EE/CprE/SE 491 WEEKLY REPORT 2

February 11th - 24th

Group number: 35

Project title: IINSPIRE STEM Survey Visualization Tool

Client &/Advisor: Dr. Diane Rover & University of Iowa

Team Members/Role:

Abe Scheideman - Back-end

Thomas Nunez - back-end

Kaitlin Hansen - front-end

Lydia McCleary - back-end

Nathan Frank - front-end

Jimmy Driskell - front-end

- **Weekly Summary**

During this working period, the frontend created various pages in accordance with the Figma design. Our site now has home, landing, sign in, and account sign up pages. The site is currently being hosted on AWS Amplify. On the backend, a basic API has been developed and may be iterated on to provide more functionality. Currently, the necessary CRUD operations for each of our major components are set up. Hashing has been set up in the database to prevent the passwords from being stored in plaintext.

- **Past week accomplishments**

Kaitlin Hansen: Created home and landing pages for the website along with reusable components of header and footer. Ensured that all pages and components followed uniform design, and were scalable and correctly rendered for different sized screens. Discovered how to implement CSS design from figma file into team's code base, although later design decisions rendered this unnecessary.

- Thomas Nunez: Worked on getting my own tests with the backend setup, implemented functionality to create a user, login into the account, along with hashing passwords and comparing a plaintext password to a hashed

password. Converted my work to Lydia's API work to implement hashing on the main branch. Now looking at the login functionality along with JWT.

- Abe Scheideman: Researching AWS API Gateway for it's feasibility in providing an CRUD API for the frontend to interact with the backend. Researching the use of lambda functions to lower costs associated with keeping our EC2 running. Integrating work with Thomas and Lydia.
- Jimmy Driskell: Implemented the register page's user interface, which includes asking for the user's email, full name, password, and password confirmation. I also tried working on the register page's authentication set up.
- Lydia McCleary: Implemented API on the backend in Node.js to provide basic functionality for the app across all four major components: users, programs, survey questions, and survey responses.
- Nathan Frank: worked with the login flow allowing for connection between the landing page, login page, and registration page. Also worked with the login logic for users to sign up and login.

- **Pending issues**

N/A

- **Individual contributions**

NAME	**Individual Contributions** *(Quick list of contributions. This should be short.)*	**Hours this week**	**HOURS cumulative**
Lydia McCleary	Developed an API for the backend. Features include but are not limited to: user creation, retrieving responses by a user's ID, creating and deleting questions, etc.	12	18
Nathan Frank	Developed the login logic and set up page navigation	6	13
Kaitlin Hansen	developed landing page, home page, navigation bar/header, and footer for the website	10	16
Jimmy Driskell	Developed the register page for the webtool with all the inputs necessary.	6	12
Thomas Nunez	Worked on hashing passwords and	8	14

	implementing that functionality with Lydia's API work.		
Abe Scheideman	Researching the best method to connect the front and backend.	6	6

- **Comments and extended discussion**

- **Plans for the upcoming week**

Kaitlin Hansen: Continuing making UI pages for the web tool, and assisting other team members on round-trip communication. Work with the client team to ensure new pages fit the client's vision. Collaborate with the client team to update text and images on webpages to fit the client's specifications.
Thomas Nunez: Get the login working on the main branch that utilizes password hashing, from there work on JWT to securely transfer user data from the Frontend to the Backend. Also looking towards running some tests with frontend backend to look into how the connection will work between the two and how data transfer will be handled.
Abe Scheideman: Get a working setup between the frontend and backend. Research Lambda function integration with HTTP requests.
Jimmy Driskell: The register page will be completely ready to go, and I plan to move onto the survey page's UI and survey input.
Lydia McCleary: Next I plan to work on login credential storage and validation as well as developing an administrative user role. Our client requires that we have a role set up that can go in and view student responses/results and edit the survey questions.
Nathan Frank: The next thing I plan to do is create the web page for users to see their results. I will use our AnyChart license and display the data of a single user. I will start working on the button to turn the charts into a pdf for the student to use.

- **Summary of weekly advisor meeting**

Prior to our advisor meeting on Monday, we had a meeting with our client (and advisor) on Friday, so much of the weekly advisor meeting was spent discussing topics that arose at the client meeting. As a team, we clarified some misunderstandings about project scope and expectations. We also discussed our UI design approach as originally we planned to follow a UI design based on a figma mock up created by a grad student working alongside of us with IINSPIRE, but at this meeting, we clarified that while we could take certain inspiration from that design, we were also allowed to follow our own design. It was also discussed that we would want to iterate on the design based on client feedback, and we discussed what protocol we would like to follow for that. It was decided that we would share screenshots of the pages with the client via a Google document where they could add any comments. The backend team

discussed what level of customization by the user would be possible. We agreed that if there were requested levels of customization beyond what we could provide during the scope of our project, we would write up explanations of our decisions to provide to the client, and to the industry panel for review at the end of the semester.

Broader Context

For this report, please add a **Broader Context** section guided by the following activity:

Revisit the broader context considerations from 491 (Section 4.4 of your Design Document). How are you meeting or addressing these considerations now?

1. Individually review Section 4.4. Consider the following questions:
    1. Have we identified or become aware of new effects?
    2. How can we argue for or provide evidence of positive effects?
    3. How can we address or justify negative effects?
2. Meet as a team and revise Section 4.4 with your new insights.
3. Meet with your client and advisor to discuss your updates.
4. Add a section to this report with any (1) updates to broader context effects, (2) plans to demonstrate evidence of positive effects, and (3) ways to address or justify negative effects based on meetings with your team, client(s), and advisor.

1. 4.4 Considerations
    a. New effects haven't been very present, but one thing that we are starting to realize more of is the true scope and potential for the webtool. We went into the second part of the project with the idea that the tool was intended mostly for IINSPIRE, but that view has changed over time.
    b. Evidence for this effect can be found when we take into account that there's nothing about this tool that has to be specific to IINSPIRE alone. It's simply a survey visualization tool, so it can be used for numerous organizations.
    c. Negative effects can be addressed by contouring them with the positives.

2. Design Context

Area	Description	Examples
Public health, safety, and welfare	The IINSPIRE project will assist in introducing students to STEM and showing where their strengths and growth opportunities are.	This program can assist students in deciding what they want to do, furthering their education, and counseling them on their results.
Global, cultural, and social	The IINSPIRE project aims to assist students in underserved communities and introduce them to STEM.	Hopefully, we can spread STEM education further through the IINSPIRE program and the revamped survey system.
Environmental	The revamped survey system may better equip researchers to advance their students' STEM knowledge. Through this, these students may go on to create new environmental advancements.	A student may go on to assist or create a new invention that can help us become more eco-friendly.
Economic	Our revamped system can help better equip the IINSPIRE students with STEM skills that, in the future, may help them break into the STEM industry.	A student may move on from the IINSPIRE program and continue to pursue STEM, which may provide them with more lucrative job opportunities.

3. We found very few updates to put on into section 4.4 with our advisor and client. We know that it will take electricity to run and host the app, but it will be less of an impact than using paper on the environment.