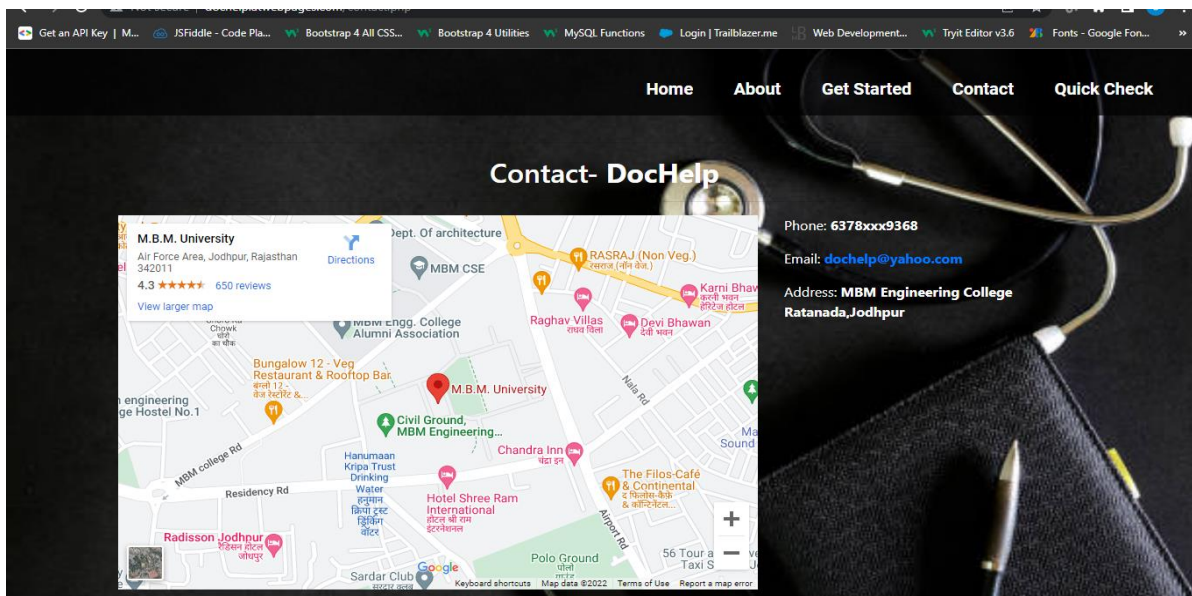


Figure 16: Contact Page

```
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46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

<div class="row">
  <div class="col-lg-12">
    <hr>
    <h2 style="color: white; text-align: center;">Contact-
    <strong>DocHelp</strong>
    </h2>
    </div>
  </div>
  <div class="row">
    <div class="col-lg-8">
      <iframe src="https://www.google.com/maps/embed?pb=!1m18!1m12!1s3577.888167274836!2d73.83382831512715!3d26.267888693873974!2m3!1f0!2f0!3f0!3m2!1i1024!2i768!4f13.1!3m3!1s8x39418c5ea67269fb3A8x93b557732516d6d1!2sM.B.M.20University!5e0!3m2!1sen!2sin!4v!655982263510!5m2!1sen!2sin" width="100%" height="450" allowfullscreen="" loading="lazy" referrerpolicy="no-referrer-when-downgrade" style="border: 8px solid black; allowfullscreen="" loading="lazy"></iframe>
    </div>
    <div class="col-lg-4">
      <p>Phone:</p>
      <strong>6378xxx9368</strong>
      </p>
      <p>Email:</p>
      <strong><a href="mailto:aperfect_today@yahoo.com">dochehelp@yahoo.com</a></strong>
      </p>
      <p>Address:</p>
      <strong>MBM Engineering College</strong>
      <strong>Ratanada, Jodhpur</strong>
      </p>
    </div>
  </div>
  <div class="clearfix"></div>
</div>
```

Figure 17: Contact Page Source Code

Doctor/Patient Showing List

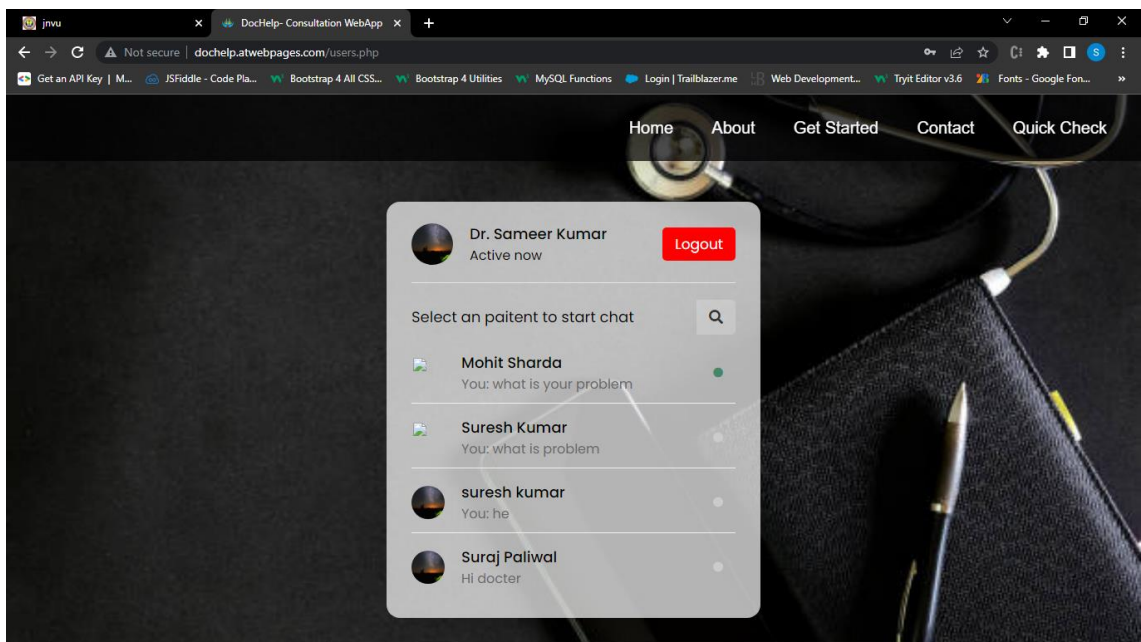


Figure 18:Users List

If Doctor/patient is logged in the portal then they have an options such as

- Select a patient/Dcotor from the list and have chat with them.
- Search button for searching specific doctor/patient from the list

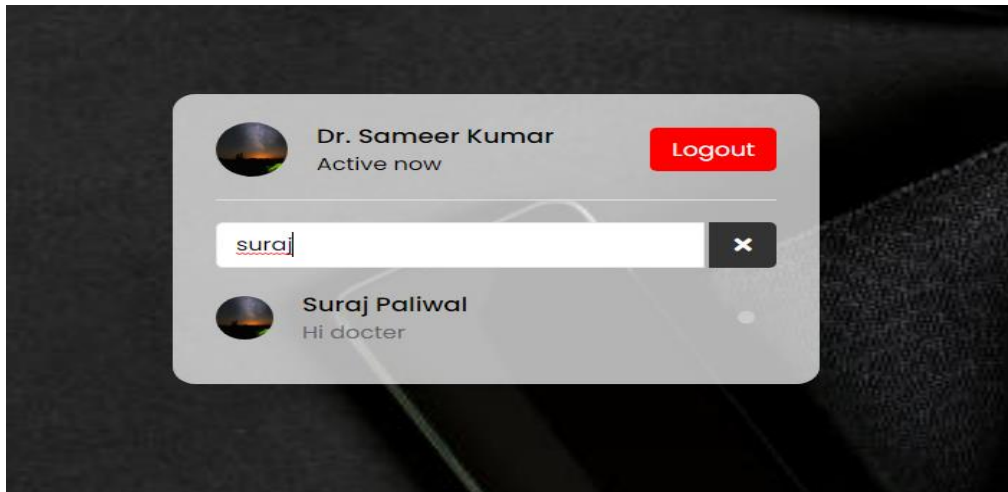


Figure 19: Search Option

- Logout button to logout from the portal and they will redirect to the home page.

“Chatting Area”

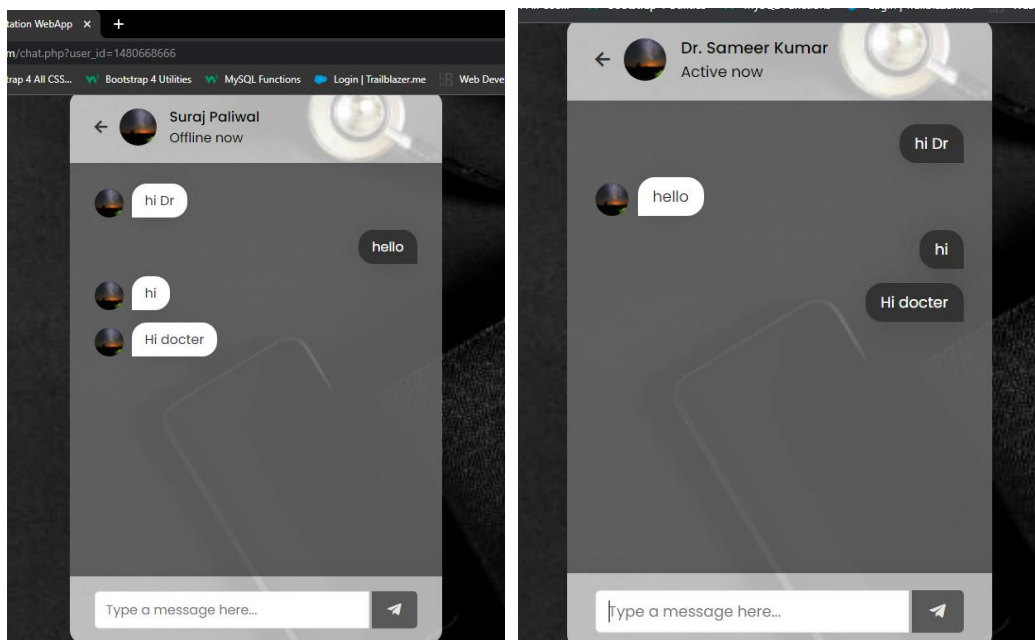


Figure 20: Chatting Area

Chapter 4

Results

- The Chat feature in the web app is very useful in emergency situation where we can't go to meet doctor physically.
- Patients are able to connect to doctor in real time.
- Project is hosted on awardspace.com with the help of which we can use it on any device.
- It can also be useful in any disaster conditions by government as doctor can give consultation to patients stuck in disasters.
- The GitHub link for the project is <https://github.com/surajpaliwal/DocHelp>
- The website for the project is <http://dochelp.atwebpages.com>

Chapter 5

Conclusion & Future Work

Conclusion

- The Chat feature in the web app is very useful in emergency situation where we can't go to meet doctor physically.
- Patients are able to connect to doctor in real time.
- Project is hosted on awardspace.com with the help of which we can use it on any device.
- It can also be useful in any disaster conditions by government as doctor can give consultation to patients stuck in disasters.

Future Work

- Doctor will get notification when patient tries to chat/approach him.
- Patients will get all their reports and medicine prescriptions in their inbox by notification indication just after chat session.
- Implement secure payment gateway which will use to pay the required fees using their account or debit or credit card.

References

- [1] <https://developer.mozilla.org/en-US/docs/Web/HTML>
- [2] <https://www.w3.org/Style/CSS/Overview.en.html>
- [3] Open-source CSS framework: <https://getbootstrap.com/>
- [4] <https://developer.mozilla.org/en-US/docs/Web/JavaScript>
- [5] <https://www.w3schools.com/mysql>
- [6] <https://www.w3schools.com/php>