Research Match: Sprint 2

Deadline Tech

Research Labs and Professor Feedback

Housekeeping- branches and organization for github & trello!

After reading peer feedback from the last sprint and the project presentation many people stated to get in touch with a professor!

Reached out to Dr. Devergnas.

Genuine interest in the work. Commitment to learn. Relevant experience, ie coding for a dry lab.

Demonstrated interest in application

Areas for improvement- might not want matches all the time as a lab... too many students! Actively searching for match option?

Loading test data (lab information) into database and testing it for the next sprint.

7	CENTER FOR NEUROPOLICY	Psychology	
8	CENTER FOR PRENATAL ASSESSMENT AND HUMAN DEVELOPMENT	Psychology	
9	CHILD AND ADOLESCENT MOOD PROGRAM (CAMP)	Psychology	
10	CHILDREN'S AND MOTHERS' EMOTIONS LAB	Psychology	
11	COGNITION MINING LAB	Psychology	
12	COMPARATIVE SOCIAL NEUROSCIENCE LAB	Psychology	
13	DILKS LAB	Psychology	
14	EMORY INFANT AND CHILD LAB	Psychology	
15	EMORY MENTAL HEALTH & DEVELOPMENT PROGRAM	Psychology	
16	EMOTION COGNITION AND COMPUTATION (ECCO) LAB	Psychology	
17	FAMILY NARRATIVES LAB	Psychology	
18	HAMANN COGNITIVE NEUROSCIENCE LAB	Psychology	
19	HEWS LAB	Psychology	
20	HUMAN PERFORMANCE LAB	Psychology	
21	LAB FOR INTERDISCIPLINARY STUDY OF SOCIAL BEHAVIOR	Psychology	
22	LAB OF PRIMATE BEHAVIORAL NEUROENDOCRINOLOGY	Psychology	
23	LABORATORY OF COMPARATIVE PRIMATE COGNITION	Psychology	
24	LOURENCO LAB (VISION, COGNITION, AND DEVELOPMENT)	Psychology	
25	MANEY LAB	Psychology	
26	MANNS LABORATORY	Psychology	
27	MATHEMATICAL AND COMPUTATIONAL BEHAVIOR ANALYSIS LAB	Psychology	
28	MEDINA LAB	Psychology	
29	MORALITY AND DEVELOPMENT LAB	Psychology	
30	PERSONALITY & PSYCHOPATHOLOGY	Psychology	
31	SPEECH AND LANGUAGE PERCEPTION LAB	Psychology	
32	THE EMORY SPATIAL COGNITION LABORATORY	Psychology	
33	THE LUMEN LAB (LEARNING, UNDERSTANDING, MEMORY, & NEUROD	Psychology	
34	TRANSLATIONAL LAB	Psychology	
35	TREAD LAB (TRANSLATIONAL RESEARCH IN AFFECTIVE DISORDERS)	Psychology	
36	VISUAL AND COMPARATIVE NEUROSCIENCE LABORATORY	Psychology	
37	WALDMAN LAB	Psychology	
38	WILSON LAB	Psychology	
39	https://conticello.emorychem.science/	Chemistry	Biomolecular
40	https://davis.emorychem.science/	Chemistry	Biomolecular
41	https://dunham.emorychem.science/	Chemistry	Biomolecular
42	https://scholarblogs.emory.edu/dyerlab/	Chemistry	Biomolecular
43	https://physics.emory.edu/faculty/finzi/	Chemistry	Biomolecular
44	https://ke-lab.gatech.edu/	Chemistry	Biomolecular
45	https://lynn.emorychem.science/	Chemistry	Biomolecular
46	https://raj.emorychem.science/	Chemistry	Biomolecular
47	https://www.salaitalab.com/	Chemistry	Biomolecular
48	https://scholarblogs.emory.edu/wuestlab/	Chemistry	Biomolecular

Sign Up Page

```
function validateEmail() {
    const regex = /^[^\s@]+@emory.edu/;
    return regex.test(email);
}

var email = document.getElementById(email
const isValid = validateEmail(email);

if (isValid) {
    console.log("Valid email address");
} else {
    console.log("Invalid email address");
```

- Email validation - emory.edu
- Postgres sample database

	id [PK] integer	email text	password text	firstname text	lastname text
1	1	test	1lDA09vjw$yZYlnb3aYXiTaqZhmYfNR0	[null]	[null]
2	2	alex.wild@emory.edu	alexwild	alex	wild
3	3	amber.gunther@emory.edu	1lwG04AUX$WHdeoGxRh80W/gmXX...	amber	gunther
4	4	daniel.smith@emory.edu	$1$0uVm6i3P$Abgbs5RoBN.MMDeFSJ...	daniel	smith
5	5	eric.lee@emory.edu	1oG.BJ5b/$z/lGdotf6O0KrWUEHX65k/	eric	lee
6	6	rosa.gutierrez@emory.edu	$1$0s2R4YFO$zlVOj37OAIOlFgF6Pf7nW.	rosa	gutierrez

```php
<?php
    include("php/config.php");
    if(isset($_POST['submit'])) {
        $email = $_POST['email'];
        $password = $_POST['password'];
        $firstname = $_POST['firstname'];
        $lastname = $_POST['lastname'];

        //verifying the unique email
        $verify_query = pg_query($con,"SELECT email FROM students WHERE email='$email");

        if(pg_num_rows($verify_query) !=0 ) {
            echo "<div class='message'>
            <p>This email is used, Try another one please.</p>
            </div> <br>";
            echo "<a href='javascript:self.history.back'><button class='login_btn'>Go Back</button>"
        } else {

            pg_query($con,"INSERT INTO students(email,password,firstname,lastname) VALUES('$email',crypt('$password', gen_salt('md5')),'$firstname','$lastname')") or
            die("Error Occured");

            echo "<div class='message'>
                    <p>Registration successfully!</p>
                </div> <br>";
            echo "<a href='index.html'><button class='login_btn'>Login Now</button>";


        }
    }
?>
```

Verification Function in Postgres

{≡} verify(user_name text, pwd text)   ↗ ✕

General   Definition   Code   Options   Parameters   Security   SQL

```
1
2    declare
3    verified integer;
4    begin select 1 into verified from students where email=user_name and
5    password=crypt(pwd,password);
6    return coalesce (verified, 0);
7  end;
8
```

Next Sprint

- Incorporate Django's user authentication system in login page
- Connect Login page with database using Django
- Use Email-Verification for Django

Shift to Django

- Web framework that provides higher level support
- Tools better equipped to help us accomplish project goals based on our timeline
- Features for:
  - Automatically-generated database-access API
  - Automatically-generated admin page
  - Security and authentication modules
- Reduces some flexibility due to more rigid structure of framework

Updating Database

Old (SQL)

```sql
-- 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)
);
```

New
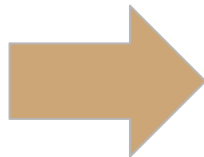
```python
class User(models.Model):
    username = models.CharField(max_length=70)
    email = models.CharField(max_length=70)
    firstname = models.CharField(max_length=70)
    lastname = models.CharField(max_length=70)
    BACKGROUND = [
        ("S","Student"),
        ("M","Mentor")
    ]
    background = models.CharField(max_length=1, choices=BACKGROUND)
    SUBJECT = [
        ("BIOL", "Biology"),
        ("CHEM", "Chemistry"),
        ("PHYS", "Physics"),
        ("MATH", "Mathematics"),
        ("COMP", "Computer Science"),
        ("PSYC", "Psychology"),
        ("HIST", "History"),
        ("OTHE", "Other")
    ]
    subject = models.CharField(max_length=4, choices=SUBJECT)


class Student(User):
    gpa = models.IntegerField(default=0)
    documents = models.IntegerField(default=0)
    def __str__(self):
        return self.student_text
```

Admin Site

Django supported Admin Site provides a platform to easily manage data and features of the final website
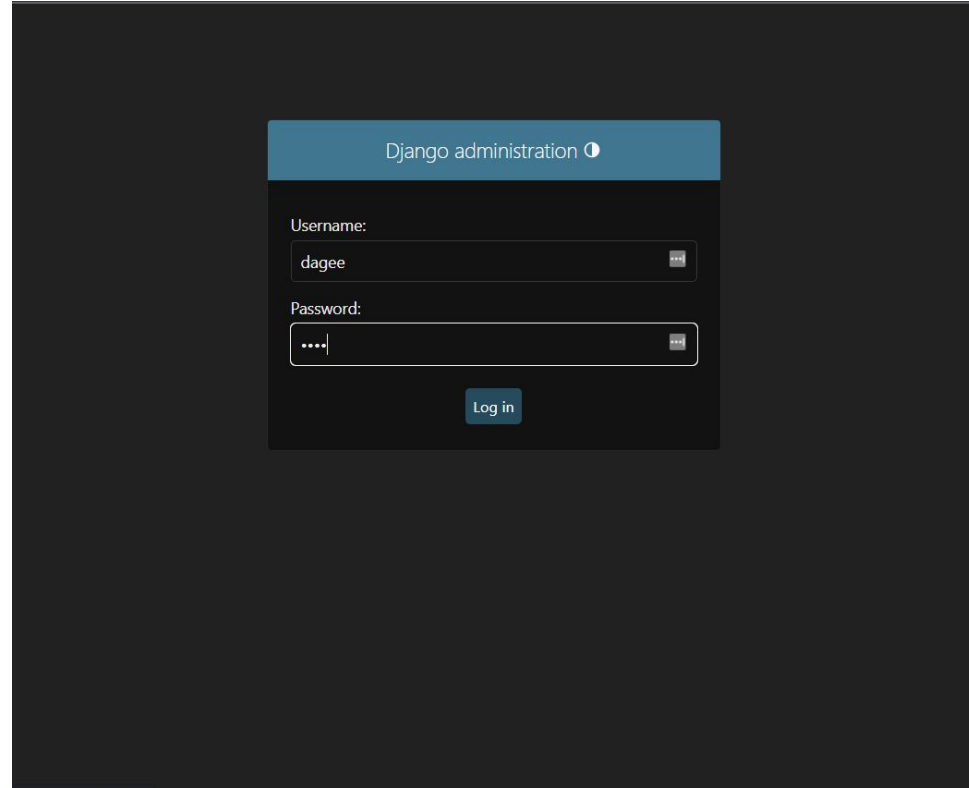
Site administration

AUTHENTICATION AND AUTHORIZATION		
Groups	+ Add	✏ Change
Users	+ Add	✏ Change

USERS		
Users	+ Add	✏ Change

Recent actions

My actions

None available

Django administration

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups   **+ Add**

Users   **+ Add**

USERS

Users   **+ Add**

Add user

Username:

Email:

Firstname:

Lastname:

Background: ---------

Subject: ---------

| --------- |
| Biology |
| Chemistry |
| Physics |
| Mathematics |
| Computer Science |
| Psychology |
| History |
| Other |

SAVE   Save and add   continue editing

Next Sprint

- Expand functionality of admin site
- Expand fields of current model within users app
- Create view representing a new user creating an account

New Page in Django

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

```python
from django.http import HttpResponseRedirect
from django.shortcuts import render
from django.http import HttpResponse
from django.template import loader

from django.views.decorators.csrf import ensure_csrf_cookie
@ensure_csrf_cookie

def hi(request):
    template = loader.get_template('StudentMain.html')
    return HttpResponse(template.render())

from .forms import SkillForm


def get_skill(request):
    # if this is a POST request we need to process the form data
    if request.method == "POST":
        # create a form instance and populate it with data from the request:
        form = SkillForm(request.POST)
        # check whether it's valid:
        if form.is_valid():
            # process the data in form.cleaned_data as required
            # ...
            # redirect to a new URL:
            return HttpResponseRedirect("/thanks/")

    # if a GET (or any other method) we'll create a blank form
    else:
        form = SkillForm()

    return render(request, "skill.html", {"form": form})
```

StudentMain.html · settings.py · urls.py · views.py · models.py · skill.html · forms.py · apps.py

EXPLORER

CS370
- assets
- env
  - bin
  - include
  - lib
  - pyvenv.cfg
- Old
- Presentations
- research_match
  - profilepage
    - __pycache__
    - migrations
    - static
      - Eli.jpeg
      - Profile.css
      - Profile.js
    - templates
      - skill.html
      - StudentMain.html
    - __init__.py
    - admin.py
    - apps.py
    - forms.py
    - models.py
    - tests.py
    - urls.py
    - views.py
  - research_match

research_match > profilepage > models.py > ...

```python
from django.db import models


class student(models.Model):
    firstname = models.CharField(max_length=255)
    lastname = models.CharField(max_length=255)

```

CS370

EXPLORER

CS370
- assets
- env
  - bin
  - include
  - lib
  - pyvenv.cfg

StudentMain.html · settings.py · urls.py · views.py · models.py

research_match > profilepage > forms.py > SkillForm

```python
from django import forms

class SkillForm(forms.Form):
    your_skill = forms.CharField(label="Skill_input", max_length=100)
```

Front End Changes

- Pages styling updated
- Improved styling for different aspect ratios
- Current/past labs inserted through Javascript

127.0.0.1:5500/profile.html

Research Match 🧪

Profile 👤 🔖 ✈ ⚙

Welcome Back!

Eli
Dhillon

GPA: 3.9

[   ] [Add New Interest]

About Me

Help Labs Get To Know You:

[Hello, I am...   ]

[Submit!]

My Documents

Upload a new document: [Choose File] No file chosen   My Files:

Courses I've Taken

Add a course:

[   ] [Add New Course]

localhost...

localhost...

Research Match

Matches 🔖

Research Match

Profile 👤 Matches 🔖 Opportuniti

Current Labs

Smith Lab

Position: Student Leader
Email: smith.samantha@emory.edu
Description: Smith Lab focuses on Biochemistry, Biosynthesis, and Microbiology.

Biochemistry Biosynthesis
Microbiology

Past Labs

Dooley's CS Lab

Position: Student Dooley
Email: dooleylab@emory.edu
Description: Dooley's Lab serves as a launchpad for coding enthusiasts, aspiring AI researchers, and cybernetic pioneers alike.

Computer Science
Artificial Intelligence
Machine Learning

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

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,

Message

Match

```html
<div class="MatchesFlex">
  <!-- Current Labs -->
  <h1 style="padding-left: 3%">Current Labs</h1>
  <div id="currentLabs"></div>

  <!-- Past Labs -->
  <h1 style="padding-left: 3%">Past Labs</h1>
  <div id="pastLabs"></div>
</div>
```

```javascript
5   function addLab(current, imgSrc, labName, desc, tags) {
6     // Container
7     var div = document.createElement("div");
8     div.classList.add("ProfileBox");
9
10    if (current) {
11      currentLabs.appendChild(div);
12    } else {
13      pastLabs.appendChild(div);
14    }
15
16    // container with title and image
17    var leftDiv = document.createElement("div");
18    leftDiv.classList.add("Labinfo");
19    leftDiv.style = "cursor: pointer;";
20    leftDiv.onclick = clickLab;
21    div.appendChild(leftDiv);
```

```html
<div id="currentLabs">
  <div class="ProfileBox"> flex
    <div class="Labinfo" style="cursor: pointer;">
      <h2 class="LabMemberName">Smith Lab</h2>
      <img class="LabPicture" src="LaboratoryProfileImage.jpeg" alt="Sm
    </div>
    <div class="Labinfo" style="display: flex; flex-direction: column;
    pace-between; width: 100%; margin-left: 2rem;"> flex
      <div class="Info"> flex
        <span class="LabMemberInfo">Position: Student Leader</span>
        <span class="LabMemberInfo">Email: smith.samantha@emory.edu</spa
        <span class="LabMemberInfo">Description: Smith Lab focuses on Bi
        Biosynthesis, and Microbiology.</span>
      </div>
      <div class="tags"> flex == $0
        <span class="tag">Biochemistry</span>
        <span class="tag">Biosynthesis</span>
        <span class="tag">Microbiology</span>
      </div>
    </div>
  </div>
</div>
```

Change Password Page

Chat Function

```
// Create a server to serve index.html page
Bun.serve({
    port: 3000,
    fetch() {
        return new Response(Bun.file("./index.html"));
    },
});

// Create another server for the WebSocket server
const messages = [];
let users = [];
```

```
// Create another server for the WebSocket server
const messages = [];
let users = [];

Bun.serve({
  port: 4000,
  fetch(req, server) {
    // upgrade the request to a WebSocket

    const success = server.upgrade(req, {
      // Set username to semi-random text
      data: { username: "user_" + Math.random().toString(16).slice(12) },
    });

    return success
      ? undefined
      : new Response("Upgrade failed :(", { status: 500 });
```

```
  },
  websocket: {
    open(ws) {
      // Store username
      users.push(ws.data.username);

      ws.subscribe("chat");

      // Broadcast that a user joined
      ws.publish(
        "chat",
        JSON.stringify({ type: "USERS_ADD", data: ws.data.username })
      );

      // Send message to the newly connected client containing existing users and messages
      ws.send(JSON.stringify({ type: "USERS_SET", data: users }));
      ws.send(JSON.stringify({ type: "MESSAGES_SET", data: messages }));
    },
    message(ws, data) {
      // Data sent is a string, parse to object
      const message = JSON.parse(data);
      message.username = ws.data.username;
      messages.push(message);

      // Send message to all clients subscribed to the chat channel with new message
      ws.publish(
        "chat",
        JSON.stringify({ type: "MESSAGES_ADD", data: message })
      );
    },
    close(ws) {
      users = users.filter((username) => username !== ws.data.username);

      // Send message to all clients subscribed to the chat channel that user left
      ws.publish(
        "chat",
        JSON.stringify({ type: "USERS_REMOVE", data: ws.data.username })
      );
    },
  },
});
```
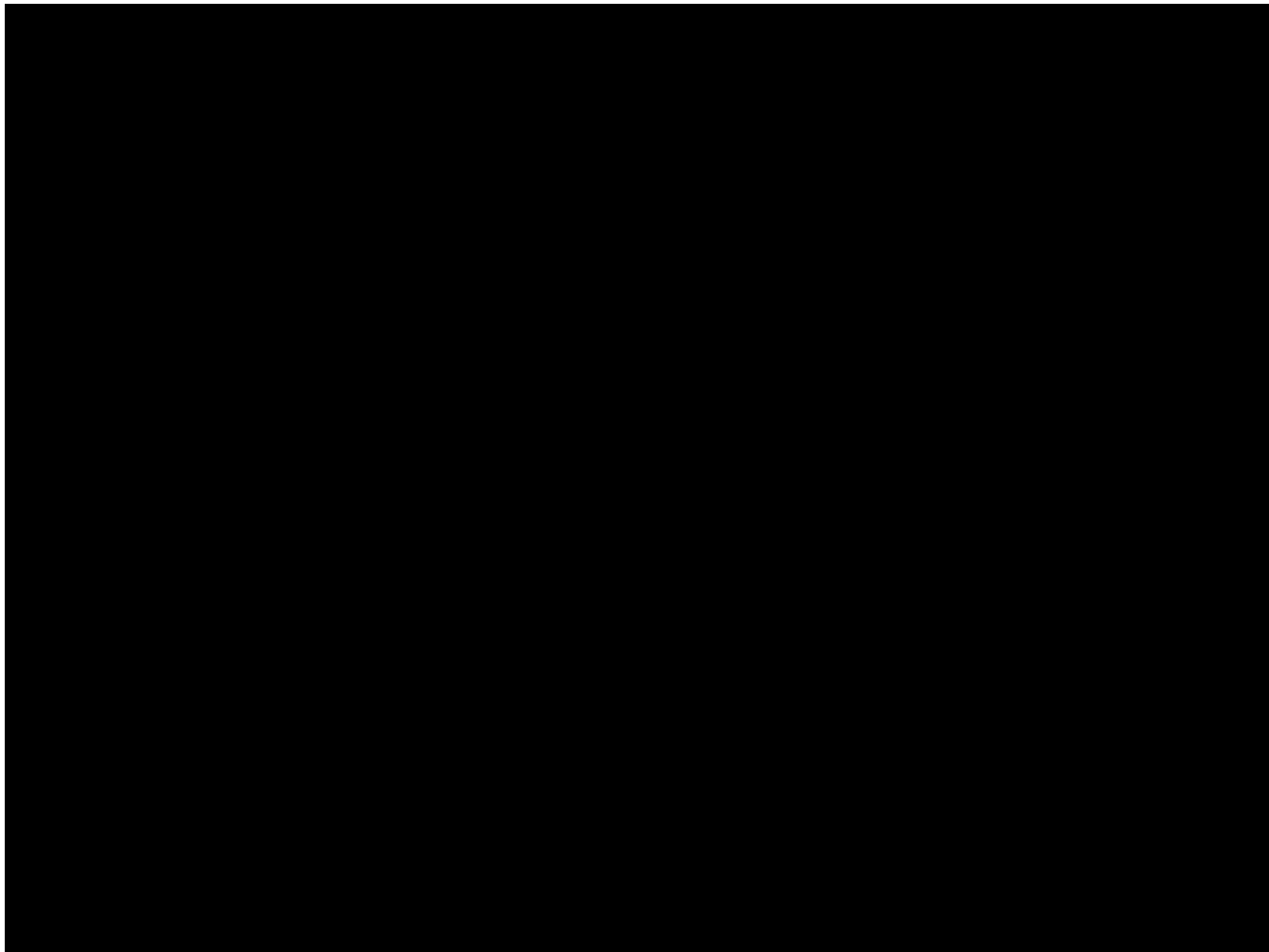
Next Sprint (Front End)

- Style new pages
- Lab profiles
- Settings page
- Continue styling profile page
- Add navbar styling for different aspect ratios