ECS417U Project Phase 2 Documentation

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| **Assessment Criteria 7**  Each time a new entry is added, the most recent post appears on top, followed by the next most recent post using a PHP-driven technique (writing a sorting algorithm) instead of a SQL Query. | |
| Instruction: use this column to paste the code from the files that have been used to develop this functionality.  **Paste the code directly from visual studio code, do not include a screenshot of the code as this document has a Turnitin requirement and this will lead to an automatic mark of zero. See example below.** | Instruction: use this column to address the following in your own words:   1. Describe the steps you took to develop this feature (including the prompts). 2. Describe how the sorting algorithm works.   Give reference to the code you have written when answering the questions above.  You can use diagrams (e.g. flow charts) or screenshots of your webpage output to illustrate your answer. |
| Filename: test.php  <!DOCTYPE html>  <html lang="en">  <head>  <meta charset="UTF-8">  <meta http-equiv="X-UA-Compatible" content="IE=edge">  <meta name="viewport" content="width=device-width, initial-scale=1.0">  <title>Test</title>  </head>  <body>  <h1>My first PHP page</h1>  <?php  echo "Hello World!";  ?>  </body>  </html>  Filename: test1.php  <!DOCTYPE html>  <html lang="en">  <head>  <meta charset="UTF-8">  <meta http-equiv="X-UA-Compatible" content="IE=edge">  <meta name="viewport" content="width=device-width, initial-scale=1.0">  <title>Test</title>  </head>  <body>  <h1>My first PHP page</h1>  <?php  echo "Hello World!";  ?>  </body>  </html> |  |

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| **Assessment Criteria 8 - Extra Feature 1**  (Note: delete any of the two features below)   * Allow blog viewers to log in and add comments to the entries. You, as the administrator of the blog should be able to delete entries or comments. | | |
| Instruction: use this column to paste the code from the files that have been used to develop this functionality.  **Paste the code directly from visual studio code, do not include a screenshot of the code as this document has a Turnitin requirement and this will lead to an automatic mark of zero. See example below.** | Instruction: use this column to address the following in your own words:   1. How did you develop this feature? Describe the steps involved. 2. Describe the inner workings of the approach you developed.   Give reference to the code you have written when answering the questions above.  You can use diagrams (e.g. flow charts) or screenshots of your webpage output to illustrate your answer. | |
| Filename: login.php  <?php  $servername = "127.0.0.1";  $username = "root";  $password = "";  $dbname = "ecs417";  $conn = new mysqli($servername, $username, $password, $dbname);  if ($conn->connect\_error) {      die("Connection failed: " . $conn->connect\_error);  }  session\_start();  if ($\_SERVER["REQUEST\_METHOD"] == "POST") {      if (isset($\_POST["email"]) && isset($\_POST["password"])) {          $email = $\_POST["email"];          $password = $\_POST["password"];          $sql = "SELECT \* FROM portfolio\_admin WHERE email='$email' AND password='$password'";          $result = $conn->query($sql);          if ($result->num\_rows > 0) {              $\_SESSION["email"] = $email;              $\_SESSION["name"] = $result->fetch\_assoc()["name"];              $\_SESSION["loggedIn"] = true;              header("Location: addpost.php");              exit();          } else {              $password = hash("sha256", $password);              $sql = "SELECT \* FROM portfolio\_users WHERE email='$email' AND password='$password'";              $result = $conn->query($sql);              if ($result->num\_rows > 0) {                  $\_SESSION["email"] = $email;                  $\_SESSION["name"] = $result->fetch\_assoc()["firstName"];                  $\_SESSION["loggedIn"] = true;                  header("Location: viewblog.php");                  exit();              } else {                  echo "<script>alert('Invalid email or password');</script>";                  echo "<script>document.getElementById('form').reset</script>";                  echo "<script>window.location.href='login.php'</script>";              }          }      }      $conn->close();  }  **LOGIN FORM**  **/\***  **HTML login form here**  **\*/**  **Filename: signup.php**  <?php  $servername = "127.0.0.1";  $username = "root";  $password = "";  $dbname = "ecs417";  $conn = mysqli\_connect($servername, $username, $password, $dbname);  if (!$conn) {      die("Connection failed: " . mysqli\_connect\_error());  }  if ($\_SERVER["REQUEST\_METHOD"] == "POST") {      $fname = htmlspecialchars($\_POST["fname"]);      $lname = htmlspecialchars($\_POST["lname"]);      $email = htmlspecialchars($\_POST["email"]);      $password = $\_POST["password"];      $cpassword = $\_POST["cpassword"];      if ($password != $cpassword) {          echo "<script>alert('Passwords do not match!');</script>";          echo "<script>window.location.href='signup.php';</script>";          exit();      }      $password = hash("sha256", $password);      $sql = "INSERT INTO portfolio\_users (firstName,lastName,email,password) VALUES ('$fname','$lname','$email','$password')";      if (mysqli\_query($conn, $sql)) {          echo "<script>alert('Registration successful!');</script>";          echo "<script>window.location.href='login.php';</script>";          exit();      } else {          echo "Error: " . $sql . "<br>" . mysqli\_error($conn);      }  }  ?>  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <title>SignUp</title>      <link rel="stylesheet" href="../css/reset.css" />      <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css">      <link rel="stylesheet" href="../css/header.css" />      <link rel="stylesheet" href="../css/mobile.css" />    </head>  <body class="bg-dark">      <header class="bg-dark text-light">          <nav>              <li><a href="index.php" id="logo"><span style="color: crimson">D</span>aniel.EC</a></li>              <li><a href="index.php">Home</a></li>              <li><a href="viewblog.php">Blog</a></li>              <li><a href="../html/about.html">About me</a></li>              <li><a href="../html/skills.html">Skills and Experience</a></li>              <li><a href="login.php">Sign In</a></li>          </nav>          <li id="logo-list"><a class="logo " href="index.html" id="logo1"><span                      style="color: crimson">D</span>aniel.EC</a></li>          <div class="dropdown">              <button class="btn btn-primary dropdown-toggle " type="button" id="dropdownMenuButton"                  data-bs-toggle="dropdown" aria-expanded="false">                  Menu</button>              <ul class="dropdown-menu bg-dark" aria-labelledby="dropdownMenuButton">                  <li><a class="dropdown-item text-light" href="index.php">Home</a></li>                  <li><a class="dropdown-item text-light" href="viewblog.php">Blog</a></li>                  <li><a class="dropdown-item text-light" href="../html/about.html">About me</a></li>                  <li><a class="dropdown-item text-light" href="../html/skills.html">Skills and Experience</a></li>                  <li><a class="dropdown-item text-light" href="login.php">Sign In</a></li>              </ul>          </div>      </header>      <div class="container mt-5">          <div class="row justify-content-center">              <div class="col-md-6 bg-light text-dark p-4 rounded shadow">                  <h2 class="text-center text-dark mb-4">User Registration Form</h2>                  <form action="<?php echo htmlspecialchars($\_SERVER["PHP\_SELF"]); ?>" method="POST" id="form">                      <div class="mb-3">                          <label for="fname" class="form-label" name="firstName">First Name</label>                          <input type="text" class="form-control" id="fname" name="fname" placeholder="Enter First Name"                              required />                      </div>                      <div class="mb-3">                          <label for="lname" class="form-label" name="lastName">Last Name</label>                          <input type="text" class="form-control" id="lname" name="lname" placeholder="Enter Last Name"                              required />                      </div>                      <div class="mb-3">                          <label for="email" class="form-label" name="email">Email Address</label>                          <input type="email" class="form-control" id="email" name="email"                              placeholder="Enter Email address" required </div>                          <div class="mb-3">                              <label for="password" class="form-label" name="password">Password</label>                              <input type="password" class="form-control" id="password" name="password"                                  placeholder="Enter Password" required />                          </div>                          <div class="mb-3">                              <label for="cpassword" class="form-label" name="cpassword">Confirm Password</label>                              <input type="password" class="form-control" id="cpassword" name="cpassword"                                  placeholder="Confirm Password" required />                          </div>                          <button type="submit" class="btn btn-primary w-100">Sign Up</button>                  </form>              </div>          </div>      </div>      <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js"></script>      <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>  </body>  </html>  **Filename: comment.php**    <?php  session\_start();  $servername = "127.0.0.1";  $username = "root";  $password = "";  $dbname = "ecs417";  $conn = new mysqli($servername, $username, $password, $dbname);  if ($conn->connect\_error) {      die("Connection failed:" . $conn->connect\_error);  }  //check if post was clicked i.e postid was passed to it, if not redirect to viewblog.php  if (isset($\_GET["id"])) {      $id = $conn->real\_escape\_string($\_GET["id"]);      $sql = "SELECT \*  FROM portfolio\_post WHERE ID='$id'";      $result = $conn->query($sql);      if ($result->num\_rows > 0) {          $post = $result->fetch\_assoc();      }      //reads all comments from db for the particular post      $sql = "SELECT \* FROM portfolio\_comment WHERE postID='$id' ORDER BY date DESC";      $result2 = $conn->query($sql);      if ($result2->num\_rows > 0) {          $rows = $result2->fetch\_all(MYSQLI\_ASSOC);          $noComments = false;      } else {          $noComments = true;      }      //posts the comment to the db      if ($\_SERVER["REQUEST\_METHOD"] == "POST") {          $comment = htmlspecialchars($\_POST["comment"]);          $postID = htmlspecialchars($\_GET["id"]);          $firstName = $\_SESSION["name"];          $sql = "INSERT INTO portfolio\_comment (postID, username,content) VALUES ( '$postID', '$firstName', '$comment')";          if ($conn->query($sql) === TRUE) {              echo '<script>  alert("Comment posted successfully");</script>';              echo '<script>window.location.href="comment.php?id=' . $postID . '"</script>';          } else {              echo '<script>  alert("Error posting comment");</script>';              echo '<script>window.location.href="comment.php?id=' . $postID . '"</script>';          }      }  } else {      echo '<script>  alert("A post was not selected");</script>';      echo '<script>window.location.href="viewblog.php"</script>';  }  $conn->close();  ?>  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <title>Comments</title>      <link rel="stylesheet" href="../css/reset.css" />      <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css">      <link rel=" stylesheet" href="../css/header.css" />      <link rel="stylesheet" href="../css/mobile.css" />      <script src="../js/delete.js" defer></script>  </head>  <body>      <header>          <nav>              <li><a href="index.html" id="logo"><span style="color: crimson">D</span>aniel.EC</a></li>              <li>              <li><a href="../html/index.html">Home</a></li>              <li><a href="../php/viewblog.php">Blog</a></li>              <li><a href="../html/about.html">About me</a></li>              <li><a href="../html/skills.html">Skills and Experience</a></li>              <li><a href=logout.php>Logout</a></li>              </li>          </nav>          <li id="logo-list"><a class="text-dark" href="index.html" id="logo2"><span                      style="color: crimson">D</span>aniel.EC</a></li>          <div class="dropdown">              <button class="btn bg-dark btn-primary dropdown-toggle" type="button" id="dropdownMenuButton"                  data-bs-toggle="dropdown" aria-expanded="false">                  Menu</button>              <ul class="dropdown-menu bg-dark" aria-labelledby="dropdownMenuButton">                  <li><a class="dropdown-item text-white" href='index.php'>Home</a></li>                  <li><a class="dropdown-item text-white" href='viewblog.php'>Blog</a></li>                  <li><a class="dropdown-item text-white" href='../html/about.html' 1?>About me</a></li>                  <li>                      <a class="dropdown-item text-white" href='../html/skills.html'>Skills and Experience</a>                  </li>                  <?php if ($\_SESSION["loggedIn"] == True) {                      echo "<li><a class='dropdown-item text-white' href=logout.php>Logout</a></li>";                  } else {                      echo "<li><a class='dropdown-item text-white' href=login.php>Sign In/Up</a></li>";                  } ?>                  </li>              </ul>          </div>      </header>      <!-- <?php echo $firstName ?> -->      <!-- //display the post -->      <div class=card shadow-sm>          <div class="card-body mb-3">              <h3 class=card-title><?php echo ($post["title"]); ?></h3>              <h6 class=card-subtitle mb-2 text-muted>                  By <strong><?php echo ($\_SESSION["admin"]); ?></strong> on                  <?php $zone = new DateTimeZone($post["zone"]);                  $date = new Datetime($post["time"], $zone);                  echo ($date->format("jS F Y g:i A T")); ?>              </h6>              <br>              <p class=card-text mt-3>                  <?php echo ($post["content"]); ?>              </p>          </div>      </div>      <hr>      <h4 class="display-6 text-dark">Comments</h4>      <hr>      <!-- //comments form, single line with bootstrap -->      <!-- the url encode adds the previous post id that was used to display the post , this is added to the post of the comment so that the else statement is not run -->      <form action="<?php echo htmlspecialchars($\_SERVER['PHP\_SELF']) . '?id=' . urlencode($\_GET['id']); ?>"          method="POST">          <div class="d-flex justify-content-center mt-4 w-100">              <input type="text" id="comment" name="comment" class="form-control w-50 me-2"                  placeholder="Add a comment...">              <input type="submit" class="btn btn-primary" value="Post">          </div>      </form>      <?php if ($noComments === true) {          echo '<h6 class="mt-3 text-dark">No Comments</h6>';      } ?>      <!--  //display all comments -->      <?php foreach ($rows as $row): ?>      <div class=card shadow-sm>          <div class=card-body>              <h6 class=card-subtitle mb-3 text-muted>                  By <strong> <?php echo ($row["username"]); ?> </strong> on <?php echo ($row["date"]); ?>              </h6>              <br>              <p class=card-text mt-3>                  <?php echo ($row["content"]); ?>              </p>              <?php if ($\_SESSION["loggedIn"] == true && $\_SESSION["email"] == "Daniel@admin") {                      echo "<a class=commentdel style='color:red' href=deleteComment.php?id=" . $row["ID"] . ">Delete</a> </>";                  } ?>          </div>      </div>      <hr>      <?php endforeach; ?>      <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js"></script>      <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>  </body>  </html>  **Filename: deletecomment.php**  <?php  session\_start();  $servername = "127.0.0.1";  $username = "root";  $password = "";  $dbname = "ecs417";  //create connection  $conn = new mysqli($servername, $username, $password, $dbname);  if ($conn->connect\_error) {      die("Connection failed:" . $conn->connect\_error);  }  $sql = "SELECT \* FROM portfolio\_comment WHERE ID='" . $\_GET["id"] . "'";  $result = $conn->query($sql);  if ($result->num\_rows > 0) {      $rows = $result->fetch\_all(MYSQLI\_ASSOC);      $postID = $rows[0]["postID"];  }  $sql = "DELETE FROM portfolio\_comment WHERE ID='" . $\_GET["id"] . "'";  if ($conn->query($sql) === TRUE) {      echo '<script>alert("Comment deleted successfully");</script>';      echo '<script>window.location.href="comment.php?id=' . $postID . '"</script>';  } else {      echo '<script>alert("Error deleting comment");</script>';      echo '<script>window.location.href="comment.php?id=' . $postID . '"</script>';  }  ?>  **Filename: deletepost.php**  <?php  $servername = "127.0.0.1";  $username = "root";  $password = "";  $dbname = "ecs417";  $conn = new mysqli($servername, $username, $password, $dbname);  if ($conn->connect\_error) {      die("Connection failed:" . $conn->connect\_error);  }  session\_start();  if ($\_SESSION["loggedIn"] == true && $\_SESSION["email"] = "Daniel@admin") {      if (isset($\_GET["id"])) {          $id = $conn->real\_escape\_string($\_GET["id"]);          $sql = "DELETE FROM portfolio\_post WHERE ID='$id'";          if ($conn->query($sql) === TRUE) {              echo '<script>alert("Post deleted Successfully");</script>';              header("Location:viewblog.php");          } else {              echo ('<script>alert("Post not deleted");</script>');          }      }  }  $conn->close();  ?>  **Filename: delete.js**  const posts=document.querySelectorAll(".postdel");  posts.forEach(function(post){      post.addEventListener("click",function(e){          if(confirm("Are you sure you want to delete post?")){              return;          }          else{              e.preventDefault();              return false;          }      });  });  const comments=document.querySelectorAll(".commentdel");  comments.forEach(function(comment){      comment.addEventListener("click",function(e){          if(confirm("Are you sure you want to delete comment?")){              return;          }          else{              e.preventDefault();              return false;          }      });  }); | | **How did you develop this feature? Describe the steps involved.**  I developed this feature by creating six files named login.php, comment.php and signup.php, deletecomment.php, deletepost.php and delete.js for confirming the deletes. I also created two tables in the database to store user details and comments.  I started by creating a table in my database named portfolio\_users, this table is different from the admin and only store information of users that are not admins. I then created a signup form that people can use to register to become users, this form posts information to the PHP part of itself, the information is then entered into the portfolio\_usesrs database. When the users go to the login page and enter their details, the self-processing file will take their email and password that have been submitted and check if it matches anyone in the database, if it does, they are redirected to the view blog page and will see special options like comments and also have access to the comment page where they can add comments and view comments.  **Describe the inner workings of the approach you developed.**  The signup.php file simply takes input from a form, the initial validations were done using the HTML5 validation attributes, this attributes makes it impossible to submit the form unless the correct format is matched, they include using required to make sure a field is never left empty, types to specify the type of input required on a field and making sure whatever was entered was of the right type, below is a screenshot of trying to submit the signup.php file when a field is left empty.    This happens for all fields.  The password validation was done using php, the script simply checks if the submitted password and confirm password are the same, if it is, it goes on to load the values in a new row in the database, else it sends an alert and redirects back to the signup page.  Below is a screenshot of the output for when the password and confirm password matches and when they do not.    The error message is shown and then user is redirected back to signup.php below after clicking ok.    It also goes without saying that after redirection, the user details are not stored in the table in the database, as can be seen below:    Now, when the valid details are entered and the form is submitted, The details are stored in the database, a successful registration message is shown by echoing a javascript alert and the user is redirected to the login page by setting window.location.href value using php echo, this is used instead of php header redirect so that the alert message can be shown.      In the login.php file, it should have been; the user enters their details in the form, if the password and email matches a record in the database, they are successfully logged in but I also used the same file and form to check for an admin login, so what I did was to first of all check if the entered details matches a record in the admin table of the database, if it does then the admin is logged in and no further check is required but if the details don’t match an admin record, it now checks if it matches a user record, if it does, the user is logged in and session starts with session variables set depending on who logged in and if the records is still not seen then an invalid password and email alert is echoed and user is still in the form    When it’s an admin login, they are redirected to the addpost.php.    And on the view blog they have access to delete post and delete comment.  When it’s a normal registered user, they are redirected to the viewblog page after a successful login;    The view blog page illustrates more clearly on the user that is currently accessing the page; below is a screenshot of its state depending on the user type.  Registered User:  Have access to the comments page, has their first name on the welcome section.  The nav bar shows logout, to indicate they are currently logged in.    Guest User:  Can only view blog, no access to comments page.  The navbar shows sign/up to show they are not currently logged in and can log in or register.  The welcome message says guest.    Admin:  Have access to comments, can delete post, can add post, plus all the functionalities of a registered user when logged in.    The comments functionality was achieved by first of all creating a table in my database named portfolio\_comments, this table has a time field that is default i.e. the SQL automatically inserts it, each comment also has an ID as a primary key and a postID as a secondary key that references the ID in the post table, I also added the DELETE ON CASCADE command that deletes the comment if the post is deleted.  When the logged in user clicks on comments link from the viewblog page they are taken to the comment page where the post they are trying to comment is fetched from the database and displayed and an input field is visible for them to add comment and post it. They can also view other peoples’ comment.  When they click on post after entering their comment, the form is submitted to the same page and entered into the database with the first name of the person who’s currently logged in.    Because I am currently logged in as an admin, I can delete comments:    When I click yes:    Confirmation:    The delete functionality for both the comment and post is achieved by simply taking the unique auto incremented id of the post or comment and running an sql query that deletes any row of comment or post with that same id. |

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| **Assessment Criteria 9 - Extra Feature 2**  (Note: delete any of the two features below)   * Organise your blog entries into different months. Provide a drop-down menu for the blog viewers to view the entries of different months stored in an entry archive. | |
| Instruction: use this column to paste the code from the files that have been used to develop this functionality.  **Paste the code directly from visual studio code, do not include a screenshot of the code as this document has a Turnitin requirement and this will lead to an automatic mark of zero. See example below.** | Instruction: use this column to address the following in your own words:   1. How did you develop this feature? Describe the steps involved. 2. Describe the inner workings of the approach you developed.   Did you use any Generative AI tools to achieve this? If yes, can you provide the prompts you wrote to achieve this?  Give reference to the code you have written when answering the questions above.  You can use diagrams (e.g. flow charts) or screenshots of your webpage output to illustrate your answer. |
| Filename: login.js  const form=document.getElementById("form");  //this is the login form validation script  form.addEventListener("submit",function(event){      const email=document.getElementById("email").value;      const password=document.getElementById("password").value;      if(email==""){          event.preventDefault();          alert("Email cannot be empty");          emailbox=document.getElementById("email");          emailbox.style.border="2px solid red";          emailbox.focus();      }      else{          emailbox.style.border="none";      }      if(password==""){          event.preventDefault();          alert("Password cannot be empty");          const passwordbox=document.getElementById("password");          passwordbox.style.border="2px solid red";          passwordbox.focus();      }      else{          passwordbox.style.border="none";      }      //else it does nothing and allows submit to the php script  });  Filename: viewblog.php  <?php  session\_start();  if (!isset($\_SESSION["loggedIn"])) {      $\_SESSION["loggedIn"] = false;      $\_SESSION["email"] = "Guest";      $\_SESSION["firstName"] = "Guest";  }  $servername = "127.0.0.1";  $username = "root";  $password = "";  $dbname = "ecs417";  //create connection  $conn = new mysqli($servername, $username, $password, $dbname);  if ($conn->connect\_error) {      die("Connection failed:" . $conn->connect\_error);  }  //if sort is not set, do default getting  $month = 0;  $desc = 0;  if (!isset($\_GET["sort"])) {      $month = 0;  } else {      if ($\_GET["sort"] == "1") {          $month = 1;      } else if ($\_GET["sort"] == "2") {          $month = "2";      } else if ($\_GET["sort"] == "3") {          $month = "3";      } else if ($\_GET["sort"] == "4") {          $month = "4";      } else if ($\_GET["sort"] == "5") {          $month = "5";      } else if ($\_GET["sort"] == "6") {          $month = "6";      } else if ($\_GET["sort"] == "7") {          $month = "7";      } else if ($\_GET["sort"] == "8") {          $month = "8";      } else if ($\_GET["sort"] == "9") {          $month = "9";      } else if ($\_GET["sort"] == "10") {          $month = "10";      } else if ($\_GET["sort"] == "11") {          $month = "11";      } else if ($\_GET["sort"] == "12") {          $month = "12";      } else if ($\_GET["sort"] == "-1") {          $desc = -1;      }  }  if ($month === 0) {      $sql = "SELECT ID, title, content, time, zone FROM portfolio\_post";  } else if ($desc === -1) {      $sql = "SELECT ID, title, content, time, zone FROM portfolio\_post ORDER BY ID ASC";  } else {      $sql = "SELECT ID, title, content, time, zone FROM portfolio\_post WHERE MONTH(time) = $month";  }  //whatever was gotten as the query code will be passed here  $result = $conn->query($sql);  if ($result->num\_rows > 0) {      $initialArray = $result->fetch\_all(MYSQLI\_ASSOC);      $invalid = false;  } else {      $invalid = true;  }  //selection sort  //1. the outer loop iterates through the array, treating each element as the current maximum  //2. the inner loop iterates through the unsorted portion of the array to find the maximum element  //if a larger element is found, the index of the maximum element is updated  //3. after the inner loop, if the maximum element is not already in the correct position, it is swapped with the current index  //4. this process continues until the entire array is sorted in descending order  //5. the function returns the sorted array  //instead of using in values, im using the time of each post as a value converted by strtotime for easier comparison  function selectionSortByDate(array $posts): array  {      $n = count($posts);      for ($i = 0; $i < $n - 1; $i++) {          $maxIdx = $i;          for ($j = $i + 1; $j < $n; $j++) {              if (strtotime($posts[$j]['time']) > strtotime($posts[$maxIdx]['time'])) {                  $maxIdx = $j;              }          }          // Swap the found maximum with current index          if ($maxIdx !== $i) {              $temp = $posts[$i];              $posts[$i] = $posts[$maxIdx];              $posts[$maxIdx] = $temp;          }      }      return $posts;  }  //pass the posts to be sorted if only the sort was set to a value not -1 i.e not oldest  if ($desc == -1) {      $rows = $initialArray;  } elseif (!$invalid) {      //sort the posts by date using selection sort      $rows = selectionSortByDate($initialArray);  }  $sql = "SELECT \* FROM portfolio\_admin WHERE ID=1";  $admin = $conn->query($sql);  if ($admin->num\_rows > 0) {      $admin = $admin->fetch\_all(MYSQLI\_ASSOC);      $\_SESSION["admin"] = $admin[0]["name"];  }  $admin = $admin[0];  ?>  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <title>Daniel's Blog</title>      <link rel="stylesheet" href="../css/reset.css" />      <link rel="stylesheet" href="../css/index.css" />      <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css">      <link rel="stylesheet" href="../css/mobile.css" />      <script src="../js/delete.js" defer></script>      <script src="../js/sort.js" defer></script>  </head>  <body id="view" style="background-color: black;">      <header>          <nav>              <li><a href="index.html" id="logo"><span style="color: crimson">D</span>aniel.EC</a></li>              <li>              <li><a href="../html/index.html">Home</a></li>              <li><a href="../php/viewblog.php">Blog</a></li>              <li><a href="../html/about.html">About me</a></li>              <li><a href="../html/skills.html">Skills and Experience</a></li>              <?php if ($\_SESSION["loggedIn"] == True) {                  echo "<li><a href=logout.php>Logout</a></li>";              } else {                  echo "<li><a href=login.php>Sign In/Up</a></li>";              } ?>              </li>          </nav>          <li id="logo-list"><a href="index.html" id="logo1"><span style="color: crimson">D</span>aniel.EC</a></li>          <div class="dropdown">              <button class="btn bg-dark btn-primary dropdown-toggle" type="button" id="dropdownMenuButton"                  data-bs-toggle="dropdown" aria-expanded="false">                  Menu</button>              <ul class="dropdown-menu" aria-labelledby="dropdownMenuButton">                  <li><a class="dropdown-item " href='index.php'>Home</a></li>                  <li><a class="dropdown-item" href='viewblog.php'>Blog</a></li>                  <li><a class="dropdown-item" href='../html/about.html'>About me</a></li>                  <li>                      <a class="dropdown-item" href='../html/skills.html'>Skills and Experience</a>                  </li>                  <?php if ($\_SESSION["loggedIn"] == True) {                      echo "<li><a class='dropdown-item' href=logout.php>Logout</a></li>";                  } else {                      echo "<li><a class='dropdown-item' href=login.php>Sign In/Up</a></li>";                  } ?>                  </li>              </ul>          </div>      </header>      <div class="container bootstrap-container mt-5">          <h1 class="display-4 text-white">Daniel's Blog</h1>          <?php if ($\_SESSION["loggedIn"] == true && $\_SESSION["email"] == "Daniel@admin") {              echo "<h4 class='display-6 text-white'>Welcomes Admin</h4>";              echo "<a href='../php/addpost.php' class='btn btn-primary'>Add post +</a>";          } else if ($\_SESSION["loggedIn"] == true) {              echo "<h4 class='display-6 text-white'>Welcomes " . $\_SESSION["name"] . "</h4>";          } else {              echo "<h4 class='display-6 text-white'>Welcomes Guest</h4>";          } ?>          <div class="sort-container">              <label for="sort">Sort By:</label>              <select id="sort" name="sort">                  <option value="check">                      <?php if ($month == 0 && $desc == 0) {                          echo "Most recent";                      } else if ($month == 1)                          echo "January";                      else if ($month == 2)                          echo "February";                      else if ($month == 3)                          echo "March";                      else if ($month == 4)                          echo "April";                      else if ($month == 5)                          echo "May";                      else if ($month == 6)                          echo "June";                      else if ($month == 7)                          echo "July";                      else if ($month == 8)                          echo "August";                      else if ($month == 9)                          echo "September";                      else if ($month == 10)                          echo "October";                      else if ($month == 11)                          echo "November";                      else if ($month == 12)                          echo "December";                      else if ($desc == -1)                          echo "Oldest";                      ?>                  </option>                  <option value="0">Most Recent</option>                  <option value="-1">Oldest</option>                  <option value="1">January</option>                  <option value="2">February</option>                  <option value="3">March</option>                  <option value="4">April</option>                  <option value="5">May</option>                  <option value="6">June</option>                  <option value="7">July</option>                  <option value="8">August</option>                  <option value="9">September</option>                  <option value="10">October</option>                  <option value="11">November</option>                  <option value="12">December</option>              </select>          </div>          <?php if ($invalid): ?>              <div class="alert alert-danger" role="alert">                  No posts available for the selected month.              </div>          <?php else: ?>              <?php foreach ($rows as $row): ?>                  <div class="card w-100 my-4" style="max-width: 720px; margin-left: auto; margin-right: auto;">                      <div class="card-body">                          <h3 class="card-title"><?php echo htmlspecialchars($row["title"]); ?></h3>                          <h6 class="card-subtitle mb-2 text-muted">                              By <strong><?php echo htmlspecialchars($admin["name"]); ?></strong> on                              <?php                              $zone = new DateTimeZone($row["zone"]);                              $date = new DateTime($row["time"], $zone);                              echo $date->format("jS F Y g:i A T");                              ?>                          </h6>                          <p class="card-text mt-3"><?php echo htmlspecialchars($row["content"]); ?></p>                          <?php if ($\_SESSION["loggedIn"]): ?>                              <small><a href="comment.php?id=<?php echo $row["ID"]; ?>">Comments</a></small>&nbsp;                          <?php endif; ?>                          <?php if ($\_SESSION["loggedIn"] && $\_SESSION["email"] === "Daniel@admin"): ?>                              <small><a class="postdel text-danger" href="deletepost.php?id=<?php echo $row["ID"]; ?>">Delete                                      post</a></small>                          <?php endif; ?>                      </div>                  </div>              <?php endforeach; ?>          <?php endif; ?>          <?php $conn->close(); ?>      </div>      <footer class="bg-white text-dark py-4 mt-5">          <div class="container text-center">              <!-- Social Icons -->              <div class="d-flex justify-content-center gap-4 mb-3">                  <a href="https://www.linkedin.com/in/danielewelikechimezie" class="img-fluid social-icon"                      target="\_blank">                      <img src="../images/ln.webp" alt="LinkedIn" width="32" height="32">                  </a>                  <a href="https://github.com/Daniel-ec5" class="img-fluid social-icon" target="\_blank">                      <img src="../images/github-128.webp" alt="GitHub" width="32" height="32">                  </a>                  <a href="mailto:Daniel.ec5@Outlook.com?subject=Portfolio%20Contact" class="img-fluid social-icon">                      <img src="../images/mail.webp" alt="Mail" width="32" height="32">                  </a>                  <a href="https://snapchat.com/add/daniel\_el22" class="img-fluid social-icon" target="\_blank">                      <img src="../images/spo.webp" alt="Snapchat" width="32" height="32">                  </a>              </div>              <!-- Footer Text -->              <p class="mb-0 text-dark">&copy; 2025 Daniel Ewelike</p>          </div>      </footer>      <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>  </body>  </html> | **How did you develop this feature? Describe the steps involved.**  The sorting by month is made possible by the sort.js  file that acts as the middleman and detects and  passes changes to the part of the viewblog.php  file that fetches the posts from the database,  the sort by recent is also by default applied to the posts fetched for each month so long as the selected  sort type is not by oldest.  **Describe the inner workings of the approach you**  **developed.**  The list with the different months and sort types were achieved by putting each of the options in an option tag that is nested in a select element, what this does is that it creates a menu where users can select the month they want to view, and this selection is identified through a javascript code in the sort.js file: |
| **Assessment Criteria 14 - Web technologies/framework**  For this project, you have made use of HTML, CSS, JavaScript and PHP. If you were to conduct this project again, which other web technologies/frameworks would you use to develop your portfolio site? Justify your choice. | |
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