"TELEDERMATOLOGY HEALTHCARE PORTAL"

PROJECT REPORT

Submitted for CAL in B.Tech Internet and Web Programming (CSE3002)

By

SANJANA D - 17BCE1068
MUKKESH G - 17BCE1128
AMRIT KRISHNA O - 17BCE1133

Slot: D1

Name of faculty: **PROF. SIVAGAMI M.**

(SCHOOL OF COMPUTER SCIENCE ENGINEERING: SCSE)

April 2019

1. **ABSTRACT**

Medical technology and healthcare is an ever advancing field in today's world. However, a common problem which exists is that the outreach and availability of healthcare facilities to every individual is quite limited. Therefore, we aim to provide a technological solution which could make a difference in this world.

Diagnosing neonatal and pediatric skin conditions does not require face-to-face communication and can be done remotely. A software application can be developed where users (patients/care-takers) can access a web portal to communicate with medical personnel. The application will have separate portals for patients and physicians offering the necessary features for each. The physician will be able to receive images from patients, tag the diagnosis, automatically store the image for research use and respond to the sender. The patient will be able to get an online consultation from a physician by reporting his symptoms, and attaching any images which would aid in the diagnostic process. A centralised database connection will be established with the application to where data will be efficiently stored and retrieved from.

A MediCare ChatBot instantly interacts, assists and tend to your needs. Further machine learning and image processing techniques could be integrated to automate and enhance this remote digital healthcare application.

2. **TECHNOLOGY STACK**
The architecture that we have used in our project is a three tier architecture.
Tier 1- Client side
Tier 2- Server Side
Tier 3- Database
Front end:

HTML also known as Hyper Text Markup language was the main part of the front end of our project. Raising from the early 90's HTML is the most widely used language for web

development. The main function of HTML is to display the web pages. This does not use any logic by itself.

Css(Cascading Style Sheets) was used for adding aesthetic effect to the contents that are displayed using HTML. CSS is generally used side by side with HTML to give our web page a clean -cut beautiful look.

HTML and CSS are only used to define and beautify web pages. They add no logic as such to the web pages. JavaScript was introduced as a client side scripting language to bring the web pages to life. We have made used of DOM(Document Object Model) concepts to dynamically load content to our web pages. Basic checks and verifications are being done in the client side using JavaScript in our project.

Back end :

PHP(Hypertext Preprocessor) is originally a general purpose programming language that is generally used for server side scripting. We have mainly used PHP for our server side code. The connection to the SQL database are done using the php's object oriented sqli functions. Data was passed between HTML/Javascript and php through AJAX. There were places where we had to store the images uploaded by a user. For this,MMDB had to be implemented in our project. The

MMDB is being implemented by php . The images uploaded by the user are stored in the local directory of the server and their paths are being stored in the SQL database.

Asynchronous JavaScipt and XML is a method of silent communication between the client and the server. This communication is achieved by sending HTTP requests as XML. All the data that is being passed between the client and the server and vice-versa are being done through AJAX. AJAX had made the complete framework of our project to be faster and secure.

Asynchronous transfer of files could only be achieved by POST requests via jQuery.The transfer of images from the client and the server are done through this . jQuery was an integral factor in the implementation of MMDB.

Python was used for a very small part in our project. The emails that are sent to the email id of the customer care were sent through the SMTP server that was set by python. The only place where we have used python in our project is to integrate the emailing facility.

Database:

The database management system that we have used is MySQL. We set up a local MySQL server and stored all our data in it. We had four tables:

- Credentials- These were used for the login verification process. Each of the user was given an uid that was unique to each account.
- Patients; This was used for storing the details of the patients their patient id(pid) and the uid which was linked as a foreign key to the uid column of the credentials table.
- Doctors- All the details of the doctor such as the doctorid(did) and the uid which was again linked as a foreign key to credentials.uid.
- Images- This stored the details of every single response of the patient for 'my diagnostics'. This had the patient id of the patient and the doctor id of the doctor who attend his case.Pid and Did were linked as foreign keys to the primary keys of patients and doctors,i.e pid and did respectively.

3. FEATURES

3.1 SECURE LOGIN

The secure login facility allows users to access their personal accounts upon validation and verification of entered credentials with the centralised MySQL database. Depending on the entered credentials the user is diverted either to the patients' or doctors' portal accordingly and given privilege of the appropriate features. A captcha is integrated in this login process to make the verification process more secure.

3.2 SYMPTOMS DIAGNOSIS

The diagnostics form takes input from patients about their symptoms, in a user friendly manner, through radio buttons and checkboxes. These answers are sent to the doctor where he/she analyzes them and gives a diagnostics report in response to the patient. The doctor is able to keep track of pending consultations and those already attended to by the use of a status feature.

Along with the symptoms form the user is allowed to upload a supporting image for the doctor to view which helps ease the process of diagnosis and increase accuracy and reliability of results. These images are stored in a multimedia database (MMDB) which was implemented using php as described previously.

3.3 APPOINTMENTS SCHEDULING

This feature allows patients to schedule and book appointments with a particular doctor. Patients can select which doctor they would like to consult and choose their preferred date. The available time slots will then be displayed to them from which they can choose a slot and confirm their appointment. Accordingly the database would be updated and the doctors would be notified of their upcoming appointments.

3.4 GEOLOCATIONING

For informative purposes and ease of access, a geolocationing feature is available where the location of each doctor is shown on an inbuilt map. Users can use this to know where doctors and their medical centers are located in case of planning to book a physical appointment or even just for background knowledge of their practitioner

.
3.5 DIAGNOSTICS HISTORY

Patients can view their entire history of consultations and the diagnostics they have received till date. If a diagnostics report is yet to come for a recently submitted symptoms form then the status would be displayed as such. Doctors can also view their previous consultations and keep a record of their patients and derma cases.

3.6 EDIT PROFILE

Users are given the privilege to update their account information. A few data items such as name and DOB are restricted and cannot be edited once your account has been made. This is due to security and integrity reasons. Information such as contact details and account password can be edited in the edit profile section available in the side menu bar.

4. SAMPLE CODE

4.1 proj_derm_login.html

```html
<!DOCTYPE html>
<head>
   <meta charset="utf-8" />
   <title>Login</title>
   <link rel="stylesheet" type="text/css" href="MarvelTabs.css">
   <meta name="viewport" content="width=device-width, initial-scale=1">
   <link rel="stylesheet" href="https://use.fontawesome.com/releases/v5.7.2/css/all.css">
</head>
<script language="javascript">
       check="No"
   function yes()
   {
               window.check="No";
       var xmlhttp = new XMLHttpRequest();
       xmlhttp.onreadystatechange = function() {
```

```
            if (this.readyState == 4 && this.status == 200) {
                window.check=this.responseText;
            }
        }
        xmlhttp.open("GET",
"proj_login.php?u="+document.f1.u.value+"&p="+document.f1.p.value, true);
        xmlhttp.send();
    }

    function abc()
    {
        yes();
        setTimeout(ayy, 4000);
    }
    function ayy()
    {
        if(window.check=="Yes#patient"){
                if(ValidCaptcha())
                window.location="proj_derm.html";
                else
                        alert("Incorrect captcha,please try again")
        }
        else if(window.check=="Yes#doctor"){
                if(ValidCaptcha())
                window.location="proj_doc.html";
        else
                alert("Incorrect captcha,please try again")
        }
        else
                alert("Incorrect credentials!Please try again!")
    }
</script>
<body onload="Captcha();">
<div class="container">
<div class="show_box">
    <div class="show" id="login">
<p class="date"></p>
<h2 align="center">Login</h2>
  <p class="info">
  <div style="text-align:center">
  <form name="f1">
        Username:<br>
  <input type="text" id="l1" name="u"><br><br>
```

```html
Password:<br>
<input type="password" id="l2" name="p"><br><br>
<div align="center">
<table>
      <tr>
       <td align="center" style="text-indent: 50px;">
           Captcha<br/>
       </td></tr>
       <tr>
       <td style="text-indent: 50px;">
        <input type="text" id="mainCaptcha" readOnly/>
        </td>
        <td >
         <input type="button" id="refresh" value="Refresh" onclick="Captcha();" />
       </td></tr>
       <tr> <td align="center" style="text-indent: 50px;">
        <input type="text" id="txtInput"/>
       </td></tr>
       <tr>
       <td align="center" style="text-indent: 50px;">
<input type="button" id="l3" value="Login" onclick="abc();" style="width:100px;">
</td>
      </tr></table>
</div>
<p style="font-size:9px" id="q">Forgot Password?</p>
</form>
</div>
 </p>
</div>
</div>
</body>
</html>
```

4.2 proj_derm_login.php

```php
        <?php
error_reporting(0);
$servername = "localhost";
$username = "root";
$password = "rootpassword";
$dbname = "iwp";
$conn = new mysqli($servername, $username,$password, $dbname);
if ($conn->connect_error) {
```

```php
        die("Connection failed: " . $conn->connect_error);
    }
    $query= $conn->prepare("select username,password,uid,type from credentials");
    $query->execute();
    $arr=$query->get_result();
    $user=$_GET["u"];
    $pass=$_GET["p"];

    $hash=password_hash($pass,PASSWORD_BCRYPT,["cost"=>8]);

    $flag=0;
    while($row=$arr->fetch_assoc())
    {
       if($row["username"]==$user && password_verify($row["password"],$hash))
       {
          session_start();
          $_SESSION['username'] =$user;
          $_SESSION['uid']=$row["uid"];
          $_SESSION['password']=$pass;
          if($row["type"]==1)
          echo "Yes#doctor";
          else
             echo "Yes#patient";
          $flag=1;
       }
    }
    if($flag==0)
       echo "No";
    $conn->close();
    ?>
```

4.3 proj_derm.html

```html
                <!DOCTYPE html>
<html>
<head>
<script  src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js">
</script>
   <meta charset="utf-8" />
   <title>DermaPatient</title>
 <link rel="stylesheet" type="text/css" href="MarvelTabs.css">
   <meta name="viewport" content="width=device-width, initial-scale=1">
   <link rel="stylesheet" href="https://use.fontawesome.com/releases/v5.7.2/css/all.css">
```

```
<script
src="http://maps.google.com/maps/api/js?key=AIzaSyAqbuzbro7C6uQ31aLjrP0kxPQvxLRBX2s"
type="text/javascript"></script>
</head>
<script>
function e()
{
        alert("wp");
   var file_data = $('#sortpicture').prop('files')[0];
   var form_data = new FormData();
   form_data.append('file', file_data);
   alert(form_data);
   $.ajax({
      url: 'proj_main.php', // point to server-side PHP script
      dataType: 'text',  // what to expect back from the PHP script, if anything
      cache: false,
      contentType: false,
      processData: false,
      data: form_data,
      type: 'post',
      success: function(php_script_response){
         alert("gg"); // display response from the PHP script, if any
      }
   });
}
</script>
<script>
function s()
{
        var xmlhttp = new XMLHttpRequest();
        xmlhttp.onreadystatechange = function() {
          if (this.readyState == 4 && this.status == 200) {
             sym_check=this.responseText;
          }
        }
        consult=document.getElementById("sf")
        var items=document.getElementsByName('c');
        var mycheckb="";
        for(var i=0; i<items.length; i++){
                if(items[i].type=='checkbox' && items[i].checked==true)
                        mycheckb+=items[i].value+" ";
        }
```

```
yes_send="proj_main.php?u=symptoms&r1="+consult.r1.value+"&r2="+consult.r2.value+"&r3="+cons
ult.r3.value+"&r4="+consult.r4.value+"&r5="+consult.r5.value+"&r6="+consult.r6.value+"&r7="+consu
lt.r7.value+"&r8="+consult.r8.value+"&r9="+consult.r9.value+"&r10="+consult.r10.value+"&r11="+co
nsult.r11.value+"&r12="+consult.r12.value+"&r13="+consult.r13.value+"&r14="+consult.r14.value+"&r
15="+consult.r15.value+"&r16="+consult.r16.value+"&r17="+consult.r17.value+"&r18="+consult.r18.v
alue+"&r19="+consult.r19.value+"&r20="+consult.r20.value+"&r21="+consult.r21.value+"&c="+mych
eckb+"&r22="+consult.r22.value+"&f1="+consult.f1
        xmlhttp.open("GET",yes_send, true);
        xmlhttp.send();
        alert("Details registered successfully");
}
var flag=1
var values="";
function abc(ans)
{
        alert("HI");
}
var xmlhttp = new XMLHttpRequest();
xmlhttp.onreadystatechange = function() {
   if (this.readyState == 4 && this.status == 200) {
      values=values+this.responseText;
   }
}
xmlhttp.open("GET", "proj_main.php?u=editprof", true);
xmlhttp.send();
var xmlhttp = new XMLHttpRequest();
xmlhttp.onreadystatechange = function() {
   if (this.readyState == 4 && this.status == 200) {
      diagnos=this.responseText;
   }
}
xmlhttp.open("GET", "proj_main.php?u=init", true);
xmlhttp.send();

var xmlhttp = new XMLHttpRequest();
xmlhttp.onreadystatechange = function() {
   if (this.readyState == 4 && this.status == 200) {
      appointments=this.responseText;
   }
}
xmlhttp.open("GET", "proj_main.php?u=app", true);
xmlhttp.send();
```

```javascript
function pyemail()
{
        long_ans=document.getElementById("emailpy").value;
        var xmlhttp = new XMLHttpRequest();
        xmlhttp.onreadystatechange = function() {
          if (this.readyState == 4 && this.status == 200) {
            sym_check=this.responseText;
          }
        }
url="proj_main.php?u=pyemail&tosend="+long_ans;
xmlhttp.open("GET",url, true);
xmlhttp.send();
alert("Email sent!You will get a response from us shortly")

}
all_slots=["9-9:30AM","9:30-10AM","10-10:30AM","10:30-11AM","3-3:30PM","3:30-4PM","4-4:30P
M","4:30-5PM"];
index=0;
function app()
{
        for(i=0;i<all_slots.length;i++)
                document.getElementById(all_slots[i]).disabled=false;
        dr="";
        index=0;
        if(document.getElementById("aa1").checked)
                dr="Dr.Kumar";
        if(document.getElementById("aa2").checked)
                dr="Dr.Anand";
        if(document.getElementById("aa3").checked)
                dr="Dr.Mukkesh";
        date=document.getElementById("bab").value;
        checker=window.appointments.split("@");
        if(dr=="Dr.Kumar")
                window.index=1;
        if(dr=="Dr.Anand")
                window.index=2;
        if(dr=="Dr.Mukkesh")
                window.index=3;
        slot_date=checker[window.index].split("#");
        if(slot_date[1].includes(date)){
                slots=slot_date[2].split("!")
```

```
                for(i=0;i<slots.length;i++){
                        document.getElementById(slots[i]).disabled=true;
                }
                }}
</script>
```

<body>
<div class="container">
 <div class="vertical_tabs">
 <div class="tab" onclick="tabFunction(event, 'spider')" id="defaultOpen"> Home </div>
<div class="tab" onclick="tabFunction(event, 'captian')">Consult Doctor</div>
 <div class="tab" onclick="tabFunction(event, 'hulk')">My Diagnostics</div>
<div class="tab" onclick="tabFunction(event, 'appoint')">Appointments</div>
  <div class="tab" onclick="tabFunction(event, 'thor')">Our Doctors</div>
 <div class="tab" onclick="tabFunction(event, 'ironMan')"> DermoBot </div>
 <div class="tab" onclick="tabFunction(event, 'antMan')">Edit Profile</div>
 <div class="tab" onclick="tabFunction(event, 'blackPanther')">Help</div>
  </div>
<div class="show_box">
 <div class="show" id="captian" style="display:none;">
     <h2>Consult Doctor</h2>
   <p class="info">
<div>
<form method="post" name="sym_form" id="sf" enctype="multipart/form-data" >
Symptoms Diagnosis:
Please answer the questions below as accurately as possible for an accurate diagnosis:

Skin type?
Dry:<input type="radio" name="r1" value="dry">
Oily:<input type="radio" name="r1" value="oily">

Were you recently exposed to any allergens?
 <input type="radio" name="r2"
value="yes1">Yes<input type="radio" name="r2" value="no1">No

Size of spots/bumps/rashes/patches:
<input type="radio" name="r15" value="small">Small &nbsp<input type="radio" name="r15"
value="med">Medium &nbsp<input type="radio" name="r15" value="big">Big

Which parts of your body are affected?
Face:<input type="checkbox" name="c" value="face">
Chest:<input type="checkbox" name="c" value="chest">
Arms:<input type="checkbox" name="c" value="arms">
Legs:<input type="checkbox" name="c" value="legs">
Back:<input type="checkbox" name="c" value="back">
Abdomen:<input type="checkbox" name="c" value="abs">

Sore throat: <input type="radio" name="r20" value="yes20">Yes<input type="radio" name="r20"
value="no20">No

Loss of appetite: <input type="radio" name="r21" value="yes21">Yes<input type="radio" name="r21" value="no21">No

Body aches: <input type="radio" name="r22" value="yes22">Yes<input type="radio" name="r22" value="no22">No

<input type="button" value="Submit" onclick="s()" id="fil">
</form>
Upload image of affected area of skin:<input type="file" name="sortpic" id="sortpicture">

<input type="button" value="Upload" onclick="e()" id="upload">
</p>
</div>
    </div>
    <h2>Help</h2>
    <p class="info">
      Customer care: +91 9841045580

<form action="" method="post">
Send email:
 <textarea name="message" id="emailpy" rows="10" cols="30">Type your message here.</textarea>

<input type="button" value="Send" onclick=pyemail()>
</form></p> </div> </div>
</body>
<script language="javascript">
function yup()
{
                window.check="";

        var xmlhttp = new XMLHttpRequest();
        xmlhttp.onreadystatechange = function() {
          if (this.readyState == 4 && this.status == 200) {
             window.check=this.responseText;
          }
}
        xmlhttp.open("GET",
"proj_main.php?u=profcheck&pass="+document.getElementById("p2").value, true);
        xmlhttp.send();
        return this.responseText;
}

function edit_prof_check()
{
        if(window.check=="No")
         {alert("Please enter the right password")
         return;}
else if(window.check=="Yes")

```
        {
        alert("Yass in edit");
        let i,info,tab;
        superHero='profile';

    show = document.getElementsByClassName("show");

    for(i=0; i < show.length; i++){

      show[i].style.display = "none";

    }

    tab = document.getElementsByClassName("tab");

    for(i=0; i < tab.length; i++){

      tab[i].className = tab[i].className.replace(" active","");

    }

    document.getElementById(superHero).style.display = "block";
                if(flag==1)
                    {
                            setTimeout(abc(),5000);
                            editinit();
                    }

        }}
function tabFunction(evt,superHero){      if(superHero=='profile')
                    {
                    alert("In proile");
                    check=yup();
                    setTimeout(edit_prof_check,4000)
                    return;
                    }
    let i,info,tab;

    show = document.getElementsByClassName("show");

    for(i=0; i < show.length; i++){

      show[i].style.display = "none";
```

```javascript
    }

    tab = document.getElementsByClassName("tab");

    for(i=0; i < tab.length; i++){

      tab[i].className = tab[i].className.replace(" active","");

    }

    document.getElementById(superHero).style.display = "block";

    evt.currentTarget.className += " active";
            if(flag==1)
                    {
                            setTimeout(abc(),5000);
                            editinit();
                    }
            if(superHero=="hulk")
                    diaginit();
  }
</script>
</html>
```

4.4 proj_main.php

```php
            <?php
    session_start();
    $servername = "localhost";
    $username = "root";
    $password = "rootpassword";
    $dbname = "iwp";
    $conn = new mysqli($servername, $username,$password, $dbname);
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }
    $uname=$_SESSION['username'];
    $uid=$_SESSION['uid'];
    $pass=$_SESSION['password'];
```

```php
$query="select * from patients where uid=".$uid;
$ans=$conn->query($query)->fetch_assoc();
$patient_id=$ans["pid"];
$patient_name=$ans["pname"];
$patient_DOB=$ans["dob"];
$patient_email=$ans["email"];
$patient_number=$ans["contactno"];
$patient_address=$ans["addr"];
function editprof(){

$str=$GLOBALS["uname"].'#'.$GLOBALS["uid"].'#'.$GLOBALS["patient_id"].'#'.$GLOBALS
["patient_name"].'#'.$GLOBALS["patient_DOB"].'#'.$GLOBALS["patient_email"].'#'.$GLOBA
LS["patient_number"].'#'.$GLOBALS["patient_address"];
    echo $str;
}
function sym()
{
    $servername = "localhost";
    $username = "root";
    $password = "rootpassword";
    $dbname = "iwp";

    $conn = new mysqli($servername, $username,$password, $dbname);
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }
    $final_str="";
    $rad="r";
    for($i=1;$i<=22;$i++)
    {
        $temp=$rad.$i;
        $final_str=$final_str.htmlspecialchars($_GET[$temp])."@";
    }
    $arr_check=htmlspecialchars($_GET["c"]);

    $final_str=$final_str.$arr_check;
    $a="select * from doctors";
    $ans=$conn->query($a);
    $arr=$conn->query($a)->fetch_assoc();
    $dir="C:\\xampp\\htdocs\\iwp_proj\\images_iwp\\";
    $a="select max(mid) as mid from images";
    $arr=$conn->query($a)->fetch_assoc();
    $new_mid=$arr["mid"]+1;
```

```php
    $dummy_pid=1;
    $str=(string)$new_mid.$dummy_pid;
    $new_dir=$dir.$str.".png";
    $newsql_dir=$str.".png";
    $sql = "INSERT INTO images (mid,path,status,pid,did,answers,date)
VALUES(".$new_mid.",'".$newsql_dir."',0,".$dummy_pid.",1,'".'"".$final_str."','".date("Y-m-d").
"')";
    $arr=$conn->query($sql);
    $conn->close();
}
function profcheck(){
    if(htmlspecialchars($_GET["pass"])==$GLOBALS["pass"])
        echo "Yes";
    else {
        echo "No";   }
}
function sav_det(){
    $servername = "localhost";
    $username = "root";
    $password = "rootpassword";
    $dbname = "iwp";

    $conn = new mysqli($servername, $username,$password, $dbname);
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }
    if(htmlspecialchars($_GET["email"])!="No")
    {
        $query="update patients set email='".htmlspecialchars($_GET["email"])."' where
pid=".$GLOBALS["patient_id"];
        $arr=$conn->query($query);
    }
    if(htmlspecialchars($_GET["phno"])!="No")
    {
        $query="update patients set contactno=".htmlspecialchars($_GET["phno"])." where
pid=".$GLOBALS["patient_id"];
        $arr=$conn->query($query);
    }
    if(htmlspecialchars($_GET["add"])!="No")
    {
        $query="update patients set addr='".htmlspecialchars($_GET["add"])."' where
pid=".$GLOBALS["patient_id"];
        $arr=$conn->query($query);
```

```php
    }
    if(htmlspecialchars($_GET["pswd"])!="No")
    {
        $query="update credentials set password='".htmlspecialchars($_GET["pswd"])."'" where
uid=".$GLOBALS["uid"];
        $arr=$conn->query($query);
    }
    mysqli_commit($conn);
    mysqli_close($conn);
}
function pyemail()
{

$str=$GLOBALS["patient_id"]."#".$GLOBALS["patient_name"]."#".$GLOBALS["patient_num
ber"]."#".$GLOBALS["patient_email"]."#".htmlspecialchars($_GET["tosend"]);
    $data = array(
        'tag' => "iwp",
        'value' => $str
    );
    # Create a connection
    $url = 'http://www.smartdb123.appspot.com/storeavalue';
    $ch = curl_init($url);
    # Form data string
    $postString = http_build_query($data, '', '&');
    # Setting our options
    curl_setopt($ch, CURLOPT_POST, 1);
    curl_setopt($ch, CURLOPT_POSTFIELDS, $postString);
    curl_setopt($ch, CURLOPT_RETURNTRANSFER, true);
    # Get the response
    $response = curl_exec($ch);
    curl_close($ch);
}
function fileup()
{
    $servername = "localhost";
    $username = "root";
    $password = "rootpassword";
    $dbname = "iwp";

    $conn = new mysqli($servername, $username,$password, $dbname);
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }
```

```php
$a="select * from doctors";
$ans=$conn->query($a);
$arr=$conn->query($a)->fetch_assoc();
$dir="C:\\xampp\\htdocs\\iwp_proj\\images_iwp\\";
$a="select max(mid) as mid from images ";
$arr=$conn->query($a)->fetch_assoc();
$new_mid=$arr["mid"];
$dummy_pid=1;
$str=(string)$new_mid.$dummy_pid;
$new_dir=$str.".PNG";
move_uploaded_file($_FILES["file"]["tmp_name"],$new_dir);
$conn->close();

}
```

4.5 proj_doc.html

```html
<html>
<script language="javascript">
mid=0;

var xmlhttp = new XMLHttpRequest();
xmlhttp.onreadystatechange = function() {
   if (this.readyState == 4 && this.status == 200) {
      consult=this.responseText;
   }
}
xmlhttp.open("GET", "proj_main_doc.php?u=consult",true);
xmlhttp.send();

var xmlhttp = new XMLHttpRequest();
xmlhttp.onreadystatechange = function() {
   if (this.readyState == 4 && this.status == 200) {
      edit_det=this.responseText;
   }
}
xmlhttp.open("GET", "proj_main_doc.php?u=init",true);
xmlhttp.send();
var xmlhttp = new XMLHttpRequest();
xmlhttp.onreadystatechange = function() {
   if (this.readyState == 4 && this.status == 200) {
      history1=this.responseText;
   }
}
```

```
xmlhttp.open("GET", "proj_main_doc.php?u=init_history",true);
xmlhttp.send();
var xmlhttp = new XMLHttpRequest();
xmlhttp.onreadystatechange = function() {
    if (this.readyState == 4 && this.status == 200) {
        apps=this.responseText;
    }
}
xmlhttp.open("GET", "proj_main_doc.php?u=init_app",true);
xmlhttp.send();
<div class="container">
    <div class="vertical_tabs">
        <div class="tab" onclick="tabFunction(event, 'home')" id="defaultOpen"> Home </div>
        <div class="tab" onclick="tabFunction(event, 'doc')">Consultations</div>
            <div class="tab" onclick="tabFunction(event, 'appoint')"> Appointments </div>
        <div class="tab" onclick="tabFunction(event, 'hist')"> History </div>
        <div class="tab" onclick="tabFunction(event, 'prof')">Edit Profile</div>
        <div class="tab" onclick="tabFunction(event, 'help')">Help</div>
    </div>
    <div class="show_box">
        <div class="show" id="view" style="display:none;">
        <h2>Consultation</h2>
            <div id="y0" class="image"></div>
            <textarea id ="t1" name="response" rows="10" cols="30"></textarea><br>
        <input id="r0" type="button" value="Respond" onclick=cons_response()><br><br>
        <h5>Patient ID: <span id="y1">pid</span></p>
            <h5>Patient Name: <span id="y2">pname</span></p>
            <h5>Email: <span id="y30">email</span></p>
            <h5>DOB: <span id="y3">dob</span></p>
            <h5>Skin type: <span id="y4">skintype</span></p>
            <h5>Exposure to any allergens: <span id="y5">allergens</span></p>
            <h5>Exposure to Sunlight: <span id="y6">sun</span></p>
            <h5>Stress: <span id="y7">stress</span></p>
            <h5>Spots: <span id="y8">spots</span></p>
            <h5>Bumps: <span id="y9">bumps</span></p>
            <h5>Rashes: <span id="y10">rashes</span></p>
            <h5>Breakouts: <span id="y11">breakouts</span></p>
 </div>
        <div class="show" id="prof" style="display:none;">
         <h2>Edit Profile</h2>
         <p class="info">
          <form method="post" name="f2">
<p id="u1">Username</p>
```

Enter your password: <input type="password" name="p2" id="payy">
<input type="button" name="b2" id="b2" onclick="tabFunction(event, 'profile')" value="OK">
</p>
          </div>

      <!-- BOX 8 -->
      <div class="show" id="profile" style="display:none;">
              <h2>Edit Profile</h2>
        <p class="info">
         <form method="post" name="f3">
<label for="did">Docter ID:</label> <input type="text" id="pid" value=""
readonly="readonly">

<label for="pname">Name:</label> <input type="text" id="pname" value=""
readonly="readonly">

<label for="email">E-mail: </label><input type="text" id="email" value=""><input
type="button" id="e1" onclick=editoo("email") value="Edit">

<label for="phno">Phone Number: </label><input type="text" id="phno" value="" ><input
type="button" id="e2" onclick=editoo("phno") value="Edit">

<label for="add">Address: </label><input type="text" id="add" value="" ><input type="button"
id="e3" onclick=editoo("add") value="Edit">

<label for="pswd">Password:</label> <input type="password" id="pswd" value="" ><input
type="button" id="e4" onclick=editoo("pswd") value="Edit">

<input type="button" value="Save" onclick=det_save()>
</form>
          </p>
  </div>

4.6 proj_main_doc.php
```php
        <?php
session_start();
$servername = "localhost";
$username = "root";
$password = "rootpassword";
$dbname = "iwp";
$conn = new mysqli($servername, $username,$password, $dbname);
if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
}
```

```php
$uname=$_SESSION['username'];
$uid=$_SESSION['uid'];
$pass=$_SESSION['password'];
$query="select * from doctors where uid=".$uid;
$ans=$conn->query($query)->fetch_assoc();
$doctor_id=$ans["did"];
$doctor_name=$ans["dname"];
$doctor_email=$ans["email"];
$doctor_number=$ans["contactno"];
$doctor_address=$ans["addr"];

function consult(){
    $servername = "localhost";
    $username = "root";
    $password = "rootpassword";
    $dbname = "iwp";

    $conn = new mysqli($servername, $username,$password, $dbname);
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }
    $a="select * from images where status=0";
    $ans=$conn->query($a);
    $fstr="";
    while($row=$ans->fetch_assoc()){
        $str="";
        $a="select pname,pid,email,dob from patients where pid=".$row["pid"];
        $ans1=$conn->query($a)->fetch_assoc();

$str=$str.$row["date"]."*".$ans1["pname"]."*".$row["mid"]."1"."*".$row["answers"]."*".$ans1["
pid"]."*".$ans1["email"]."*".$ans1["dob"];
        $fstr=$fstr.$str."^";

    }
    $conn->close();
    echo $fstr;
}
function sendconsult()
{
    $val=htmlspecialchars($_GET["ans"]);
    $mm=rtrim(htmlspecialchars($_GET["mid"]),"1");
    $servername = "localhost";
    $username = "root";
```
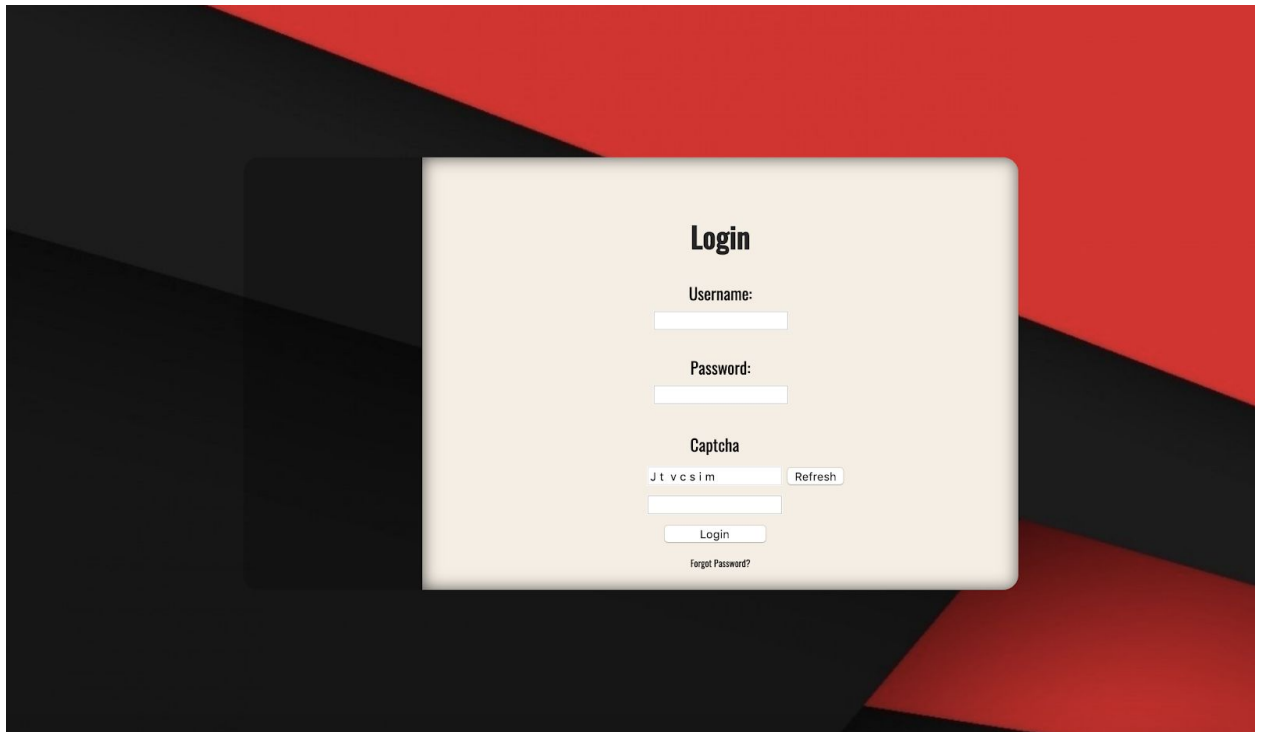
```php
    $password = "rootpassword";
    $dbname = "iwp";
    $conn = new mysqli($servername, $username,$password, $dbname);
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);}
        $query="update images set status=1,did=".$GLOBALS["doctor_id"].", diagnostic="'.$val."'
    where mid=".$mm;
    $ans=$conn->query($query);
    $conn->close();
    if($ans)
    echo "yes";
    else
        echo "nyet";
}
```

5. SAMPLE SCREENSHOTS

Consult Doctor

Symptoms Diagnosis:
Please answer the questions below as accurately as possible for an accurate diagnosis:

Skin type?
Dry: ○
Oily: ○

Were you recently exposed to any allergens?
○ Yes ○ No

Was the affected area recently exposed to excess Sunlight?
○ Yes ○ No

Home

Consult Doctor

My Diagnostics

Appointments

Our Doctors

DermoBot

Edit Profile

Help

Appointments

Scheduled Appointment: None

Schedule Appointment:
Which doctor would you like to book an appointment with?
Dr.Kumar ○   Dr.Anand ○   Dr.Mukkesh ○

Select your date:

| dd / mm / yyyy |

Check Availability

Choose your time slot:
9-9:30AM: ○   3-3:30PM: ○

Home

Consult Doctor

My Diagnostics

Appointments

Our Doctors

DermoBot

Edit Profile

Help

Screen 1

- Home
- Consult Doctor
- My Diagnostics
- Appointments
- Our Doctors
- DermoBot
- Edit Profile
- Help

Dr.Anandi has done her Master of Science in Dermatology from University of Minnesota-Twin Cities. She is a sensitive and careful dermatologist specializing in providing preventive skin care to both children and adults. She has strong expertise in improving skin health through development of corrective methods controls and procedures and has proven research ability in standardizing skin care procedures. She was earlier an associate Dermatologist at St. James Hospital,Rochester, MN.

Map Satellite

NORTH AMERICA

EUROPE

ASIA

Screen 2

- Home
- Consultations
- Appointments
- History
- Edit Profile
- Help

Help

Customer care: +91 9841045580

Send email:

Type your message here.

Send

6. CONCLUSION AND SCOPE OF IMPROVEMENT

The developed website is capable of handling multiple users while providing them all the aforementioned functionalities. Dynamic image loading, real-time email , password hashing, SQL Injection prevention, dynamic profile editing, scheduling appointments and silent AJAX driven client-server communications were all tested, debugged and implemented. A basic MMDB which stores the paths of the uploaded images was created. This MMDB also takes care of consistency by using the patient IDs as foreign keys. The scope of this project could be extended far more to integrate more advanced and sophisticated features such as data analytics. Machine Learning and image processing techniques could be implemented to automate the process of diagnosis and assist doctors. Apart from this, the process of scheduling appointments could also be augmented to give the patient valid suggestions based on his/her requirements. MongoDB can also be used to store the static images, so that it can be accessed faster by the website. Natural Language Processing and Natural Language Generation can be used in python to create our own chatbot, instead of using tools which build the same.