



Research Match: Sprint 1

Deadline Tech



Research Match

Login or Signup to access Research Match

Student Lab Signup

email@emory.edu

password

Student

Research Match

Login or Signup to access Research Match

Student Lab Signup

email@emory.edu

password

Lab



Research Match

Login or Signup to access Research Match

Student Lab **Signup**

Enter your name

email@emory.edu

password

Confirm password

Signup

HTML CODE:

```
<Index.html > ↴ html > ↴ body > ↴ div.container
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="utf-8">
6      <meta name="viewport" content="width=device-width,
7          initial-scale=1.0">
8      <title>Research Match</title>
9      <link rel="stylesheet" href="style.css">
10 </head>
11
12 <body>
13     <header>
14         <h1 class="heading">Research Match</h1>
15         <h3 class="title">Login or Signup to access Research Match</h3>
16     </header>
17
18     <!-- container div -->
19     <div class="container">
20
21         <!-- upper button section to select
22             the login or signup form -->
23         <div class="slider"></div>
24         <div class="btn">
25             <button class="student">Student</button>
26             <button class="lab">Lab </button>
27             <button class="signup">Signup</button>
28         </div>
29
30         <!-- Form section that contains the
31             login and the signup form -->
32         <div class="form-section">
33
34             <!-- login form -->
35             <div class="student-box">
36                 <input type="email" class="email ele" placeholder="email@emory.edu">
37                 <input type="password" class="password ele" placeholder="password">
38
39                 <button class="clkbtn" onclick="window.location.href = 'StudentMain.html';">Student</button>
40                 <!-- <button class="clkbtn">Student</button> -->
41             </div>
42
43             <div class="lab-box">
44                 <input type="email" class="email ele" placeholder="email@emory.edu">
```

```
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
<div class="lab-box">
    <input type="email" class="email ele" placeholder="email@emory.edu">
    <input type="password" class="password ele" placeholder="password">
    <button class="clkbtn" onclick="window.location.href = 'StudentMain.html';">Lab</button>
</div>
<!-- signup form -->
<div class="signup-box">
    <input type="text" class="name ele" placeholder="Enter your name">
    <input type="email" class="email ele" placeholder="email@emory.edu">
    <input type="password" class="password ele" placeholder="password">
    <input type="password" class="password ele" placeholder="Confirm password">
    <button class="clkbtn" onclick="window.location.href = 'StudentMain.html';">Signup</button>
</div>
<script src="index.js"></script>
</body>
```

Ln 20, Col 1 Spaces: 7 UTF-8 L

Ln 20, Col 1 Spaces: 7 UTF-8 LF

JAVASCRIPT CODE:

```
JS Index.js > ...
1  let signup = document.querySelector(".signup");
2  let student = document.querySelector(".student");
3  let lab = document.querySelector(".lab");
4  let slider = document.querySelector(".slider");
5  let formSection = document.querySelector(".form-section");
6
7  signup.addEventListener("click", () => {
8      slider.classList.add("moveslider2");
9      formSection.classList.add("form-section-move2");
10 });
11
12 student.addEventListener("click", () => {
13     slider.classList.remove("moveslider");
14     slider.classList.remove("moveslider2");
15     formSection.classList.remove("form-section-move");
16     formSection.classList.remove("form-section-move2");
17 });
18
19 lab.addEventListener("click", () => {
20     slider.classList.add("moveslider");
21     slider.classList.remove("moveslider2");
22     formSection.classList.add("form-section-move");
23     formSection.classList.remove("form-section-move2");
24
25});|
```

Research Match

Profile Page

Opportunities

Matches

My Roles

Welcome Back!



Eli Dhillon

GPA: 3.9

Biology

Anthropology

Biology

Add New Interest

My Documents:

Upload a new document:

No file chosen

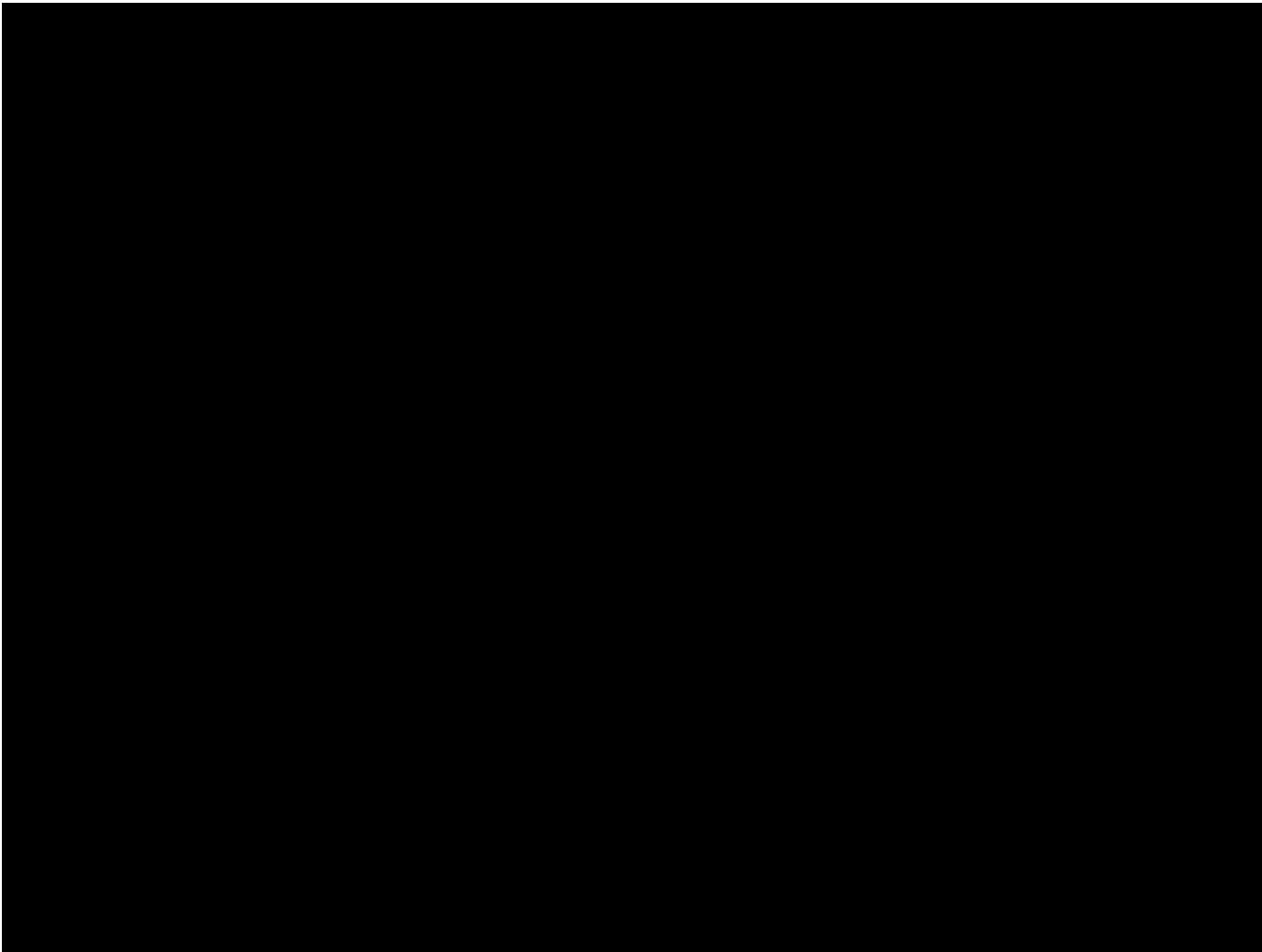
My Files:

About Me:

Help Labs Get To Know You:

Courses I've taken:

Add a course:



HTML CODE:

```
<> StudentMain.html > html > body > nav.menuBar
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5    <meta charset="utf-8">
6    <meta name="viewport" content="width=device-width,
7    | | | | | | | | initial-scale=1.0">
8    <title>StudentProfile</title>
9    <link rel="stylesheet" href="Profile.css">
10
11 </head>
12
13 <body>
14
15   <nav class="menuBar">
16
17     <div class="container">
18       <a class='logo'>Research Match</a>
19
20       <p class="topBar">
21         <button class="clkbtn" onclick="window.location.href = 'StudentMain.html';">Profile Page</button>
22         <button class="clkbtn" onclick="window.location.href = 'Opportunities.html';">Opportunities</button>
23         <button class="clkbtn" onclick="window.location.href = 'Matches.html';">Matches</button>
24         <button class="clkbtn" onclick="window.location.href = 'Roles.html';">My Roles</button>
25
26     </p>
27
28   </div>
29
30 </nav>
31
32 <header>
33   <!-- <h1 class="heading">Student Profile</h1> -->
34   <h2 class="title">Welcome Back!</h2>
35 </header>
36
37 <div class="FourBoxLayout">
38
```

```
40 <div class="Identity">
41   
42   <div class="Identityinfo">
43     <h2 class="StudentName">Eli Dhillon</h2> 79
44     <div class="tags">
45       <span class="tag"> GPA: 3.9</span>
46       <span class="tag"> Biology</span>
47       <span class="tag"> Anthropology</span>
48       <span class="tag"> Biology</span>
49       <div id="list_item">
50         </div>
51       <span class="tag"> Biology</span>
52     </div>
53
54     <input type='text' id='user_input' />
55     <input type="button" id="addSkill" value="Add New Interest">
56   </div>
57 </div>
58
59 <div class="Documents">
60   <h2 class="Margins">My Documents:</h2>
61   <p class="Margins"> Upload a new document: </p>
62   <input id="image-file" type="file" onchange="SavePhoto(this)" class="Margins">
63   <p class="Margins"> My Files:</p>
64   <br><br>
65 </div>
66
67
68 <div class="Biography">
69   <h2 class="Margins">About Me:</h2>
70   <div class="Margins" id="target"> </div>
71   <form class="Biographyform">
72     <p class="Margins">Help Labs Get To Know You: </p>
73     <textarea id="bio" name="biotext" rows="8" cols="20" placeholder="Hello, I am..."></textarea>
74     <button type="submit" name="biographysubmit">Submit!</button>
75   </form>
76
77 </div>
78
```

```
79
80   <div class="Courses">
81     <h2 class="Margins">Courses I've taken:</h2>
82     <div class="Margins" id="target2"> </div>
83     <form class="courseform">
84       <p class="Margins">Add a course: </p>
85       <textarea id="course" name="coursename" rows="2" cols="20" placeholder="Course #"></textarea>
86       <button type="submit" name="coursesubmit">Add!</button>
87     </div>
88   </div>
89   <script src="Profile.js"> </script>
90
91 </body>
```

JAVASCRIPT CODE:

```
JS Profile.js > ...
1  document.querySelector("form.Biographyform").addEventListener("submit", function(event) {
2      event.preventDefault();
3      document.getElementById("target").innerText = document.getElementById("bio").value;
4  });
5
6
7  document.querySelector("form.Courseform").addEventListener("submit", function(event) {
8      event.preventDefault();
9      document.getElementById("target2").innerText = document.getElementById("course").value;
10
11 });
12
13 function SavePhoto(e)
14 {
15     let user = { name:'john', age:34 };
16     let xhr = new XMLHttpRequest();
17     let formData = new FormData();
18     let photo = e.files[0];
19
20     formData.append("user", JSON.stringify(user));
21     formData.append("photo", photo);
22
23     xhr.onreadystatechange = state => { console.log(xhr.status); } // err handling
24     xhr.timeout = 5000;
25     xhr.open("POST", '/upload/image');
26     xhr.send(formData);
27 }
28
29 document.getElementById("addSkill").onclick = function() {
30
31     var node = document.createElement("Li");
32     var text = document.getElementById("user_input").value;
33     var textnode=document.createTextNode(text);
34     node.appendChild(textnode);
35     document.getElementById("list_item").appendChild(node);
36 }
```

Welcome Back, Eli Lab!



Eli Laboratory

Microbiology Biology
Anthropology Biosynthesis

Add New Interest

Introduction

About the Eli Lab:

My Documents

Upload any documents you would like to include in your profile:

No file chosen

Uploaded Documents:

Lab Requirements

List your requirements and prerequisites below:

Lab User Profile HTML code

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <meta name="viewport"
        content="width=device-width,
        initial-scale=1.0">
<title>LaboratoryProfile</title>
<link rel="stylesheet"
    href="LabProfile.css">
</head>

<body>

    <nav class="menubar">
        <div class="container">
            <a class="logo">Research Match</a>

            <p class="topBar">
                <button class="clkbtn" onclick="window.location.href = 'LabProfileMain.html';">Profile Page</button>
                <button class="clkbtn" onclick="window.location.href = 'Opportunities.html';">Student Profile</button>
                <button class="clkbtn" onclick="window.location.href = 'Matches.html';">Matches</button>
                <button class="clkbtn" onclick="window.location.href = 'Roles.html';">My Laboratory Members</button>
            </p>
        </div>
    </nav>

    <header>
        <!-- <h1 class="heading">Student Profile</h1> -->
        <h2 class="title">Welcome Back, Eli Lab!</h2>
    </header>
```

```
<div class="FourBoxLayout">

    <div class="Identity">
        
        <div class="Identityinfo">
            <h2 class="StudentName">Eli Laboratory</h2>
        </div>
        <div class="tags">
            <span class="tag"> Microbiology</span>
            <span class="tag"> Biology</span>
            <span class="tag"> Anthropology</span>
            <span class="tag"> Biosynthesis</span>
            <br>
        </div>
        <br>
        <input type='text' id='user_input' />
        <input type="button" id="addSkill" value="Add New Interest">
        <br>
    </div>
    </div>

    <div class="Documents">
        <h2 class="Margins">My Documents</h2>
        <p class="Margins"> Upload any documents you would like to include in your profile: </p>
        <input id="image-file" type="file" onchange="SavePhoto(this)" class="Margins">
        <p class="Margins"> Uploaded Documents:</p>
        <br><br>
    </div>

    <div class="Biography">
        <h2 class="Margins">Introduction</h2>
        <div class="Margins" id="target"> </div>
        <form class="Biographyform">
            <p class="Margins"> About the Eli Lab: </p>
            <textarea id="bio" name="biotext" rows="2" cols="30" placeholder="The Eli lab..."/></textarea>
            <button type="submit" name="biographysubmit">Submit</button>
        </form>
    </div>
```

Lab User Profile CSS code

```
.Identity {  
    height: 90%;  
    width: 95%;  
    margin: 30px;  
    border: 1px solid darkblue;  
    font-family: 'Times New Roman', Times, serif;  
    box-shadow: 1px 1px 1px 1px solid rgb(228, 228, 228);  
    border-radius: 30px;  
    display: grid;  
    grid-template-columns: 40% 50%;  
}  
  
.tags{  
    padding: 0 25px 0 25px;  
}  
  
.tag []{  
    border-radius: 0px;  
    background-color: #rgb(84, 116, 243);  
    font-size: 15px;  
    border: none;  
    cursor: pointer;  
    padding: 0 10px 0 10px;  
    width: fit-content;  
    height: fit-content;  
}
```

```
.Biography {  
    height: 90%;  
    width: 90%;  
    margin: 30px;  
    display: flex;  
    flex-direction: column;  
    border: 1px solid darkblue;  
    font-family: 'Times New Roman', Times, serif;  
    box-shadow: 1px 1px 1px 1px solid rgb(228, 228, 228);  
    border-radius: 30px;  
    padding: 15px;  
}  
  
.Courses {  
    height: 90%;  
    width: 90%;  
    margin: 30px;  
    display: flex;  
    flex-direction: column;  
    border: 1px solid darkblue;  
    font-family: 'Times New Roman', Times, serif;  
    box-shadow: 1px 1px 1px 1px solid rgb(228, 228, 228);  
    border-radius: 30px;  
    padding: 15px;  
}
```

Opportunities



XYZ Research Lab

XYZresearchlab@emory.edu

Welcome to the exciting world of the XYZ Research Lab, where innovation knows no bounds and curiosity fuels our quest for knowledge! Our cutting-edge lab is currently seeking passionate and driven students to join our dynamic research team. Nestled at the forefront of scientific discovery, our lab is dedicated to pushing the boundaries of human understanding in fields such as biotechnology, artificial intelligence, and environmental science. As a student researcher here, you'll have the opportunity to work alongside world-class scientists, engage in groundbreaking experiments, and contribute to projects that have the potential to change the world. Whether you're a budding biologist, a tech enthusiast, or an environmental advocate, our lab offers a diverse range of opportunities to explore, learn, and grow. Join us on this thrilling journey of exploration, innovation, and discovery, and be part of a team that is shaping the future of science.

[Message](#)[Match](#)[View Full Profile](#)

Biology Laboratory

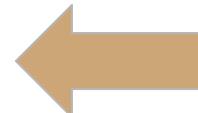
biologylaboratory@emory.edu

Welcome to our state-of-the-art Biology Laboratory, a hub of scientific exploration and discovery. Here, we delve deep into the intricate web of life, unraveling its mysteries one experiment at a time. Our lab is a haven for inquisitive minds, whether you are a seasoned researcher or a budding scientist eager to embark on your journey. Equipped with cutting-edge technology and staffed by a team of dedicated experts, our Biology Lab offers a diverse range of research opportunities, from genetic studies and ecological investigations to microbiological explorations. We are committed to fostering innovation, advancing our

```
<div id="matches">
  <div class="pagetitle">
    <h3>Opportunities</h3>
  </div>
</div>
<script type="text/javascript" src="scripts/scripts.js"></script>
```



```
▼<div id="matches"> (grid)
  ▼<div class="pagetitle">
    <h3>Opportunities</h3>
  </div>
  ▼<div class="match"> (grid) == $0
    
    ▶<div class="matchTitle">...</div>
    ▶<div class="matchButtonsDiv">...</div> (grid)
  </div>
  ▼<div class="match"> (grid)
    
    ▶<div class="matchTitle">...</div>
    ▶<div class="matchButtonsDiv">...</div> (grid)
  </div>
  ▼<div class="match"> (grid)
    
    ▶<div class="matchTitle">...</div>
    ▶<div class="matchButtonsDiv">...</div> (grid)
  </div>
</div>
<script type="text/javascript" src="scripts/scripts.js"></script>
```



```
const matches = document.getElementById("matches");

// Creates matches on opportunities page
function addMatchElement(imgSrc, header, subtitle, desc) {
  // Div container
  var matchDiv = document.createElement("div");
  matchDiv.classList.add("match");

  // Image
  var img = document.createElement("img");
  img.classList.add("thumbnail");
  img.src = imgSrc;
  matchDiv.appendChild(img);

  // Title container
  var title = document.createElement("div");
  title.classList.add("matchTitle");
  matchDiv.appendChild(title);
  var titleHeader = document.createElement("h1"); // name of lab
  titleHeader.textContent = header;
  title.appendChild(titleHeader);
  var titleSubheader = document.createElement("h2"); // lab subtitle
  titleSubheader.textContent = subtitle;
  title.appendChild(titleSubheader);

  // Lab description
  var infoContainer = document.createElement("div");
  infoContainer.classList.add("matchInfo");
  title.appendChild(infoContainer);
  var info = document.createElement("p");
  info.classList.add("matchText");
  info.textContent = desc;
  infoContainer.appendChild(info);

  // Buttons container
  var buttons = document.createElement("div");
  buttons.classList.add("matchButtonsDiv");
  matchDiv.appendChild(buttons);
  var messageButton = document.createElement("button"); // message button
  messageButton.classList.add("matchButtons");
  messageButton.textContent = "Message";
  buttons.appendChild(messageButton);
  var matchButton = document.createElement("button"); // match button
  matchButton.classList.add("matchButtons");
  matchButton.textContent = "Match";
  buttons.appendChild(matchButton);
  var viewFullProfileButton = document.createElement("button"); // view full profile button
  viewFullProfileButton.classList.add("matchButtons");
  viewFullProfileButton.textContent = "View Full Profile";
  buttons.appendChild(viewFullProfileButton);

  matches.appendChild(matchDiv);
}
```



Opportunities



XYZ Research Lab

XYZresearchlab@emory.edu

Welcome to the exciting world of the XYZ Research Lab, where innovation knows no bounds and curiosity fuels our quest for knowledge! Our cutting-edge lab is currently seeking passionate and driven students to join our dynamic research team. Nestled at the forefront of scientific discovery, our lab is dedicated to pushing the boundaries of human understanding in fields such as biotechnology, artificial intelligence, and environmental science. As a student researcher here, you'll have the opportunity to work alongside world-class scientists, engage in groundbreaking experiments, and contribute to projects that have the potential to change the world. Whether you're a budding biologist, a tech enthusiast, or an environmental advocate, our lab offers a diverse range of opportunities to explore, learn, and grow. Join us on this thrilling journey of exploration, innovation, and discovery, and be part of a team that is shaping the future of science.

[Message](#)

[Match](#)

[View Full Profile](#)



Biology Laboratory

biologylaboratory@emory.edu

Welcome to our state-of-the-art Biology Laboratory, a hub of scientific exploration and discovery. Here, we delve deep into the intricate web of life, unraveling its mysteries one experiment at a time. Our lab is a haven for inquisitive minds, whether you are a seasoned researcher or a budding scientist eager to embark on your journey. Equipped with cutting-edge technology and staffed by a team of dedicated experts, our Biology Lab offers a diverse range of research

```
.match {  
    grid-column-start: 1;  
    grid-column-end: 1;  
    display: grid;  
    overflow: hidden;  
    border-radius: 40px;  
    border-width: 0.25em;  
    border-style: solid;  
    border-color: var(--color-bg-1);  
    box-shadow: 8px 8px 20px ■rgb(128, 128, 128);  
    padding: 1rem;  
}  
.thumbnail {  
    grid-row: 1;  
    grid-column: 1;  
    justify-self: center;  
    flex-shrink: 0;  
    min-width: 100%;  
    max-width: 100%;  
    border-radius: 40px;  
    border-width: 0.5em;  
    border-style: solid;  
    border-color: ■white;  
    padding-right: 1rem;  
    padding-left: 1rem;  
}
```

Navbar

- Font Awesome for SVGs



- Only uses HTML and CSS

```
/* Navbar */
.navbar {
  height: 5rem;
  width: 100vw;
  position: fixed;
  background-color: var(--color-bg-1);
  transition: 200ms ease;
}
.navbar:hover .link-text {
  display: block;
}
.navbar #selected .link-text {
  display: block;
}
.navbar #selected {
  background-color: var(--color-bg-2);
}
.transition-primary {
  color: var(--color-hover);
  transition: var(--transition-speed);
}
.navbar-nav {
  list-style: none;
  padding: 0;
  margin: 0;
  display: flex;
  flex-direction: row;
  overflow: hidden;
}

.nav-link {
  display: flex;
  align-items: center;
  height: 5rem;
  color: var(--color-text1);
  text-decoration: none;
  filter: grayscale(10%) opacity(0.7);
  transition: var(--transition-speed);
}
.nav-link:hover {
  filter: grayscale(0%) opacity(1);
  color: var(--color-text2);
}
.link-text {
  display: none;
  margin-left: 1rem;
}
.nav-link svg {
  min-height: 2rem;
  margin: 0 1.5rem;
}
```

A screenshot of the browser's developer tools, specifically the element inspector. It shows the HTML structure of a navbar item. The "nav-item" class is highlighted in blue. The "link" class contains an anchor tag with a href of "profile.html". Inside the anchor is a span with the text "Profile" and an SVG icon. The SVG is defined with a "fa-group" class and contains a path element with a large number of coordinates, indicating it's a complex icon like a person or a briefcase. A tooltip at the bottom of the SVG area says "Font Awesome Free 6.4.2 by @fontawesome - https://fontawesome.com/license (Commercial License)".

Lab User: My Lab Members

Research Match

Profile Page

Student Profiles

Matches

My Laboratory Members

Lab Members



Dr. Samantha Smith

Email: smith.samantha@emory.edu
Position: Administrator



Amanda Graywood

Email:
graywood.amanda12@emory.edu
Position: Student Leader

Lab User: Lab Members Code

```
<div class = "FourBoxLayout">
  <div class="Labinfo">
    
    <h2 class ="LabMemberName">Dr. Samantha Smith</h2>
    <div class="Info">
      <span class="LabMemberInfo">Email: smith.samantha@emory.edu</span>
      <span class="LabMemberInfo">Position: Administrator</span>
      <br>
    </div>
    <br>
  </div>
</div>

<div class = "FourBoxLayout">
  <div class="Labinfo">
    
    <h2 class ="LabMemberName">Amanda Graywood</h2>
    <div class="Info">
      <span class="LabMemberInfo">Email: graywood.amanda12@emory.edu</span>
      <span class="LabMemberInfo">Position: Student Leader</span>
      <br>
    </div>
    <br>
  </div>
</div>
```

```
.Labinfo {
  height: 90%;
  width: 90%;
  margin: 50px;
  margin-left: 350px;
  border: 1px solid darkblue;
  font-family: 'Times New Roman', Times, serif;
  box-shadow: 1px 1px 1px 1px solid #rgb(228, 228, 228);
  border-radius: 30px;
  display:grid;
  grid-template-columns: 50% 50%;
}

.LabMembername {
  padding: 0 25px 0 25px;
}
.LabMemberInfo[] {
  padding: 0 25px 0 25px;
  width: 0 30px 0 30px;
  height: 0 25px 0 25px;
  font-size: 15px;
  align-items: center;
}
.LabPicture {
  padding: 0 25px 0 25px;
  width: 100px;
  height: 100px;
  overflow: hidden;
  border-radius: 50%;
}
.LabPicture img {
  width: 100%;
  height: auto;
}
.Info {
  padding: 0 25px 0 25px;
}

.FourBoxLayout {
  display: grid;
  grid-template-columns: 50% 50%;
  gap: 50px;
}
```

Student User: My Roles Tab

127.0.0.1:5500/MyRoles.html

Research Match Profile Page Opportunities Matches My Roles

Current Labs



Smith Lab

Biochemistry Biosynthesis Microbiology

Email: smith.samantha@emory.edu
Position: Student Leader

Past Labs



Peterson Lab

Biochemistry Biosynthesis

Email: peterson.andrews@emory.edu
Position: Student Lab Member

```
<header>
  <h2 class="title">Current Labs</h2>
</header>

<div class ="FourBoxLayout">
  <div class="Labinfo">
    
    <h2 class ="LabMemberName">Smith Lab</h2>
    <div class="tags">
      <span class="tag"> Biochemistry</span>
      <span class="tag"> Biosynthesis</span>
      <span class="tag"> Microbiology</span>
    </div>
    <div class="Info">
      <span class="LabMemberInfo">Email: smith.samantha@emory.edu</span>
      <span class="LabMemberInfo">Position: Student Leader</span>
      <br>
    </div>
    <br>
  </div>
</div>

<header>
  <h2 class = "title">Past Labs</h2>
</header>
<div class ="FourBoxLayout">
  <div class="Labinfo">
    
    <h2 class ="LabMemberName">Peterson Lab</h2>
    <div class="tags">
      <span class="tag"> Biochemistry</span>
      <span class="tag"> Biosynthesis</span>
    </div>
    <div class="Info">
      <span class="LabMemberInfo">Email: peterson.andrews@emory.edu</span>
      <span class="LabMemberInfo">Position: Student Lab Member</span>
      <br>
    </div>
    <br>
  </div>
</div>
```

```
.Labinfo {
  height: 90%;
  width: 90%;
  margin: 50px;
  margin-left:350px;
  border: 1px solid darkblue;
  font-family: 'Times New Roman', Times, serif;
  box-shadow: 1px 1px 1px 1px #rgb(228, 228, 228);
  border-radius: 30px;
  display:grid;
  grid-template-columns: 50% 50%;
}

.LabMembername {
  padding: 0 25px 0 25px;
}

.LabMemberInfo{
  padding: 0 25px 0 25px;
  width: 0 40px 0 40px;
  height: 0 25px 0 25px;
  font-size: 15px;
  align-items: center;
}

.LabPicture {
  padding: 0 25px 0 25px;
  width: 150px;
  height: 150px;
  overflow: hidden;
  border-radius: 50%;
}

.LabPicture img {
  width: 100%;
  height: auto;
}

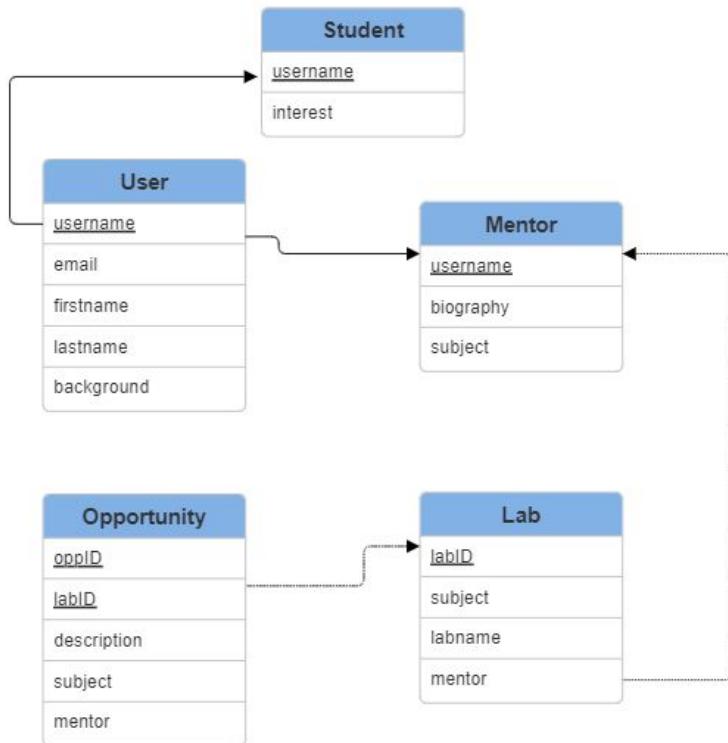
.Info {
  padding: 0 25px 0 25px;
}

.FourBoxLayout {
  display: grid;
  grid-template-columns: 50% 50% 50%;
  gap: 50px;
}

.tags {
  padding: 0 25px 0 25px;
}

.tag {
  border-radius: 0px;
  background-color: #rgb(84, 116, 243);
  font-size: 15px;
  border: none;
  cursor: pointer;
  padding: 0 10px 0 10px;
  width: fit-content;
  height: fit-content;
}
```

Back End: Building a Simple Database

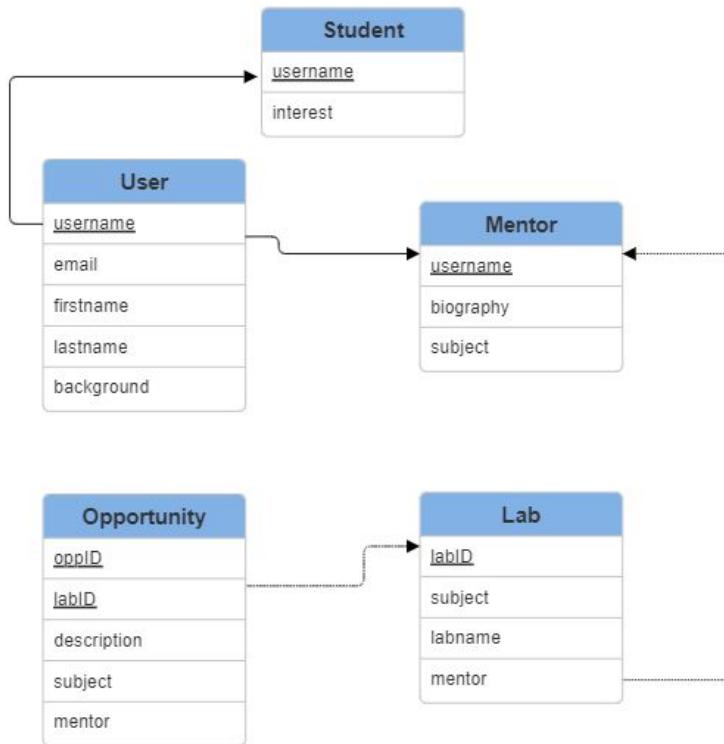


```
-- Create a table for general users
CREATE TABLE generic_user (
    username VARCHAR(255) PRIMARY KEY,
    email VARCHAR(255) NOT NULL,
    firstname VARCHAR(255) NOT NULL,
    lastname VARCHAR(255) NOT NULL,
    background VARCHAR(255),
    CONSTRAINT chk_background CHECK (background = 'student' OR background = 'mentor')
);

-- Create a table specifically for student users
CREATE TABLE student (
    username VARCHAR(255) PRIMARY KEY,
    interest VARCHAR(255) NOT NULL,
    FOREIGN KEY (username) REFERENCES generic_user(username)
);

-- Create a table specifically for research mentor users
CREATE TABLE mentor (
    username VARCHAR(255) PRIMARY KEY,
    biography VARCHAR(255) NOT NULL,
    subject VARCHAR(255) NOT NULL,
    FOREIGN KEY (username) REFERENCES generic_user(username)
);
```

Back End: Building a Simple Database



```
CREATE TABLE lab (
    labID VARCHAR(5) PRIMARY KEY,
    subject VARCHAR(255) NOT NULL,
    labname VARCHAR(255) NOT NULL,
    mentor VARCHAR(255) NOT NULL,
    oppID VARCHAR(255) UNIQUE NOT NULL,
    FOREIGN KEY (mentor) REFERENCES mentor(username)
);

CREATE TABLE opportunity (
    oppID VARCHAR(5),
    subject VARCHAR(255) NOT NULL,
    description VARCHAR(255) NOT NULL,
    mentor VARCHAR(255) NOT NULL,
    PRIMARY KEY (oppId, mentor),
    FOREIGN KEY (mentor) REFERENCES mentor(username)
);
```

Back End: Bun

Bun is a Go database query and Object Relational Mapping library

Allows for easy creation of complex queries for relational databases such as PostgreSQL

```
package main

// Import necessary drivers and modules
import (
    "github.com/uptrace/bun"
    "github.com/uptrace/bun/dialect/pgdialect"
    "github.com/uptrace/bun/driver/pgdriver"
    "os"
    // "context"
    "fmt"
    "database/sql"
    "log"
    _ "github.com/lib/pq"
)
```

```
func main() {

    //Collect dsn connection variables from environment
    username := os.Getenv("DB_USERNAME")
    password := os.Getenv("DB_PASSWORD")
    host := os.Getenv("DB_HOST")
    port := os.Getenv("DB_PORT")

    // Compile variables into dsn string
    fmt.Println("Connecting to the database...")
    dsn := fmt.Sprintf(
        "postgresql://%s:%s@%s:%s/research_match",
        username,
        password,
        host,
        port,
    )

    //Attempt to connect to postgresql server
    pgdb := sql.OpenDB(pgdriver.NewConnector(pgdriver.WithDSN(dsn)))
    db := bun.NewDB(pgdb, pgdialect.New())

    //Return anything in the database as a test for the connection
    _, err := db.Exec("SELECT *")
    if err != nil {
        log.Fatalf("Failed to connect to the database: %v", err)
    }

    // Connection successful
    fmt.Println("Connected to the database!")

    // Close the database connection when done
    if err := db.Close(); err != nil {
        log.Fatalf("Error closing the database connection: %v", err)
    }
}
```

Bun: Websocket

```
1 Bun.serve({
2   fetch(req, server) {
3     if (server.upgrade(req)) {
4       return;
5     }
6     return new Response("Upgrade failed", { status: 500});
7   },
8   websocket: {
9     open() {
10       console.log("A new client connected");
11     },
12     message(ws, message) {
13       console.log(message);
14       ws.sendText("Hello from Research Match");
15     }
16   }
17 })
```

```
> const socket = new WebSocket("ws://localhost:3000")
< undefined
> Hello
! ▶ ReferenceError: Can't find variable: Hello
> socket.addEventListener("message", event => {
  console.log(event.data);
})
< undefined
> socket.send("Hello")
< undefined
! ▶ Hello from Research Match
>
```

```
  C:\PORTFOLIO\REPO\INSTAREE\BUN\$ %
○ daniellee@laniel cs370 % bun run index.ts
A new client connected
Hello
█
```