COURSE REGISTRATION SYSTEM SOFTWARE PROJECT

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CST499: Capstone for Computer Software Technology (CSF2515A0

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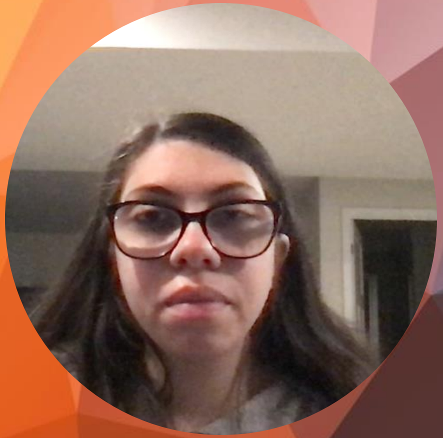
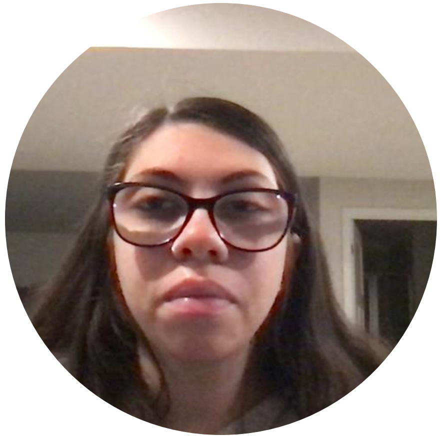


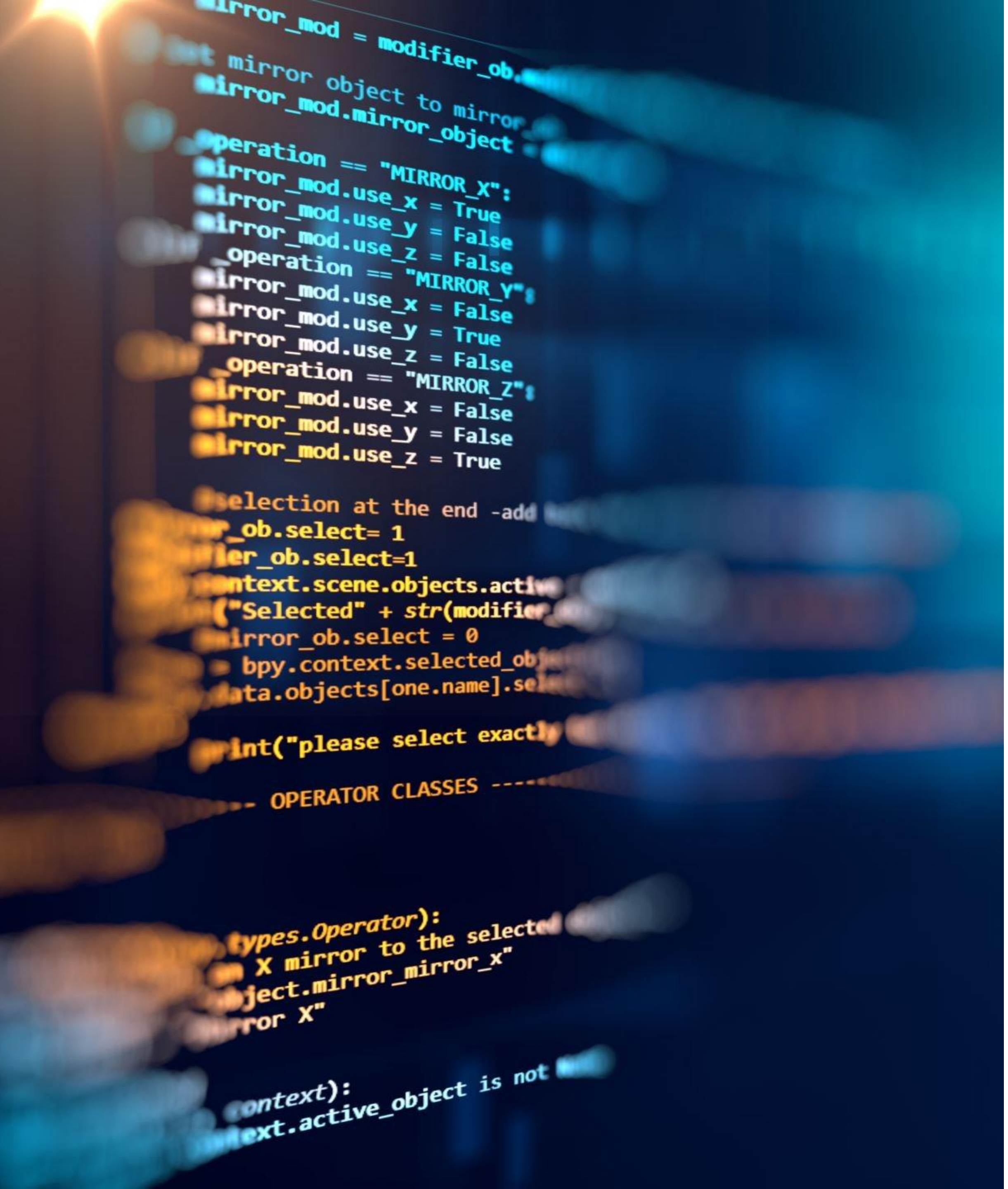
WELCOME TO THE COURSE REGISTRATION SYSTEM!

PHP

MySQL

UML-based Design





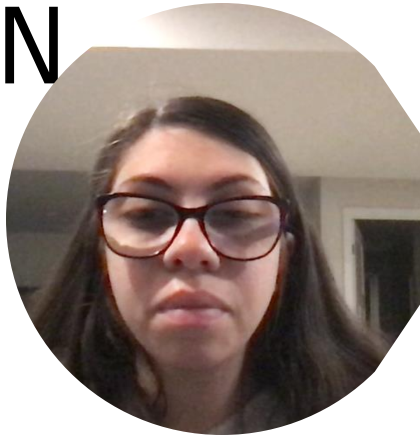
SOFTWARE REQUIREMENTS SPECIFICATION (SRS)

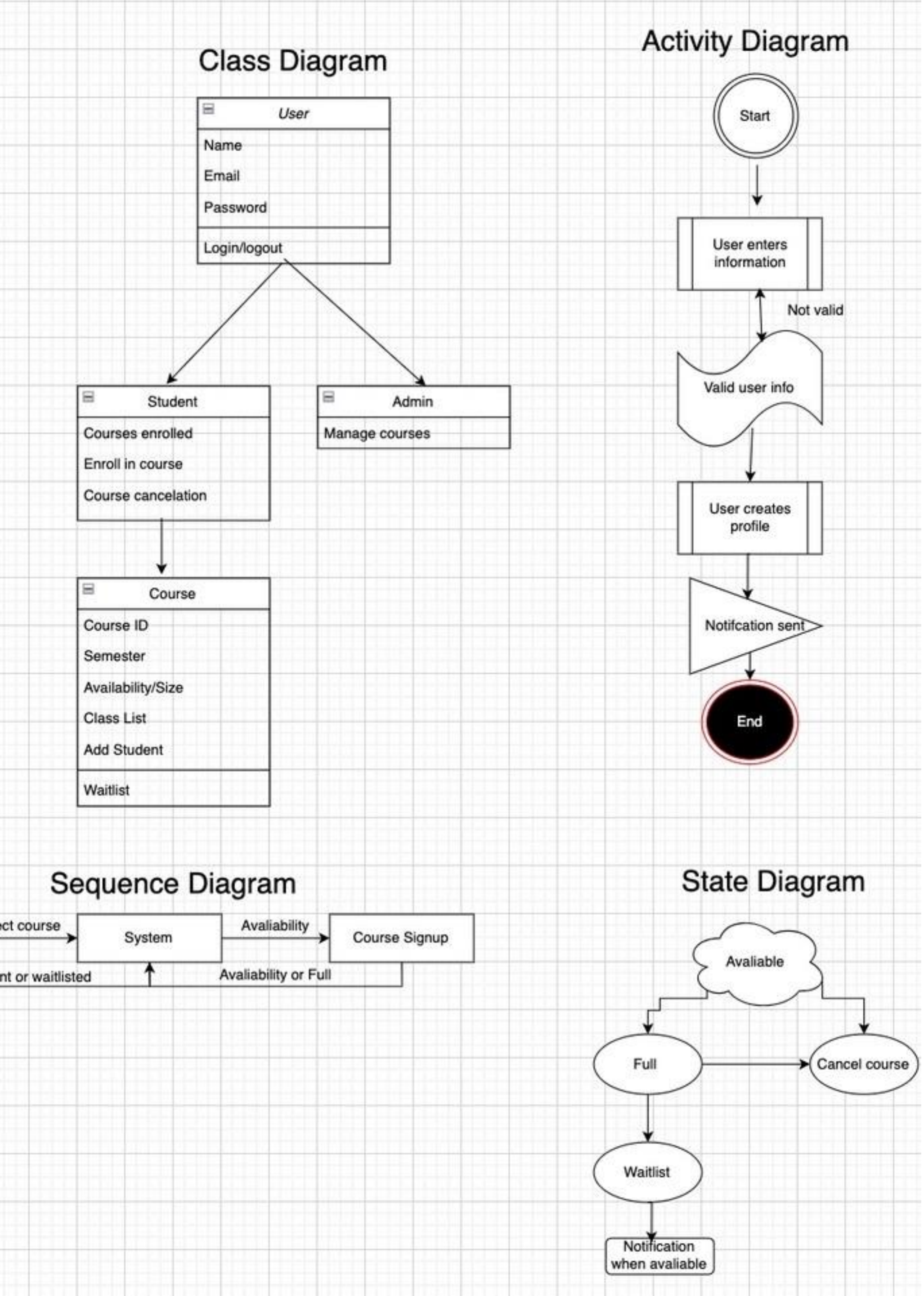
Purpose: Simple course registration for students and admin.

Functional Requirements: User registration, login, course list, and course enrollment.

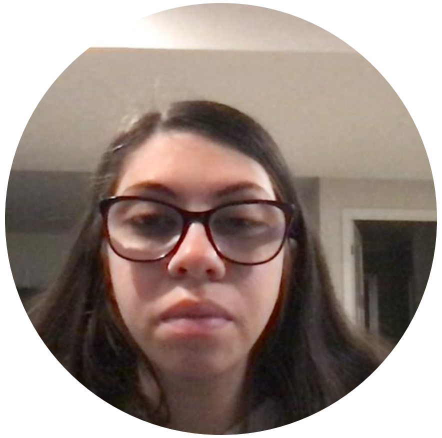
Non-Functional Requirements: Performance, data integrity, and security.

Scope: Web-based system for course enrollment and management.





UML DESIGN MODEL

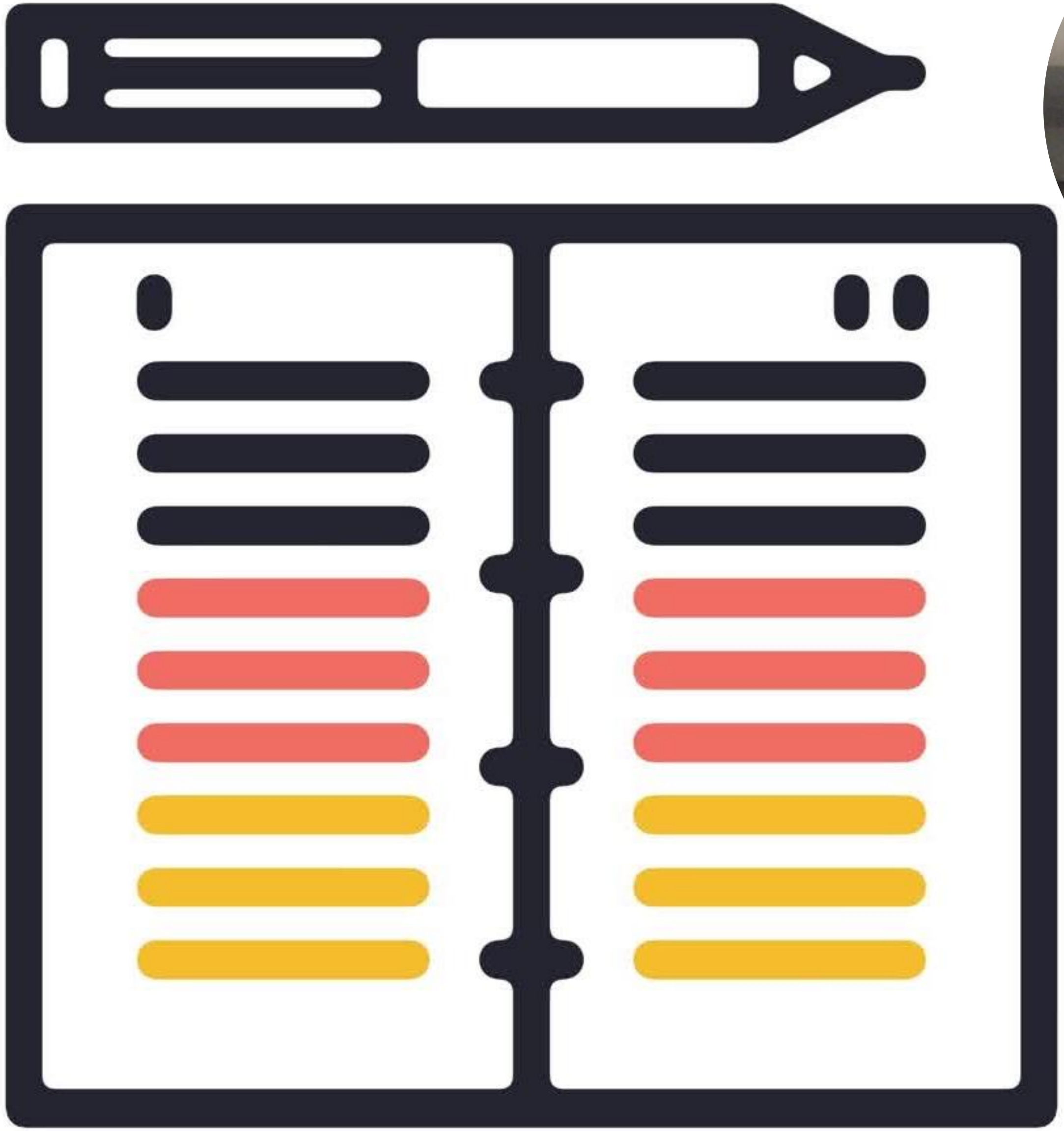


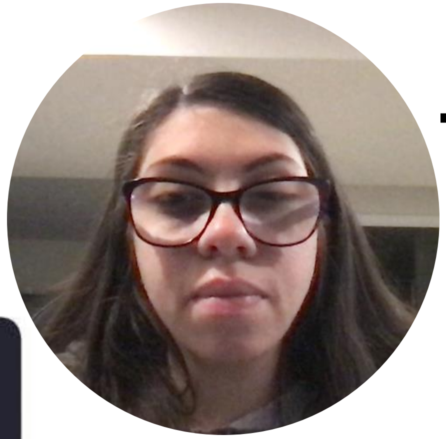
Class Diagram: User interaction and key classes. User, student, Admin, Courses

Sequence Diagram: Interactions during login and course registration.

Activity Diagram: Course registration process.

State Diagram: Course state flow.





PAGE DESIGN OVERVIEW

Landing Page: Login to account or register for account.

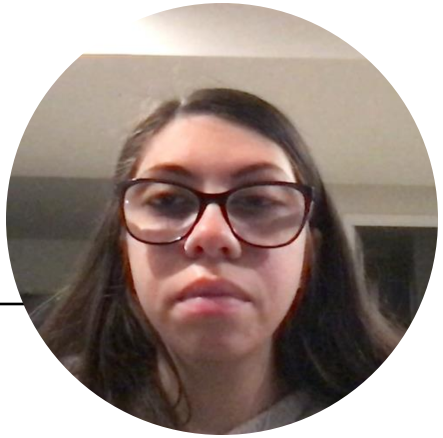
Login Page: Checks user credentials and if they exist in the system.

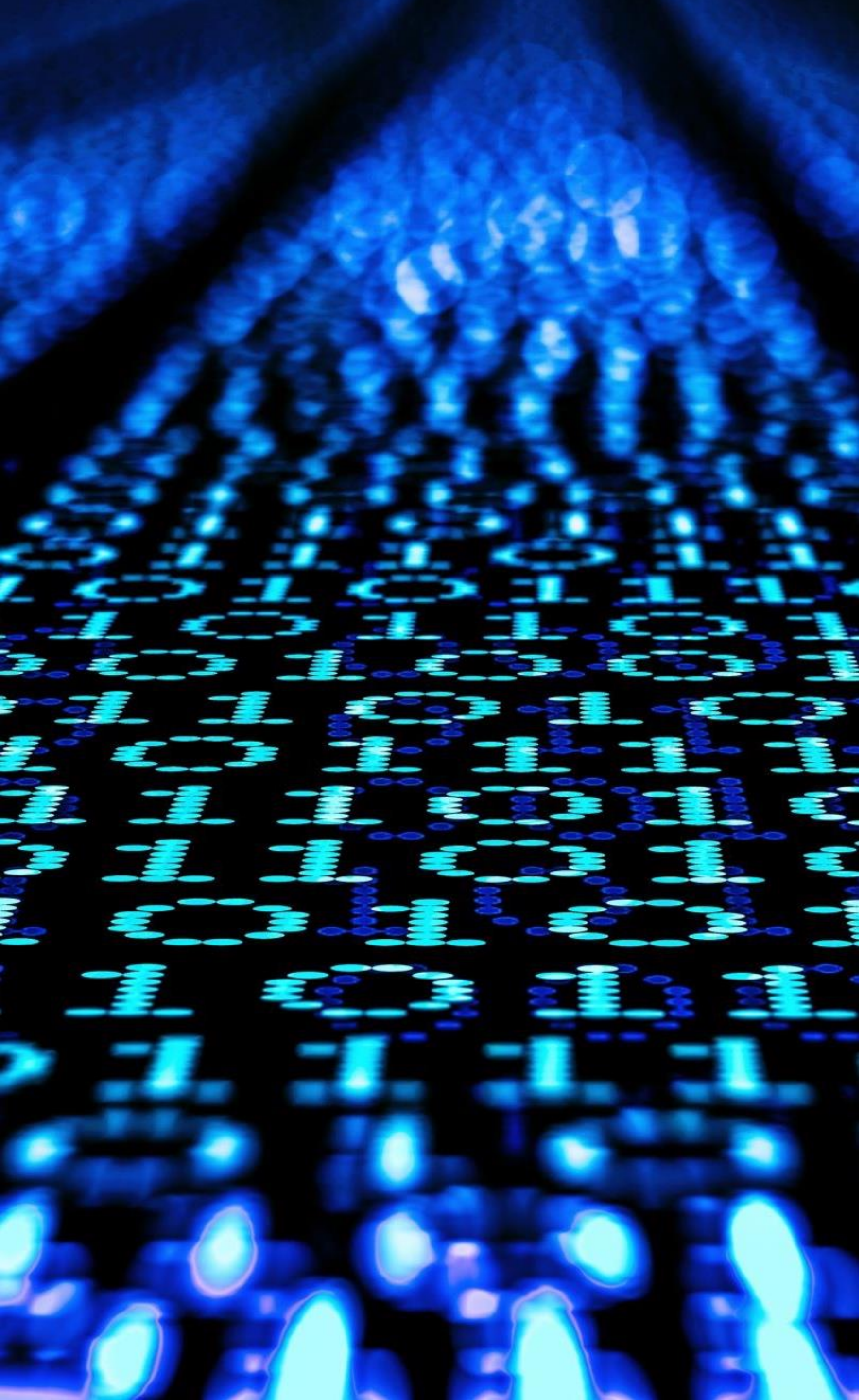
Enrollment page: Shows course list, allows users to register for the class, and shows the student’s schedule.

MYSQL DATABASE DEISGN

Tables: Users, Courses, and Registration.

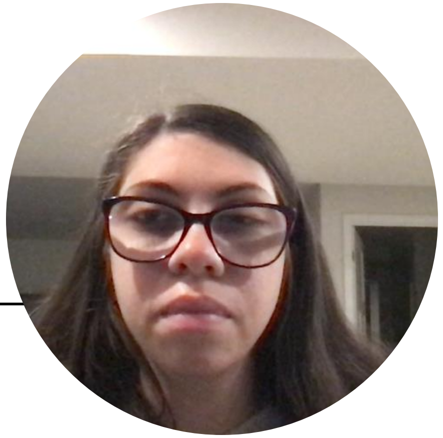
Relationships: Users and registration, Courses and registration.



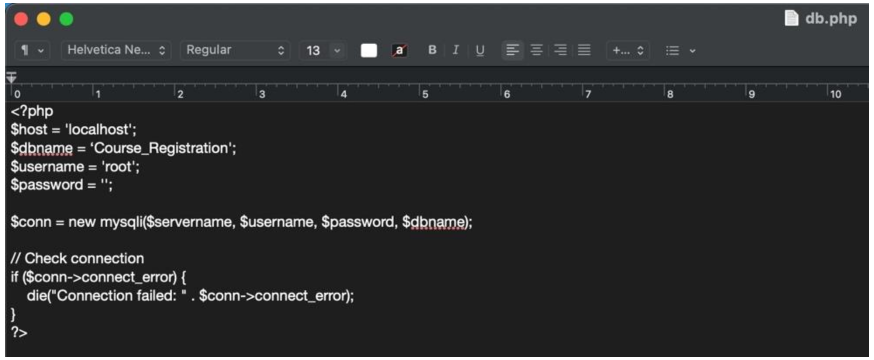


PHP CODE

- Database connection and system welcome message (login or register)
- User login and registration (login and registration processing)
- Course registration
- User dashboard
- Course selection and deletion
- Logout function
- MySQL table creation

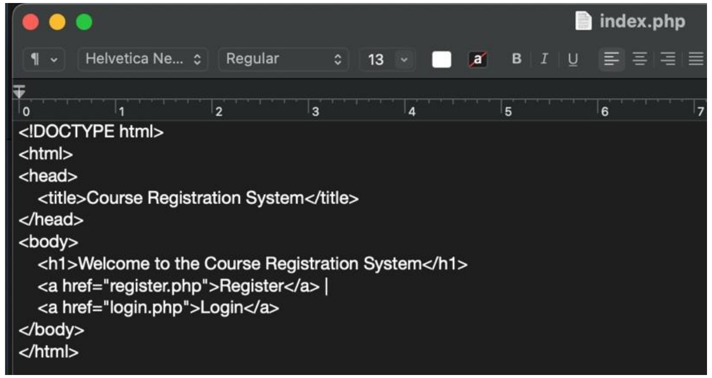


Database connection

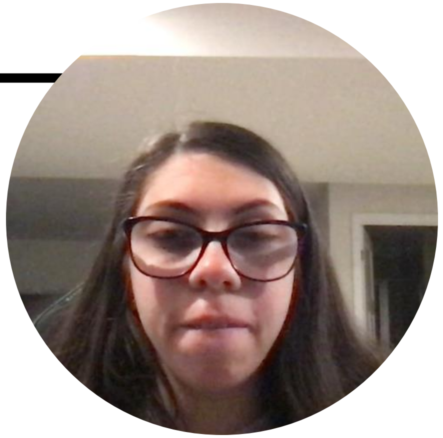


```
<?php
$host = 'localhost';
$dbname = 'Course_Registration';
$username = 'root';
$password = '';

$conn = new mysqli($servername, $username, $password, $dbname);

// Check connection
if ($conn->connect_error) {
   die("Connection failed: " . $conn->connect_error);
}
?>
```

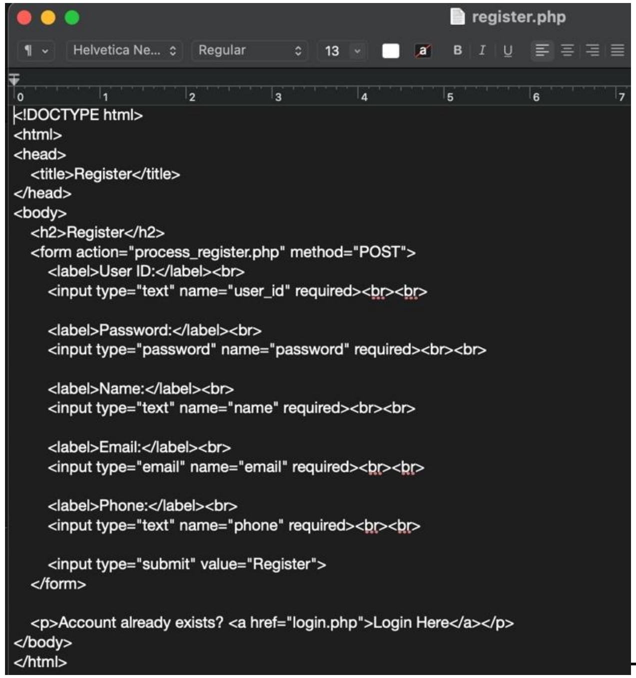
Welcome pages, login, registration



```
<!DOCTYPE html>
<html>
<head>
   <title>Course Registration System</title>
</head>
<body>
   <h1>Welcome to the Course Registration System</h1>
   <a href="register.php">Register</a> |
   <a href="login.php">Login</a>
</body>
</html>
```

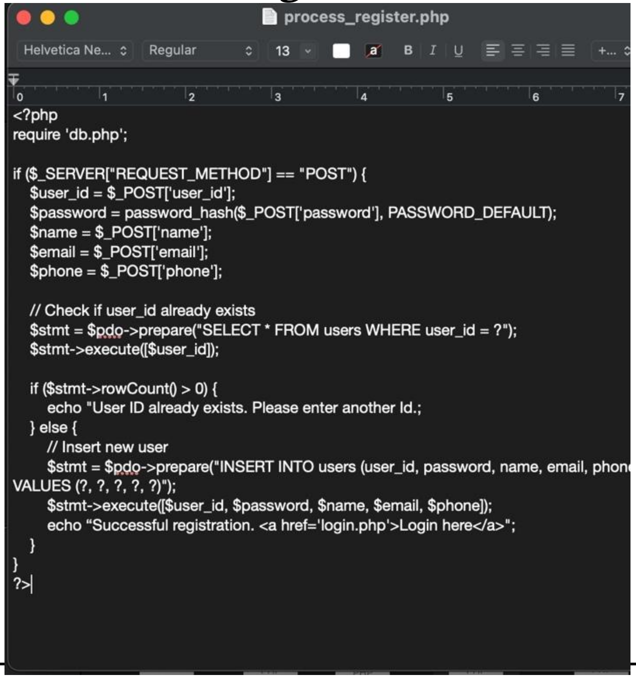


Registration



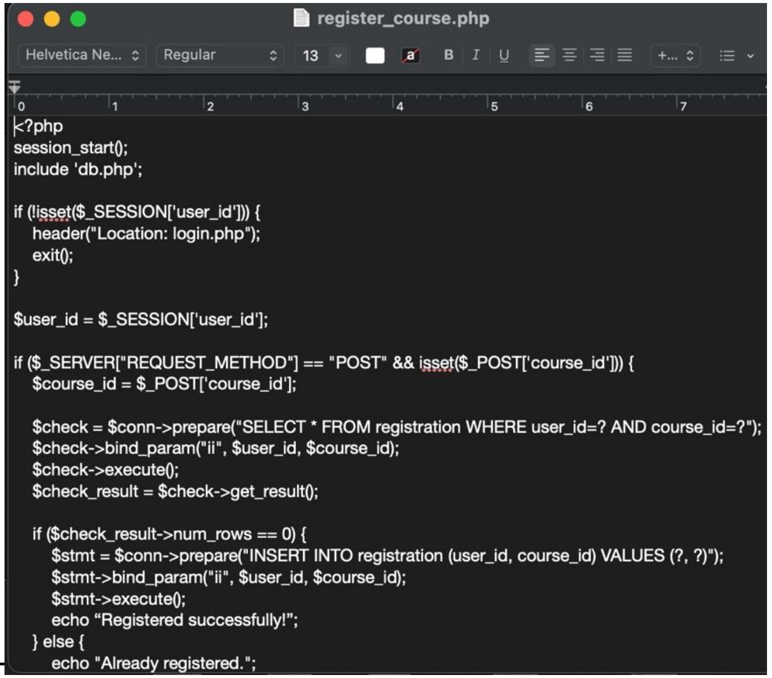
```
<!DOCTYPE html>
<html>
<head>
   <title>Register</title>
</head>
<body>
   <h2>Register</h2>
   <form action="process_register.php" method="POST">
      <label>User ID:</label><br>
      <input type="text" name="user_id" required><br><br>

      <label>Password:</label><br>
      <input type="password" name="password" required><br><br>

      <label>Name:</label><br>
      <input type="text" name="name" required><br><br>

      <label>Email:</label><br>
      <input type="email" name="email" required><br><br>

      <label>Phone:</label><br>
      <input type="text" name="phone" required><br><br>

      <input type="submit" value="Register">
   </form>

   <p>Account already exists? <a href="login.php">Login Here</a></p>
</body>
</html>
```

Process registration



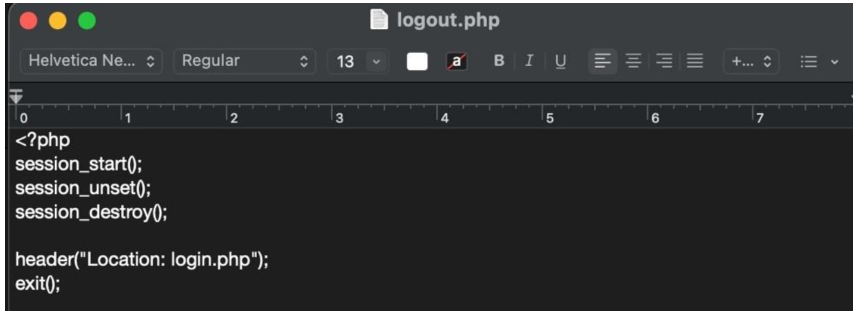
```
<?php
require 'db.php';

if ($_SERVER["REQUEST_METHOD"] == "POST") {
   $user_id = $_POST['user_id'];
   $password = password_hash($_POST['password'], PASSWORD_DEFAULT);
   $name = $_POST['name'];
   $email = $_POST['email'];
   $phone = $_POST['phone'];

   // Check if user_id already exists
   $stmt = $pdo->prepare("SELECT * FROM users WHERE user_id = ?");
   $stmt->execute([$user_id]);

   if ($stmt->rowCount() > 0) {
      echo "User ID already exists. Please enter another Id.;
   } else {
      // Insert new user
      $stmt = $pdo->prepare("INSERT INTO users (user_id, password, name, email, phon
VALUES (?, ?, ?, ?, ?)");
      $stmt->execute([$user_id, $password, $name, $email, $phone]);
      echo "Successful registration. <a href='login.php'>Login here</a>";
   }
}
?>
```

Course Registration



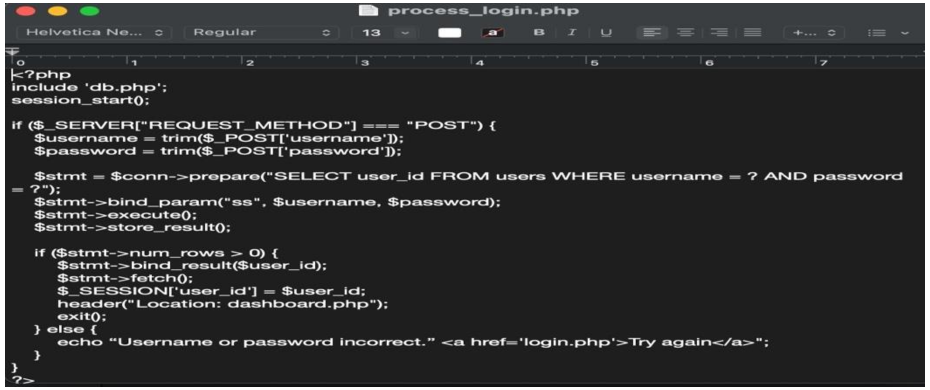
```
<?php
session_start();
include 'db.php';

if (!isset($_SESSION['user_id'])) {
   header("Location: login.php");
   exit();
}

$user_id = $_SESSION['user_id'];

if ($_SERVER["REQUEST_METHOD"] == "POST" && isset($_POST['course_id'])) {
   $course_id = $_POST['course_id'];

   $check = $conn->prepare("SELECT * FROM registration WHERE user_id=? AND course_id=?");
   $check->bind_param("ii", $user_id, $course_id);
   $check->execute();
   $check_result = $check->get_result();

   if ($check_result->num_rows == 0) {
      $stmt = $conn->prepare("INSERT INTO registration (user_id, course_id) VALUES (?, ?)");
      $stmt->bind_param("ii", $user_id, $course_id);
      $stmt->execute();
      echo "Registered successfully!";
   } else {
      echo "Already registered.";
```

Logout

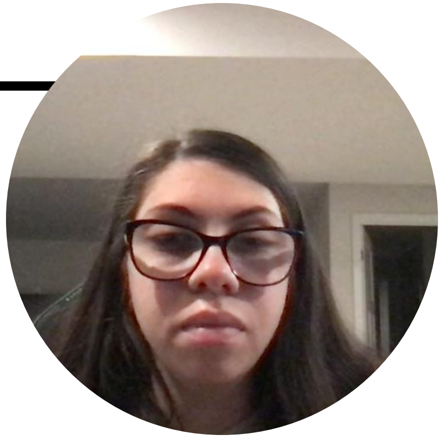


```
<?php
session_start();
session_unset();
session_destroy();

header("Location: login.php");
exit();
```

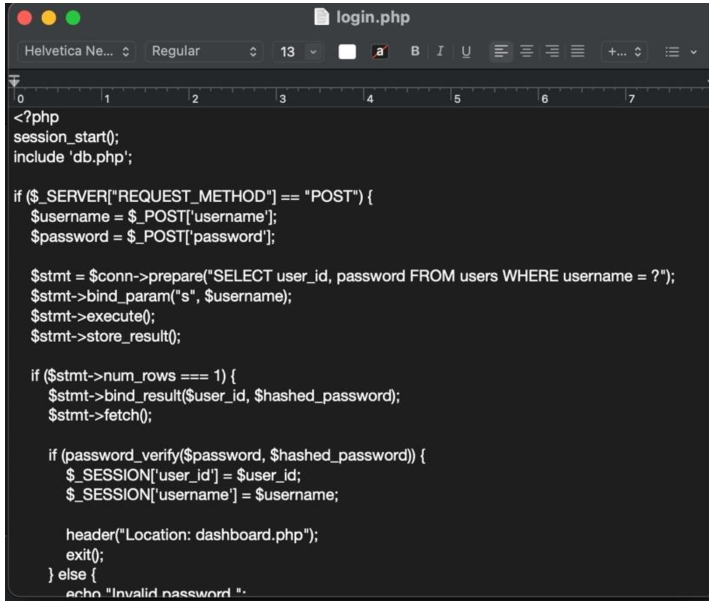
Process Login



```
<?php
include 'db.php';
session_start();

if ($_SERVER["REQUEST_METHOD"] === "POST") {
   $username = trim($_POST['username']);
   $password = trim($_POST['password']);

   $stmt = $conn->prepare("SELECT user_id FROM users WHERE username = ? AND password
= ?");
   $stmt->bind_param("ss", $username, $password);
   $stmt->execute();
   $stmt->store_result();

   if ($stmt->num_rows > 0) {
      $stmt->bind_result($user_id);
      $stmt->fetch();
      $_SESSION['user_id'] = $user_id;
      header("Location: dashboard.php");
      exit();
   } else {
      echo “Username or password incorrect.” <a href='login.php'>Try again</a>";
   }
}
?>
```

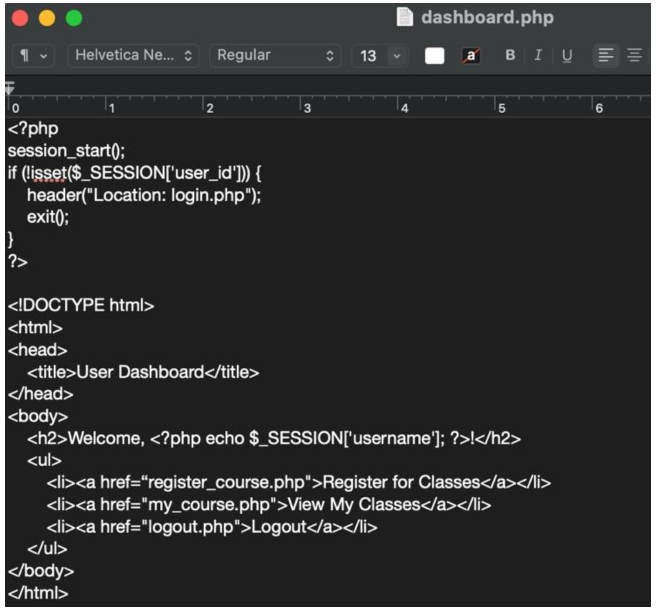


Login



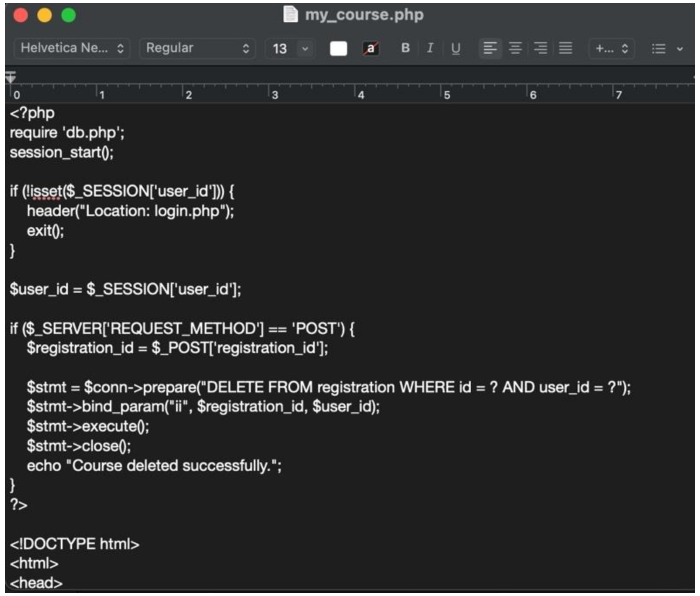
```
<?php
session_start();
include 'db.php';

if ($_SERVER["REQUEST_METHOD"] == "POST") {
   $username = $_POST['username'];
   $password = $_POST['password'];

   $stmt = $conn->prepare("SELECT user_id, password FROM users WHERE username = ?");
   $stmt->bind_param("s", $username);
   $stmt->execute();
   $stmt->store_result();

   if ($stmt->num_rows === 1) {
      $stmt->bind_result($user_id, $hashed_password);
      $stmt->fetch();

      if (password_verify($password, $hashed_password)) {
         $_SESSION['user_id'] = $user_id;
         $_SESSION['username'] = $username;

         header("Location: dashboard.php");
         exit();
      } else {
         echo "Invalid password.";
```

Dashboard



```
<?php
session_start();
if (!isset($_SESSION['user_id'])) {
   header("Location: login.php");
   exit();
}
?>

<!DOCTYPE html>
<html>
<head>
   <title>User Dashboard</title>
</head>
<body>
   <h2>Welcome, <?php echo $_SESSION['username']; ?>!</h2>
   <ul>
      <li><a href="register_course.php">Register for Classes</a></li>
      <li><a href="my_course.php">View My Classes</a></li>
      <li><a href="logout.php">Logout</a></li>
   </ul>
</body>
</html>
```

User courses



```
<?php
require 'db.php';
session_start();

if (!isset($_SESSION['user_id'])) {
   header("Location: login.php");
   exit();
}

$user_id = $_SESSION['user_id'];

if ($_SERVER['REQUEST_METHOD'] == 'POST') {
   $registration_id = $_POST['registration_id'];

   $stmt = $conn->prepare("DELETE FROM registration WHERE id = ? AND user_id = ?");
   $stmt->bind_param("ii", $registration_id, $user_id);
   $stmt->execute();
   $stmt->close();
   echo "Course deleted successfully.";
}
?>

<!DOCTYPE html>
<html>
<head>
```

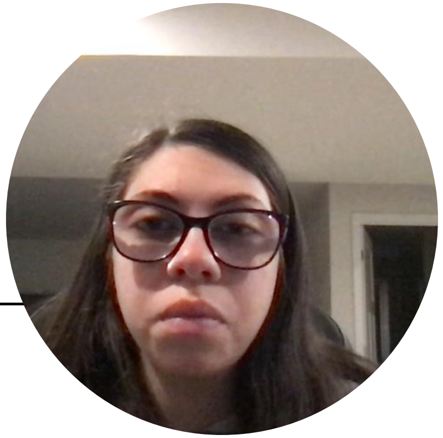
SECURITY AND VALIDATION

Input Validation

Password hashing

Session management

Database access

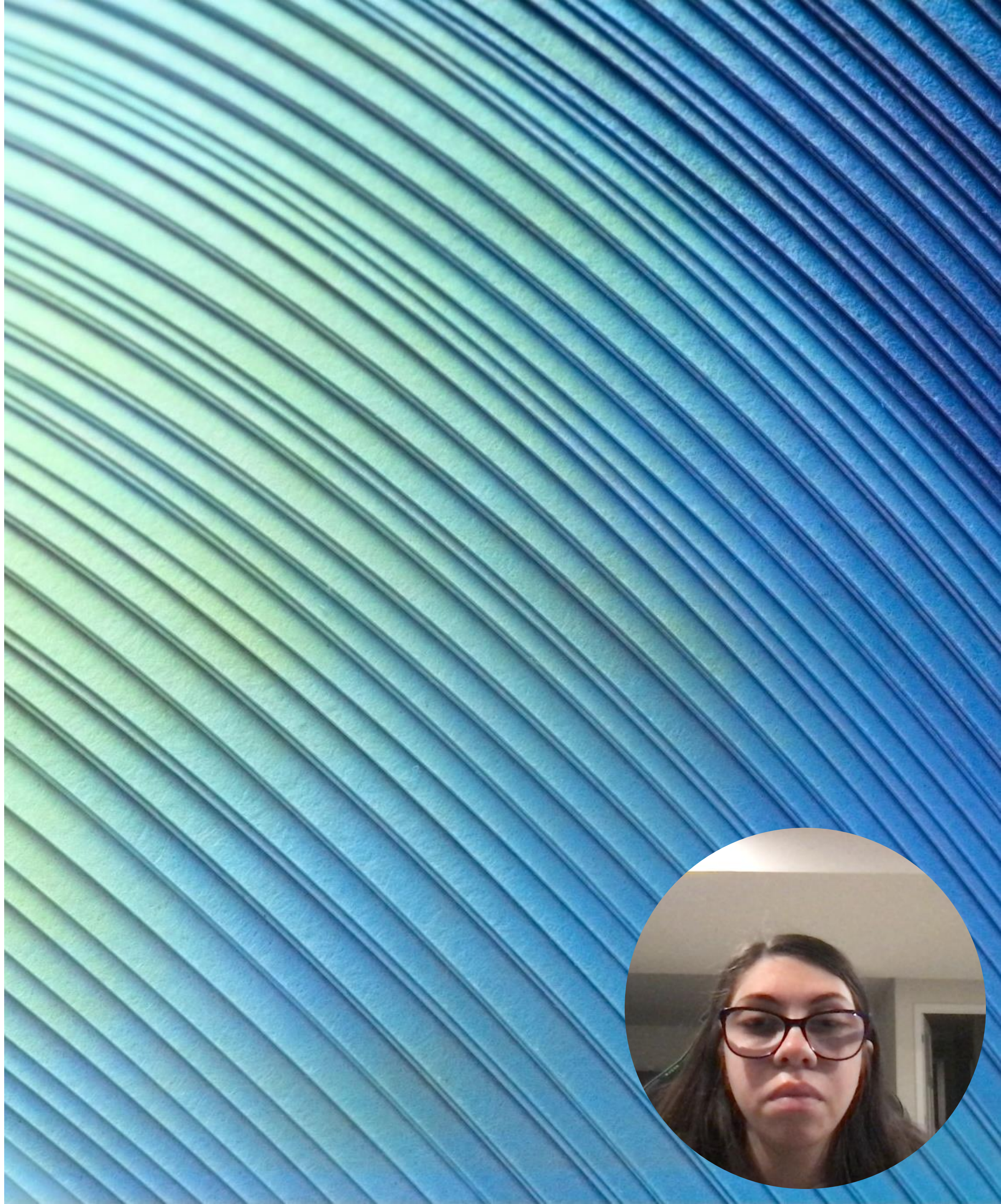


IMPLEMENTATION

Challenges: Integrating the PHP logic (especially the course selection)

Solutions: Correct syntax, spelling, and prepared functions.

Learning Outcomes: Improved backend knowledge and database design.



SUMMARY

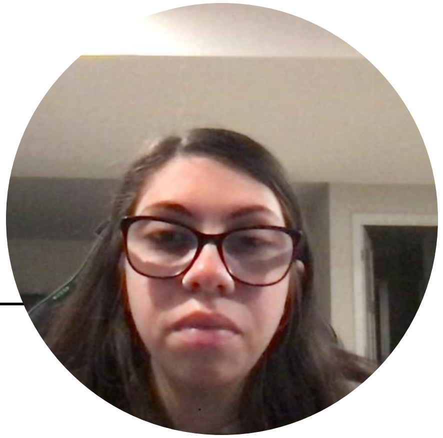
Fully Functional course registration

User registration, login, and course management

Secure

User-friendly

Scalable



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