

Project Proposal: LiveDataLab User Interface Enhancement

1. Team Information:

Name: Syed Hassan

NetID: shassa25

Role: Captain and sole team member

2. Chosen System and Subtopic:

I have chosen to focus on the LiveDataLab system, specifically on improving its User Interface (UI) to provide a more user-friendly experience for students submitting their assignments.

3. Datasets, Algorithms, or Techniques:

For this project, I will be using the Bootstrap and Material User Interface libraries. These libraries offer a collection of pre-designed UI components that are adaptable, responsive, and visually appealing. By integrating these libraries, I aim to enhance the UI of LiveDataLab and offer an improved user experience.

4. Function Demonstration:

The improvements in the UI will be clear when we compare the new LiveDataLab web application to the old one side by side. Because the main changes are to the look and feel, they'll be easy to see. I'll highlight how my version stands out with its better design, easier navigation, and user-friendly touches.

5. System Communication:

To ensure efficient storage of user and assignment-related data, I will integrate a database with the LiveDataLab web app. This database will handle data storage and retrieval, making it easy to interact with the LiveDataLab system.

6. Programming Language:

The following programming languages and technologies will be used for this project:

- React: For building the user interface.
- HTML: To structure the web content.
- JavaScript: To add interactive functionalities.
- CSS: For styling and layout.

7. Workload Justification:

Given that I am the only team member, the total workload should be at least 20 hours. Here's a breakdown of the main tasks and their estimated time:

- *Research and Planning* (4 hours): Understanding the current UI, identifying areas of improvement, and planning the new design.
- *Setting up the Development Environment* (2 hours): Installing necessary libraries and setting up the React environment.
- *UI Design and Development* (8 hours): Using Bootstrap and Material UI libraries to design and implement the new UI.
- *Database Integration* (3 hours): Setting up the database, integrating it with the web app, and ensuring seamless data storage and retrieval.
- *Testing and Debugging* (2 hours): Testing the new UI for bugs and making necessary fixes.
- *Documentation* (1 hour): Documenting the changes made, libraries used, and providing a guide for future developers.

Final Deliverables:

- Documented source code of the enhanced LiveDataLab web application.
- A demo showcasing the new UI, comparing it to the old one, and demonstrating its improved features.