

Student Management System Proton

A Research Work Submitted for the partial fulfilment of
requirement in Computer Science of Class 12



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Thank you all

Name of student: Ritik Yadav

Date: 2079-11-22

Proton

THE STUDENTS MANAGEMENT WEBSITE:

Introduction:

The website project aimed to create a platform for users to register, add their details, sign in, update data, delete data, and read data. It also provided administrative privileges to update and delete user details. The project was developed using programming languages such as PHP, HTML, CSS, and JavaScript, with a MySQL database to store the user details.

Web Technology Used:

Front-End

- HTML
- CSS
- JavaScript

Back-End

- PHP
- MySQL

Database

- MySQL

The website has two types of users: general users and administrators. General users can create an account, log in, update their personal information, and access the website's features such as the post section. On the other hand, administrators have additional privileges such as the ability to update or delete user details, manage posts, and access more advanced features related to the website's technical aspects. The website has implemented strict security measures to ensure that only authorised users can access the administrative features.

Functionality:

The website project had the following features:

User registration: Users could create an account on the website by providing their basic information such as name, username, email address, and password.

User login: Registered users could log in to their accounts using their username and password.

User details: Users could add their details such as stream, shift, phone number, year, and address after logging in to their accounts.

Post/publish information: The post section on the website allows users to exchange information and engage in discussions with one another, creating a sense of community and collaboration within the website.

User profile update: Users could update their profile details at any time by accessing the "Update Profile" section.

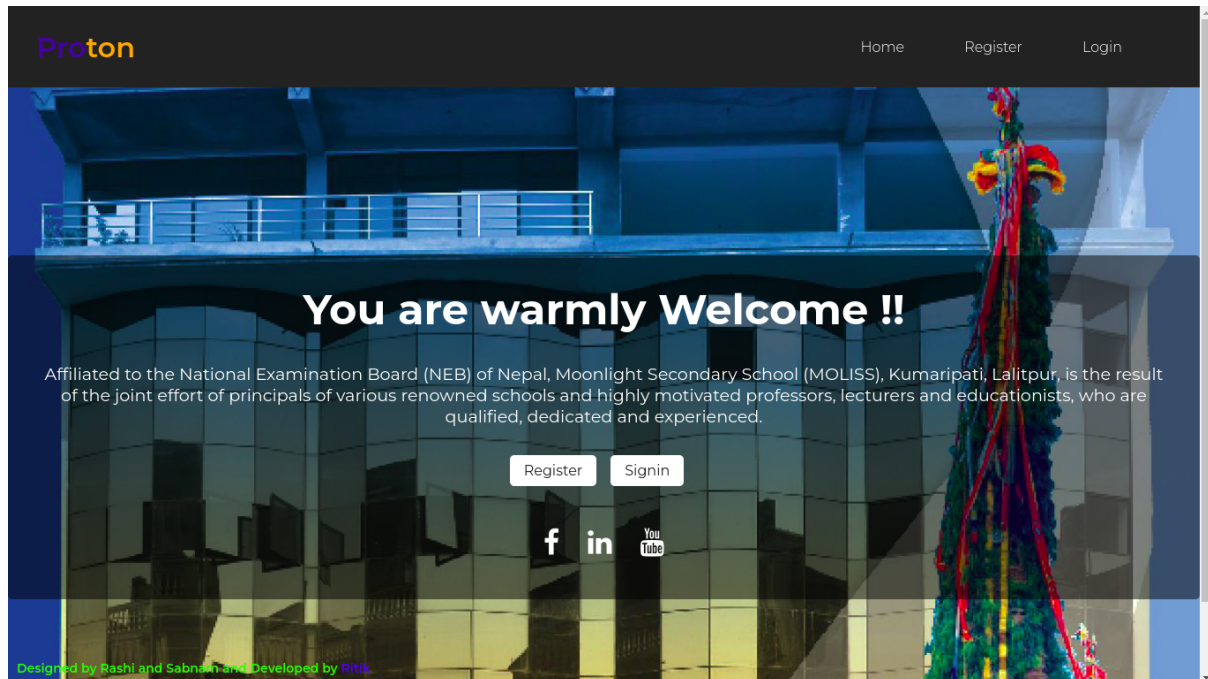
Admin privileges: The website had an admin panel that provided administrative privileges to update and delete user details. Only admin users could access the admin panel.

If the username and password entered are "admin" and "Admin@123", then the user will be granted administrative access to the system. Otherwise, the system will grant access as a general user.

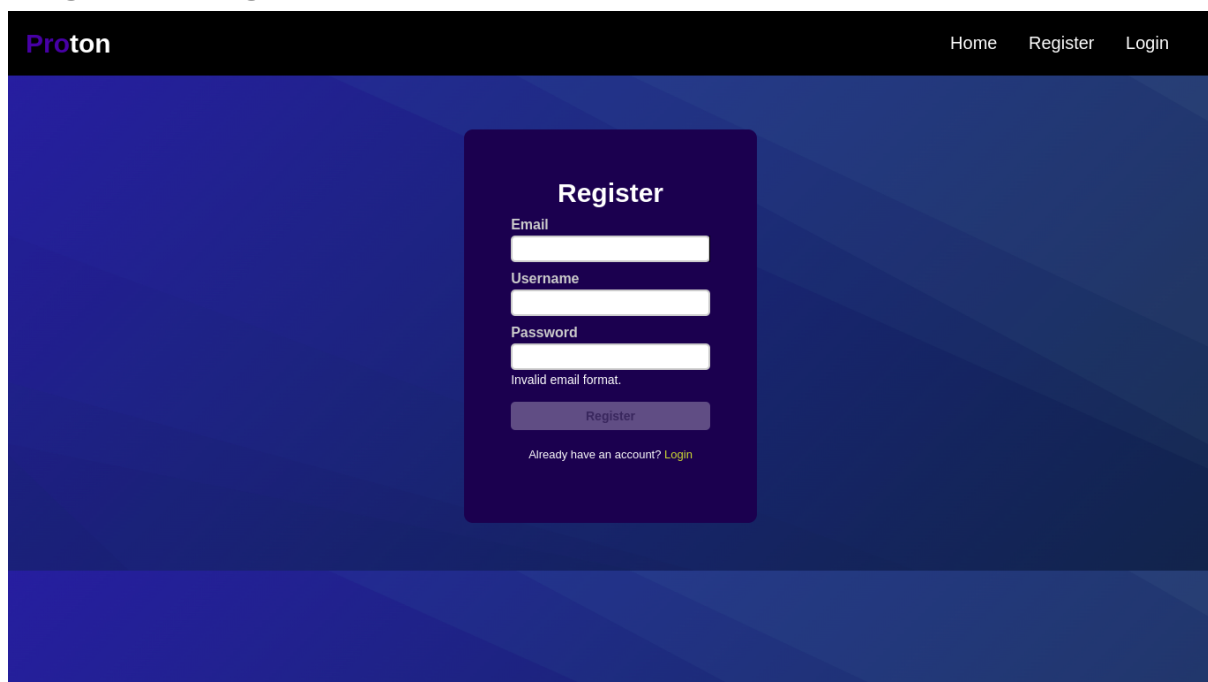
Encrypting passwords before saving them in the database is a good security practice. It prevents unauthorised access to user accounts in case of a data breach. When a user creates an account, their password is encrypted using a hashing algorithm and the hashed password is saved in the database. When the user logs in, the entered password is hashed using the same algorithm and compared to the hashed password saved in the database. If they match, the user is granted access. This ensures that even if the database is compromised, the attacker will not be able to read the plain text passwords.

Web Pages Design

Homepage



Register Page



Login Page

Proton

Home Register Login

Signin

Username

Password

[Forget password?](#)

Signin

Don't have an account? [Register](#)

Information Add/Edit page:

Proton

Home Register Login

Edit Your Details Correctly

Name

Phone

Address

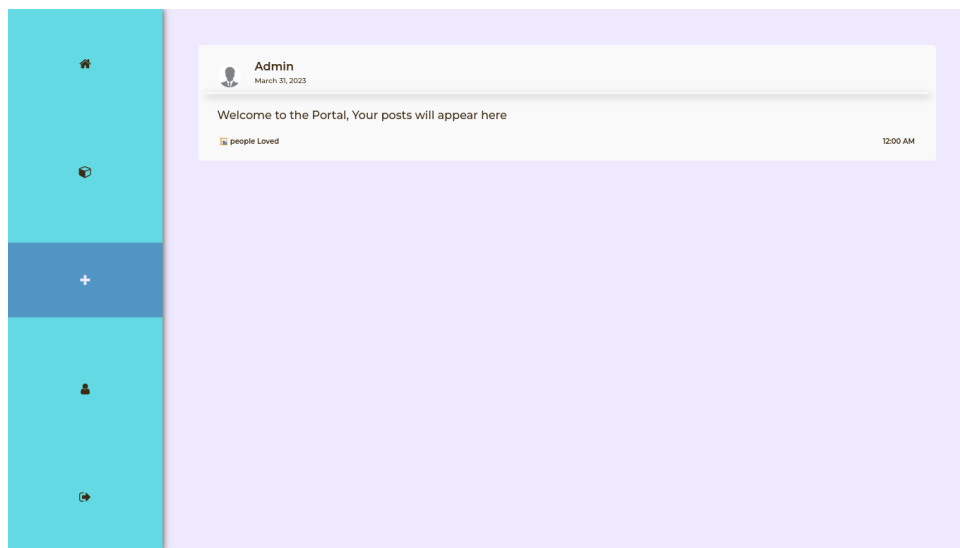
Stream

Shift

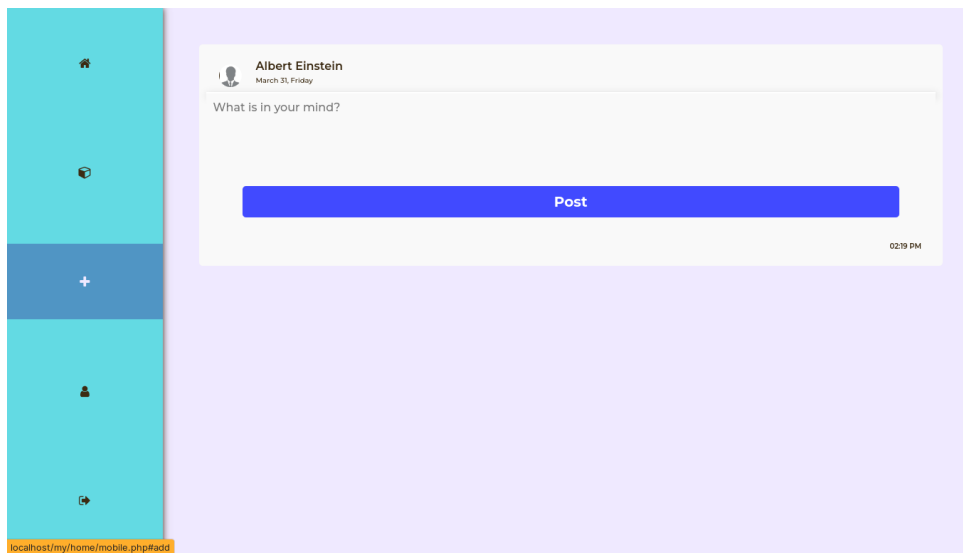
Year

Edit

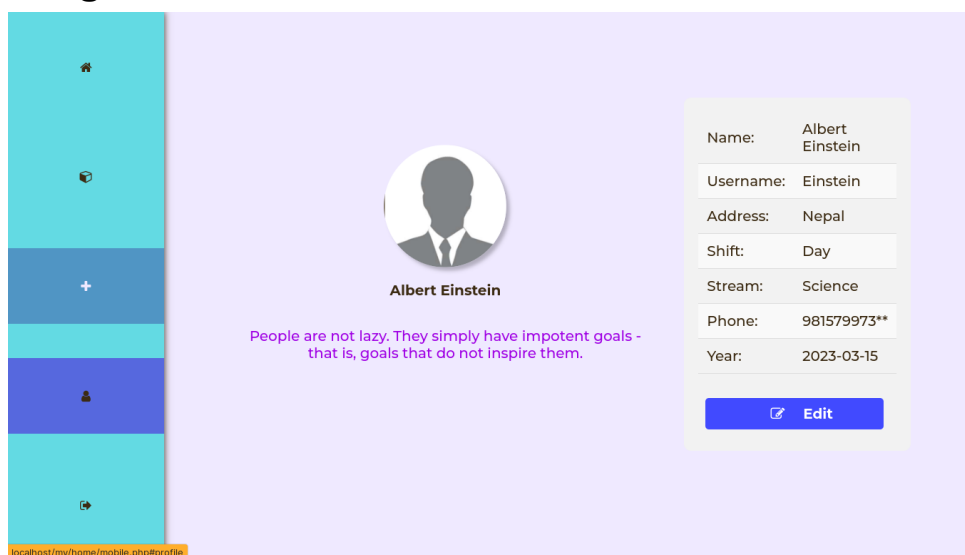
Welcome/Discussion Page:



Publish page:

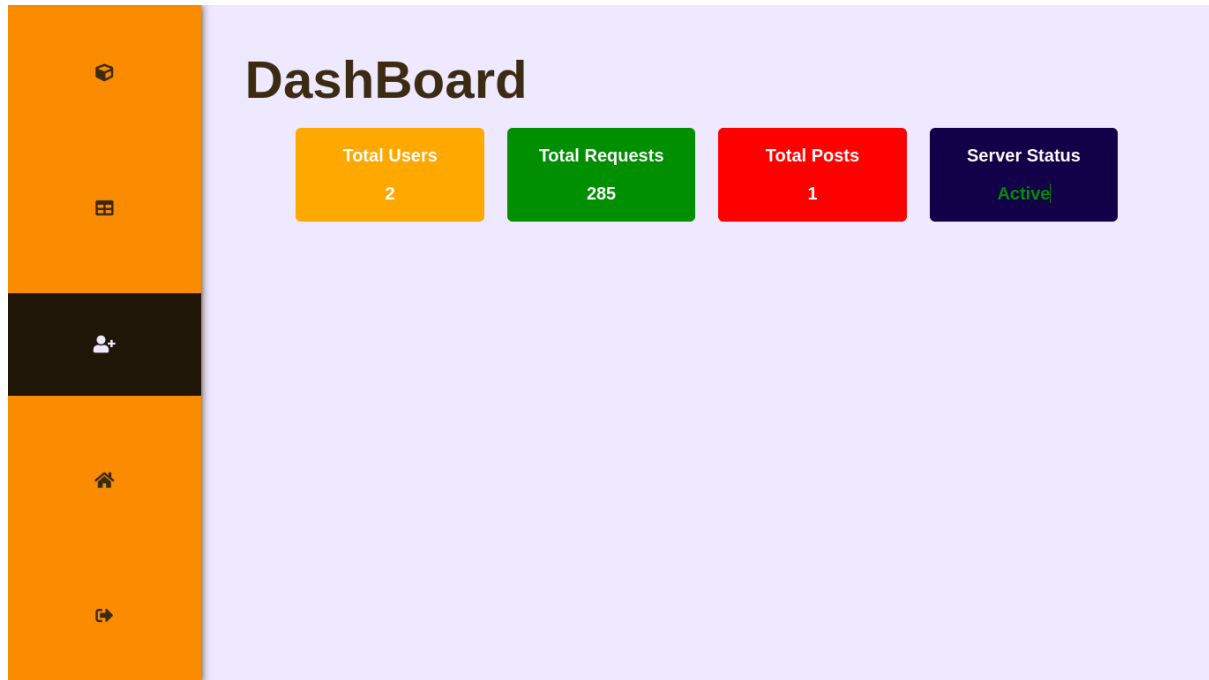


Profile Page



Admin Control Panel

Admin Dashboard



User Information table page:

The User Information table page features a sidebar with navigation icons: a shield, a grid, a user icon, a home icon, and a right arrow. The main content area is titled "Users" and displays a table with user information.

Users								
Username	Name	Stream	Shift	Phone	Year	Address	Edit	Delete
symbol	Albert Einstein	Science	Day	9815799735	2023-03-02	Siraha, Nepal		
Einstein	Albert Einstein	Science	Day	981579973**	2023-03-15	Nepal		

localhost/my/pages/admin.php#usertable

Creating Database and Tables using PHP and SQL:

```
<?php
// Database configuration
$host = 'localhost';
$username = 'root';
$password = '';
$databse = 'school';
// Create connection
$conn = mysqli_connect($host, $username, $password);
// Check connection
if (!$conn) {
    die("Connection failed: " . mysqli_connect_error());
}
// Check if database exists
$result = mysqli_query($conn, "SELECT SCHEMA_NAME FROM INFORMATION_SCHEMA.SCHEMATA WHERE SCHEMA_NAME = '$databse'");
if (mysqli_num_rows($result) == 0) {
    // Create database if it doesn't exist
    $sql = "CREATE DATABASE $databse";
    if (mysqli_query($conn, $sql)) {
    } else {
        echo "Error creating database: " . mysqli_error($conn);
    }
}
// Close connection
mysqli_close($conn);
// Create connection to school database
$conn = mysqli_connect($host, $username, $password, $databse);
// Check connection
if (!$conn) {
    die("Connection failed: " . mysqli_connect_error());
}
$password = 'Admin@123';
$password_hash = password_hash($password, PASSWORD_BCRYPT);
// Read SQL file
$sql = "CREATE DATABASE IF NOT EXISTS school;
USE school;
CREATE TABLE IF NOT EXISTS users (
    id INT AUTO_INCREMENT PRIMARY KEY,
    email VARCHAR(255) NOT NULL,
    username VARCHAR(255) NOT NULL,
    password VARCHAR(255) NOT NULL
);
CREATE TABLE IF NOT EXISTS userdetails (
    id INT AUTO_INCREMENT PRIMARY KEY,
    username VARCHAR(255) NOT NULL,
    name VARCHAR(255) NOT NULL,
    phone VARCHAR(255) NOT NULL,
    address VARCHAR(255) NOT NULL,
    stream VARCHAR(255) NOT NULL,
    shift VARCHAR(255) NOT NULL,
    year VARCHAR(255) NOT NULL
);
CREATE TABLE IF NOT EXISTS posts (
    post_id INT AUTO_INCREMENT PRIMARY KEY,
    message TEXT NOT NULL,
    post_time TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    user_name VARCHAR(255) NOT NULL
);
INSERT INTO `users` (`id`, `email`, `username`, `password`)
SELECT NULL, 'admin@gmail.com', 'admin', '$password_hash'
WHERE NOT EXISTS (SELECT * FROM `users` WHERE `username` = 'admin');
INSERT INTO `posts` (`post_id`, `message`, `post_time`, `user_name`) VALUES ('1', 'Welcome to the Portal, Your notices and discussion will appear here', CURRENT_DATE(), 'Admin');
";
// Execute SQL statements
if (mysqli_multi_query($conn, $sql)) {
} else {
    echo "Error executing SQL statements: " . mysqli_error($conn);
}
// Close connection
mysqli_close($conn);
?>
```

Code to perform Major Operation:

Inserting User Data to database code:

```
<?php
include('connection.php');
include('register-script.php');
session_start();
$username = $_SESSION['username'];
$_SESSION['username'] = $username;
if(isset($_POST['name']) && isset($_POST['phone']) && isset($_POST['address']) &&
isset($_POST['stream']) && isset($_POST['shift']) && isset($_POST['year'])){
    $name = $_POST['name'];
    $phone = $_POST['phone'];
    $address = $_POST['address'];
    $stream = $_POST['stream'];
    $shift = $_POST['shift'];
    $year = $_POST['year'];
    $_SESSION['name'] = $name;
    $_SESSION['username'] = $username;
    $_SESSION['phone'] = $phone;
    $_SESSION['address'] = $address;
    $_SESSION['stream'] = $stream;
    $_SESSION['shift'] = $shift;
    $_SESSION['year'] = $year;
    $email = $_SESSION['email'];
    $password = $_SESSION['password'];
    $password = password_hash($password, PASSWORD_BCRYPT);
    $authdata = "INSERT INTO `users` (`email`, `username`, `password`) VALUES ('$email',
'username', '$password')";
    $sql = "INSERT INTO `userdetails` (`username`, `name`, `phone`, `address`, `stream`,
`shift`, `year`) VALUES ('$username', '$name', '$phone', '$address', '$stream', '$shift',
'$year')";
    $result = mysqli_query($conn, $sql);
    $result = mysqli_query($conn, $authdata);
    if($result){
        echo "<script>alert('The record was inserted successfully')</script>";
        header("Location: ../home/mobile.php");
    }
    else{
        echo "The record was not inserted successfully because of this error ----> ".
mysqli_error($conn);
    }
}
?>
```

Reading data to show users detail table Code:

```
<?php
include('../scripts/connection.php');
$sql = "SELECT * FROM userdetails";
$result = mysqli_query($conn, $sql);
$total_user = mysqli_num_rows($result);
?>
<table>
  <thead>
    <tr>
      <th>Username</th>
      <th>Name</th>
      <th>Stream</th>
      <th>Shift</th>
      <th>Phone</th>
      <th>Year</th>
      <th>Address</th>
      <th>Edit</th>
      <th>Delete</th></tr></thead>
  <?php
  // Fetch the data from the users table
  $sql = "SELECT * FROM userdetails";
  $result = mysqli_query($conn, $sql);
  $total_user = mysqli_num_rows($result);
  if (mysqli_num_rows($result) > 0) {
    while ($row = mysqli_fetch_assoc($result)) {
      echo "
      <tr>
        <td>" . $row["username"] . "</td>
        <td>" . $row["name"] . "</td>
        <td>" . $row["stream"] . "</td>
        <td>" . $row["shift"] . "</td>
        <td>" . $row["phone"] . "</td>
        <td>" . $row["year"] . "</td>
        <td>" . $row["address"] . "</td>
        <td>
          <a href='modify.php?id=" . $row["id"] . "'><i class='fas fa-edit'></i></a>
          </td><td><a href='../scripts/delete-script.php?id=" . $row["id"] . "'><i class='fas
fa-trash-alt'></i></a></td></tr>
      ";
    } else {
      echo "<tr><td colspan='9'>No records found</td></tr>";
    }
    mysqli_close($conn);
  }
?>
</table>
```

Updating User details code:

```
<?php
include('connection.php');
if (isset($_GET['username'])) {
    $username = $_GET['username'];
    $sql = "SELECT id FROM userdetails WHERE username='$username'";
    $result = mysqli_query($conn, $sql);
    if (mysqli_num_rows($result) > 0) {
        $row = mysqli_fetch_assoc($result);
        $id = $row['id'];
    } else {
        echo "Username not found.";
        exit();
    }
}

$sql = "SELECT * FROM userdetails WHERE id=$id";
$result = mysqli_query($conn, $sql);

if (mysqli_num_rows($result) > 0) {
    $row = mysqli_fetch_assoc($result);
}
?>
```

Deleting User Details code:

```
<?php
include('connection.php');
$id = $_GET["id"];
$sql1 = "DELETE FROM userdetails WHERE id=$id";
$sql2 = "DELETE FROM users WHERE id=$id";

if (mysqli_query($conn, $sql1) && mysqli_query($conn, $sql2)) {
    header("Location: ../pages/admin.php");
} else {
    echo "Error deleting record: " . mysqli_error($conn);
}







mysqli_close($conn);
?>
```






Database:

The website operates on the front-end while connected to a database in the background, allowing for seamless user interaction and data management.







User Login Credential Table in phpmyadmin:

Username and Password(encrypted):




				id	email	username	password
<input type="checkbox"/>				1	admin@gmail.com	admin	\$2y\$10\$aecMan7RVa/G2H8Q34YTTu83PG2n8xRWBMrkqoxFINF...
<input type="checkbox"/>				2	rikiyadab@gmail.com	symbol	\$2y\$10\$N.Huv0QC YWDVFaoBXP RCNOKajmla6nWnmudxUgzPqSA...
<input type="checkbox"/>				3	science@gmail.com	Einstein	\$2y\$10\$BMRxC3t5VyLWI7xbi4si3uiL41QWH3QwUvqfcsQ63RU...

 ☐ Check all With selected:  Edit  Copy  Delete  Export

User Information Table in phpmyadmin:

				id	username	name	phone	address	stream	shift	year
<input type="checkbox"/>				1	symbol	Albert Einstein	9815799735	Siraha, Nepal	Science	Day	2023-03-02
<input type="checkbox"/>				2	Einstein	Albert Einstein	981579973**	Nepal	Science	Day	2023-03-15

User's Post table in phpmyadmin:

				post_id	message	post_time	user_name
<input type="checkbox"/>				1	Welcome to the Portal, Your posts will appear here	2023-03-31 00:00:00	Admin

This website automatically creates the necessary table when the homepage loads, eliminating the need for manual table creation.(just for testing).

Source code:

Github: <https://github.com/idk-Ritikyadav/proton>

Conclusion:

The programming website project was developed successfully and met the project objectives. It provided a platform for users to register, add details, sign in, update data, delete data, and read data. It also provided administrative privileges to update and delete user details. The website was developed using PHP, HTML, CSS, and JavaScript, with a MySQL database to store the user details.

References:

- W3schools
- Geekforgeek
- OpenAI chatbot
- Stackoverflow
- Github
- Other Minor Websites etc.