

CSE370 : Database Systems Project Report

Project Title: Healthcare Appointment System

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Introduction

In the realm of healthcare management, where time and communication are critical, we present our Healthcare Appointment System project—a sophisticated yet user-friendly solution crafted using PHP, HTML, CSS, MySQL, and a dash of JavaScript.

Navigating the complexities of healthcare appointments can be a daunting task, both for patients seeking timely medical attention and for healthcare providers striving to deliver efficient care. Our Healthcare Appointment System addresses these challenges head-on, offering an elegant digital platform that streamlines appointment scheduling, enhances provider-patient interactions, and reduces administrative burdens.

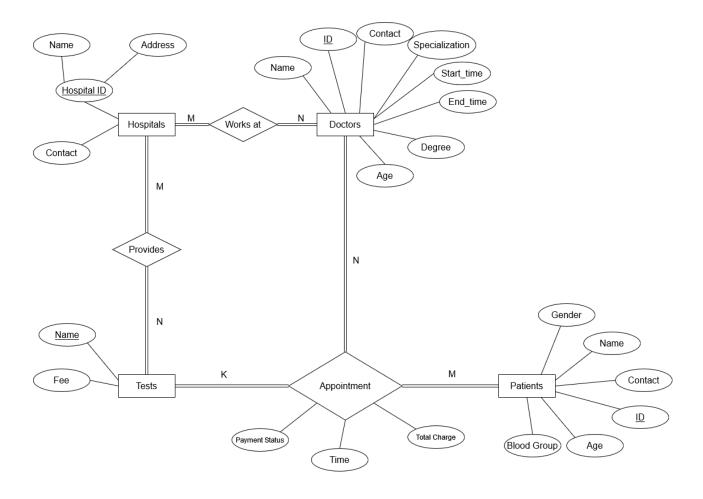
- **PHP:**The backbone for server-side processing and communication with the database.
- **HTML and CSS:** The interfaces are designed using HTML and CSS, prioritizing functionality and ease of use.
- MySQL: The project relies on MySQL for secure data storage, including patient and doctor profiles, hospital lists and appointment records.
- **JavaScript:** While not the main focus, JavaScript adds subtle interactivity and enhancements to user experience.

As we unveil our Healthcare Appointment System, we invite you to explore the fusion of healthcare and technology that promises to redefine the way medical appointments are managed. With a commitment to simplicity and efficacy, our project seeks to create a harmonious bridge between patients and healthcare providers, ushering in a new era of streamlined healthcare management.

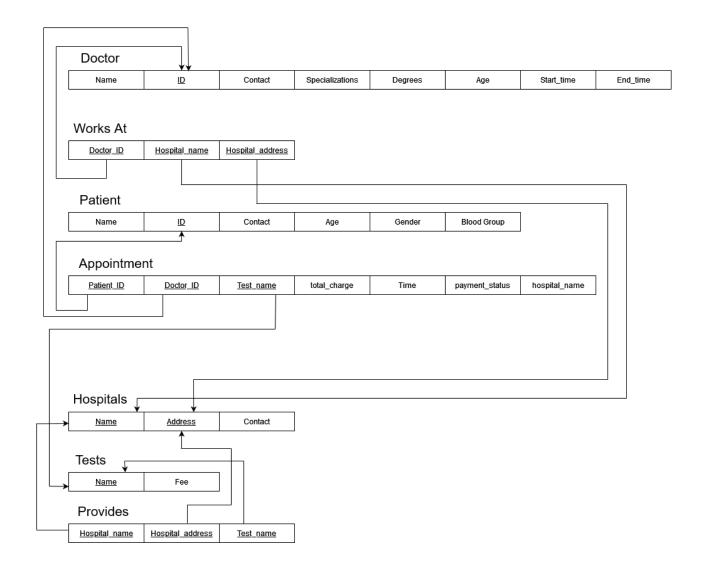
Project Features

- Doctor and patient sign up
- Doctor and patient log in
- Admin login
- Doctor and patient information update
- Addition of hospital
- Search available doctors
- Check available hospitals
- Doctor and test appointment
- Check and cancel appointments
- Payment

ER/EER Diagram



Schema Diagram



Frontend Development

User-Centric Design:

- Prioritize intuitive navigation and clear actions.
- Ensure access to info for doctors and patients.

Responsive Design:

• Makes the system work seamlessly on all devices.

Modular Components:

• Reusable menus, headers, buttons for consistency.

Search and Listings:

• Effective search with clear results presentation.

User Profiles:

• Comprehensive profiles with visuals.

Appointment Flow:

• Step-by-step booking, simplified selections.

Signup and Authentication:

• Secure signup and login for all users.

Appointment Management:

• Organized histories, clear views.

Payment Integration:

• Smooth, secure online transactions.

Visual Consistency:

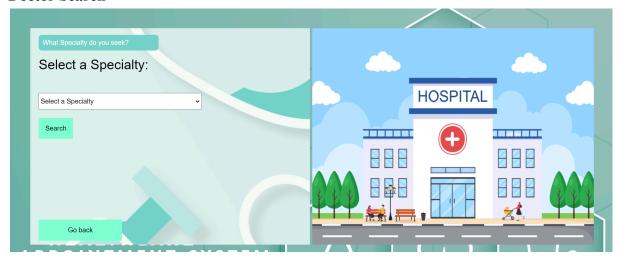
• Uniform theme, colors, icons.

Accessibility:

• Follow standards, consider disabilities.



Doctor Search



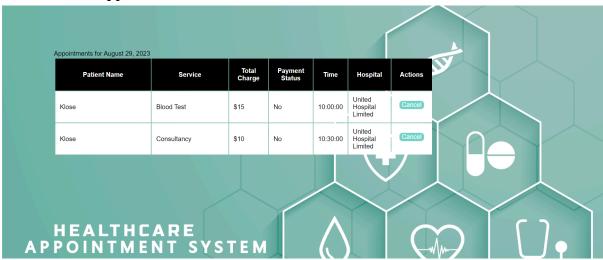
Doctor Details



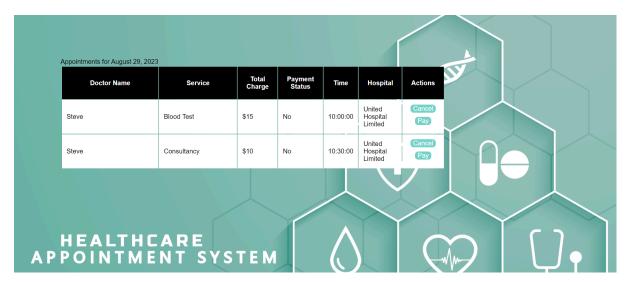
Patient Details



Doctor Check appointments:



Patient Check Appointment



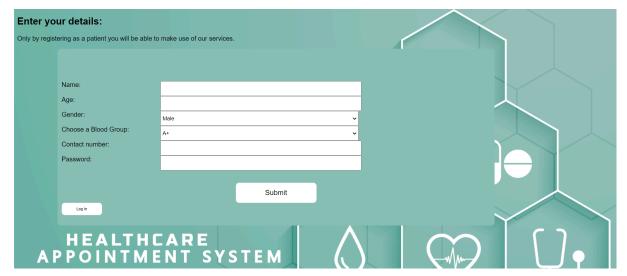
Doctor Search result



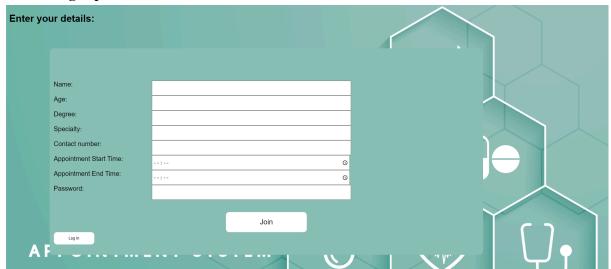
Hospital List



Patient Signup form



Doctor Signup form



Appointment form

Service selection



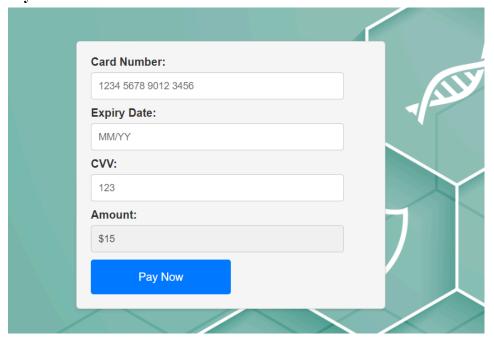
Hospital selection



Doctor selection



Payment form



Backend Development

User Management:

- Developed secure doctor and patient sign up and login scripts with password hashing.
- Created user-specific dashboards for doctors and patients.

Hospital Handling:

• Implemented scripts to add hospitals and assign doctors to hospitals.

Appointment Management:

- Built appointment scripts for patients to book appointments.
- Developed scripts for patients to schedule test appointments.

Data Deletion:

• Created secure scripts for deleting doctor and patient information.

Appointment Tracking:

• Implemented scripts for doctors and patients to view their respective appointments.

Payment Option:

- Integrated payment option into the system.
- Placeholder for future payment gateway integration.

Search Functionality:

• Developed doctor and patient search scripts for easier navigation.

Password Security:

• Utilized password hashing for enhanced security.

Contribution of ID: 21301171, Name: Avishek Paul

doctor join.php

```
<?php
    require_once("connect.php");
    $age = $_POST['age'];
$degree = $_POST['degree'];
    $spec = $_POST['spec'];
$contact = $_POST['contact'];
      $start = $_POST['starttime'];
$end = $_POST['endtime'];
    $password = $_POST['password'];
    $sql = "INSERT INTO doctor (name, age, degree, specialization, contact, slot, start_time, end_time, password) VALUES ('$name', '$age', '$spec', '$spec', '$spec', '$sart', '$end', '$password')";
    $row = $getid_result->fetch_assoc();
          $getid = $row['id'];
          $message = "Congratulations You are now a Doctor, Your ID is $getid";
          mysqli_close($conn);
          header("Location: ../forms/doctor_signup.php?message=" . urlencode($message));
          exit();
          $message = "Unable to register. Please try again.";
          mysqli_close($conn);
          header("Location: ../forms/doctor_signup.php?message=" . urlencode($message));
hopitaljoin.php
       require_once('connect.php');
       session_start();
       $hospital_key = $_POST['hospital'];
       list($name, $address) = explode('|', $hospital_key);
       if (!isset($_SESSION["id"])) {
            header("Location: forms/doctor_details.php");
            exit();
       $session_id = $_SESSION["id"];
       $sql = "INSERT IGNORE INTO doctor_works_at values ('$session_id','$name', '$address')";
       if ($conn->query($sql)) {
            if ($conn->affected_rows>0) {
                $message = "Successfully Joined. If you would like to join another please select below.";
            } else {
                $message = "You are already a part of this hospital, Try another hospital.";
            mysqli_close($conn);
            header("Location: ../doctor_details.php?message=" . urlencode($message));
            exit();
       } else {
            $message = "Unable to Join. Please try again.";
            mysqli_close($conn);
            header("Location: ../doctor_details.php?message=" . urlencode($message));
            exit();
       }
```

doctor_loginscript.php

13

```
<?php
   session_start();
   require_once("connect.php");
   $error = '';
   $id = $ POST["id"];
   $password = $_POST["password"];
   $query = "SELECT id FROM doctor WHERE id = $id AND password = '$password'";
   $result = $conn->query($query);
   if ($result->num rows == 1) {
       // Successful login
       $_SESSION["id"] = $id;
       $_SESSION["user_type"] = "doctor";
       header("Location: ../doctor_details.php");
   } else {
       // Invalid credentials
       $error = "Invalid ID or password.";
   $conn->close();
```

check_doctor_appointment

```
<?php
$currentDate = date("F d, Y");
session_start();
if (!isset($ SESSION["id"])) {
   header("Location: forms/doctor_login.php");
$d_id = $_SESSION["id"];
require_once("php_scripts/connect.php");
$deleteId = $_POST['patient_id'];
   $deletetest = $_POST['test_name'];
   $deleteSql = "DELETE FROM appointment WHERE doctor_id=$d_id AND patient_id=$deleteId AND test_name='$deletetest'";
   if ($conn->query($deleteSql) === TRUE) {
      echo "Appointment Cancelled.";
   } else {
      echo "Error cancelling appointment";
}
$sql = "SELECT patient_id, patient.name as p_name, test_name, total_charge, payment_status, time, hospital_name FROM appointment JOIN p
$result = $conn->query($sql);
echo "Appointments for " . $currentDate;
if ($result->num_rows > 0) {
   while ($row = $result->fetch_assoc()) {
      echo "";
      echo "" . $row["p_name"] . "";
      echo "" . '$' . $row["total_charge"] . "";
      echo "" . $row["payment_status"] . "";
      echo "" . $row["time"] . "";
      echo "" . $row["hospital_name"] . "";
      if ($row['payment status']==="No") {
```

update_docotor_contact.php

```
<?php
    session_start();
    require_once('connect.php');

$newnum = $_POST["new_contact"];

if (!isset($_SESSION["id"])) {
        header("Location: ../doctor_details.php");
        exit();
}

$session_id = $_SESSION["id"];

$query = "UPDATE doctor SET contact = '$newnum' WHERE id = $session_id";

if ($conn->query($query)) {
        $_SESSION["message"] = "Updated contact";
} else {
        $_SESSION["message"] = "Failed to update contact";
}
header("Location: ../doctor_details.php");
exit();
?>
```

delete doctor.php

```
<?php
   session_start();
   require_once('connect.php');
   if (!isset($_SESSION["id"])) {
       header("Location: ../doctor_details.php");
       exit();
   }
   $session_id = $_SESSION["id"];
   $query = "DELETE FROM doctor WHERE id = $session_id";
   if ($conn->query($query)) {
       $_SESSION["message"] = "Doctor record deleted successfully.";
   } else {
        $_SESSION["message"] = "Error";
   }
   header("Location: ../forms/doctor_login.php");
   exit();
?>
```

Contribution of ID: 21201457, Name: Mitul Roy Tanny

change_hospitals.php

```
<?php
41
                                    require_once("php_scripts/connect.php");
                                    if ($_SERVER["REQUEST_METHOD"] == "POST" && isset($_POST["name_key"])) {
                                       $deletename = $_POST["name_key"];
43
                                       $deleteaddr = $_POST['address_key'];
                                       $deleteSql = "DELETE FROM hospital WHERE Name = '$deletename' and Address = '$deleteaddr'";
45
                                       if ($conn->query($deleteSql) === TRUE) {
                                           echo "Record deleted successfully.";
47
                                       } else {
                                           echo "Error deleting record: ";
49
50
52
53
                                    $sql = "SELECT * FROM hospital";
                                    $result = $conn->query($sql);
54
                                    if ($result->num_rows > 0) {
56
                                       while ($row = $result->fetch_assoc()) {
                                          echo "";
58
                                          echo "" . $row["Name"] . "";
59
                                          echo "" . $row["Address"] . "";
60
                                           echo "" . $row["Contact"] . "";
61
62
                                           echo "
                                                  <form method='POST'>
63
                                                     <input type='hidden' name='name_key' value='" . $row["Name"] . "'>
                                                      <input type='hidden' name='address_key' value='" . $row["Address"] . "'>
65
                                                      <button type='submit'>Delete</button>
67
                                              ";
69
                                           echo "";
                                       }
70
                                       echo "No Hospitals Available.";
72
74
                                    $conn->close();
```

```
require_once("php_scripts/connect.php");
41
                                    if ($_SERVER["REQUEST_METHOD"] == "POST" && isset($_POST["delete"])) {
                                        $deleteId = $ POST["delete"];
42
43
                                        $deleteSql = "DELETE FROM test WHERE Name = '$deleteId'";
44
                                                                         $deleteassoc = "DELETE FROM hospital_test WHERE test_name='$deleteId'";
                                        if ($conn->query($deleteSql) === TRUE) {
45
                                                                                 $conn->query($deleteassoc);
47
                                            echo "Record deleted successfully.";
                                        } else {
48
                                           echo "Error deleting record: ";
49
50
53
                                    $sql = "SELECT * FROM test";
54
                                    $result = $conn->query($sql);
55
56
                                    if ($result->num_rows > 0) {
                                        while ($row = $result->fetch_assoc()) {
58
                                           echo "";
                                           echo "" . $row["Name"] . "";
59
                                           echo "" . '$' . $row["Fee"] . "";
60
61
                                           echo "
62
                                                   <form method='POST'>
                                                      <input type='hidden' name='delete' value='" . $row["Name"] . "'>
                                                      <button type='submit'>Delete</button>
65
                                                  </form>
66
                                               ";
67
68
                                    } else {
                                       echo "No Tests Available.";
70
71
72
                                    $conn->close();
 1
         <?php
```

test addition.php

```
2
           require_once("connect.php");
 3
 4
           $name = $_POST['name'];
           $fee = $_POST['fee'];
 5
               $hospitaln = $_POST['hospitalname'];
 6
           $hospitala = $_POST['hospitaladdr'];
 8
 9
           $sql = "INSERT IGNORE INTO test VALUES ('$name', $fee)";
               $sq12 = "INSERT IGNORE INTO hospital_test VALUES ('$hospitaln', '$hospitala', '$name')";
10
11
           if ($conn->query($sql)) {
12
                               $conn->query($sq12);
                   $message = "'$name' added.";
13
14
                   mysqli_close($conn);
15
                   header("Location: ../forms/add test.php?message=" . urlencode($message));
17
                   exit();
18
               } else {
19
                   $message = "Unable to register. Please try again.";
20
                   mysqli_close($conn);
21
                   header("Location: ../forms/add_test.php?message=" . urlencode($message));
22
23
                   exit();
24
               }
25
       3>
```

hospital_addition.php

```
1
       <?php
2
           require_once("connect.php");
3
4
           $name = $_POST['name'];
           $addr = $_POST['address'];
5
           $contact = $_POST['contact'];
6
 7
8
           $sql = "INSERT IGNORE INTO hospital VALUES ('$name', '$addr', $contact)";
9
           if ($conn->query($sql)) {
               if ($conn->affected_rows>0) {
10
                   $message = "'$name' added.";
11
                   mysqli_close($conn);
12
13
               } else {
                   $message = "$name already exists";
15
                   mysqli_close($conn);
16
17
                   header("Location: .../forms/add\_hospital.php?message=" . urlencode(\$message));\\
18
                   exit();
19
               } else {
20
                   $message = "Unable to register. Please try again.";
                   mysqli_close($conn);
21
22
23
                   header("Location: ../forms/add_hospital.php?message=" . urlencode($message));
24
                   exit();
25
               }
26
       ?>
```

patient_entry.php

```
require_once("connect.php");
   $name = $ POST['name'];
   $age = $_POST['age'];
   $gender = $_POST['gender'];
   $blood = $_POST['bloodgroup'];
   $contact = $_POST['contact'];
   $password = $_POST['password'];
   $sql = "INSERT INTO patient (name, age, gender, bloodgroup, contact, password) VALUES ('$name', '$gge', '$gender', '$blood', '$contact', '$password')";
   if ($conn->query($sql)) {
      $getid_query = "SELECT id FROM patient ORDER BY id DESC LIMIT 1";
      $getid_result = $conn->query($getid_query);
      $row = $getid_result->fetch_assoc();
      $getid = $row['id'];
      $message = "Inserted Successfully, Your ID is $getid";
       mysqli_close($conn);
      header("Location: ../forms/patient_signup.php?message=" . urlencode($message));
      $message = "Insertion Failed: ";
      mysqli_close($conn);
      header("Location:../forms/patient_signup.php?message=" . urlencode($message));
patient loginscript.php
  <?php
       session_start();
       require_once("connect.php");
       $error = '';
       $id = $_POST["id"];
       $password = $_POST["password"];
       $query = "SELECT id FROM patient WHERE id = $id AND password = '$password'";
       $result = $conn->query($query);
       if ($result->num_rows == 1) {
            $ SESSION["id"] = $id;
             $_SESSION["user_type"] = "patient";
            header("Location: ../patient_details.php");
            exit();
       } else {
            $error = "Invalid ID or password.";
       }
```

update_patient_contact

?>

```
<?php
    session_start();
    require_once('connect.php');
    $newnum = $_POST["new_contact"];
    if (!isset($_SESSION["id"])) {
       header("Location: ../patient_details.php");
       exit();
    $session_id = $_SESSION["id"];
    $query = "UPDATE patient SET contact = '$newnum' WHERE id = $session_id";
    if ($conn->query($query)) {
       $_SESSION["message"] = "Updated contact";
    } else {
       $_SESSION["message"] = "Failed to update contact";
    header("Location: ../patient_details.php");
    exit();
?>
delete patient
 <?php
     session_start();
     require_once('connect.php');
     if (!isset($_SESSION["id"])) {
         header("Location: ../patient_details.php");
         exit();
     }
     $session_id = $_SESSION["id"];
     $query = "DELETE FROM patient where id = $session_id";
     if ($conn->query($query)) {
         $_SESSION["message"] = "Patient record deleted successfully.";
     } else {
         $_SESSION["message"] = "Error";
     header("Location: ../forms/patient_login.php");
     exit();
 ?>
```

20

Contribution of ID: 21241006, Name: Nabil Hossain Chowdhury adminlog.php

```
1
       <?php
2
       if ($_SERVER["REQUEST_METHOD"] == "POST") {
           $enteredId = $_POST["id"];
4
           $enteredPassword = $_POST["password"];
5
           if ($enteredId === "00000" && $enteredPassword === "12345") {
7
               header("Location: ../adminpage.php");
           } else {
               echo "Invalid ID or password.";
9
               header("Location: ../forms/adminlogin.php");
10
11
12
       }
       ?>
13
```

get_hospital_address.php

```
1
       <?php
2
       require_once('connect.php');
 3
4
       if(isset($_POST['hospital'])) {
           $selectedHospital = $_POST['hospital'];
 6
 7
           $sql = "SELECT address FROM hospital WHERE name = '$selectedHospital'";
           $output = $conn->query($sql);
8
10
           if ($output->num_rows > 0) {
               while ($r = $output->fetch_assoc()) {
11
12
                   $hospitaladdr = $r["address"];
                   echo "<option value='" . $hospitaladdr . "'>" . $hospitaladdr . "</option>";
13
14
               }
15
           } else {
               echo "<option>No Addresses Available</option>";
16
           }
17
18
       }
       $conn->close();
19
20
       ?>
```

appointmentscript.php

```
1
        <?php
 2
             session_start();
 3
             require_once('connect.php');
 4
 5
            $patientId = $ POST['patient_id'];
 6
 7
            $selectedDoctorId = $ POST['doctor'];
 8
 9
            $selectedtest = $ POST['selected_test'];
10
             $presql = "SELECT start_time FROM doctor where id=$selectedDoctorId";
                  $pre_result = $conn->query($presq1);
                  if ($pre_result->num_rows>0) {
                            $one = $pre_result->fetch_assoc();
14
                            $time = $one['start_time'];
15
16
17
18
                  $hospital = $_POST['selected_hospital'];
19
                  $doctime = $conn->query("SELECT name, slot, start_time, end_time from doctor where id = $selectedDoctorId");
20
21
                  if ($doctime->num_rows == 1) {
                            $rows = $doctime->fetch_assoc();
22
23
                            $docname = $rows['name'];
24
                            $available_slot = $rows['slot'];
25
                            $start = $rows['start_time'];
26
                            $end = $rows['end_time'];
27
                  }
28
29
              if ($available slot < 5) {
30
 31
                     if ($time >= $start && $time <= $end) {</pre>
                            $q = $conn->query("SELECT fee from test where name='$selectedtest'");
32
 33
                            if ($q->num_rows == 1) {
 34
                                   $row = $q->fetch_assoc();
 35
                                   $fee = $row["fee"];
 36
 37
                            $$ql = "INSERT IGNORE INTO appointment VALUES ($patientId, $selectedDoctorId, '$selectedtest', $fee, '$time', 'No', '$hospital')";
 38
                            $sql2 = "UPDATE doctor set start_time = DATE_ADD(start_time, INTERVAL 30 MINUTE)";
 39
                            if ($conn->query($sql)) {
 40
                                   if ($conn->affected_rows > 0) {
 41
                                           $slot_increment = "UPDATE doctor SET slot = slot + 1 where id=$selectedDoctorId";
 42
                                           $conn->query($sql2);
 43
                                           $conn->query($slot_increment);
 44
                                           $message = "Your appointment is created for $time and you owe $$fee, please reach $hospital before the appointed time";
 45
                                           $message = "You already have an appointment for $selectedtest with Dr. $docname";
                                    mysqli_close($conn);
 48
                                    header("Location: ../forms/appointment\_selecttest.php?message=" . urlencode($message));\\
 51
                                   exit();
                            } else {
                                   $message = "Unable to create an appointment. Please try again.";
 53
 54
                                   mysqli_close($conn);
 55
 56
                                    header("Location: ../forms/appointment_selecttest.php?message=" . urlencode($message));
57
                                   exit();
58
                            }
                     } else {
59
60
                            mysqli close($conn);
                            $message = "Selected appointment time is outside of doctor's working hours.";
61
                            header("Location: ../forms/appointment selecttest.php?message=" . urlencode($message));
62
 63
             } else {
64
                     mvsali close($conn):
65
 66
                     $message = "This doctor cannot take anymore patients.";
67
                     header("Location: ../forms/appointment_selecttest.php?message=" . urlencode($message));
68
             }
 69
      25
```

connect.php

```
<?php
 2
           $servername = "localhost";
 3
           $username = "root";
           $password = "";
 4
           $dbname= "healthcare";
 5
 6
           $conn = new mysqli($servername, $username, $password, $dbname);
 8
           if($conn->connect_error){
 9
               die("Connection failed: " . $conn->connect_error);
10
11
           else{
12
               mysqli_select_db($conn, $dbname);
13
14
       ?>
```

logout.php

payment.php

javascript

```
1 ∨ function validatetestform() {
           var testDropdown = document.getElementById("test");
 3
           var selectedTest = testDropdown.options[testDropdown.selectedIndex].text;
           if (selectedTest === "Tests Currently Unavailable") {
 5
               alert("Tests are not available. Please Try again later.");
               return false;
           }
 9
           return true;
10
       }
11 ∨ function validatedoctorform() {
        var testDropdown = document.getElementById("doctor");
13
         var selectedTest = testDropdown.options[testDropdown.selectedIndex].text;
14
         if (selectedTest === "No Doctors Available") {
             alert("No Doctor available. Please Try again later.");
16
17
             return false;
         }
19
         return true;
20
21 ∨ function validatehospitalform() {
22
        var testDropdown = document.getElementById("hospital");
23
         var selectedTest = testDropdown.options[testDropdown.selectedIndex].text;
         if (selectedTest === "This test does not exist in any hospital") {
25
             alert("Hospitals are not available. Please Try again later.");
             return false;
28
         }
29
         return true;
      }
31 ∨ function validatesearch() {
32
          var selectedValue = document.getElementById("specialty").value;
33
          if (selectedValue === "") {
35
               alert("No Specialty Selected.");
36
              return false;
37
          }
38
          return true:
39
        }
        $(document).ready(function() {
40
41
          $("#hospitalname").change(function() {
42
               var selectedHospital = $(this).val();
43
               $.ajax({
                   url: "../php_scripts/get_hospital_address.php",
44
45
                   method: "POST",
                   data: { hospital: selectedHospital },
46
                   dataType: "html",
47
48
                   success: function(response) {
49
                       $("#hospitaladdr").html(response);
50
51
               });
          });
52
53
        });
```

Conclusion

In conclusion, our healthcare appointment system merges security, efficiency, and user-friendliness. By emphasizing data protection, streamlined functionality, and ease of use, we've developed a robust platform. With features like appointment scheduling, advanced search options, and password hashing, our system is poised to revolutionize healthcare appointment management. Its potential is further amplified by the foundation for payment integration, ensuring a comprehensive solution. This platform bridges the gap between patients and doctors, offering a seamless and secure way to manage appointments. Our dedication to enhancing healthcare appointment management reflects our commitment to improving patient-doctor interactions and overall healthcare experiences

References

- 1. PHP Full Course for non-haters (2023)
- 2. https://www.geeksforgeeks.org/connect-php-to-mysql/
- 3. https://www.geeksforgeeks.org/html/
- 4. https://youtu.be/awKaV9jQPXs
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