

Colorado Education Association



Organization Background

The Colorado Education Association is the voice of 39,000 educators, working together in a strong union to ensure all students get the exceptional public schools they deserve in every neighborhood across the state. As the professionals in schools with students every day, CEA members are the true experts in public education policy. As Colorado's largest labor union, CEA works collectively with all education stakeholders to ensure that our students, educators and schools have the resources they need to learn and thrive.

Problem Description

The CEA Workload Calculator Task Force launched a workload calculator pilot in 2020. We are a group of educators with the Colorado Education Association who have developed a tool using Google Sheets and Google Forms to support educators with demonstrating how their time is spent in an average month. Our work so far has attracted the attention of educators across the nation, and we are leading a movement that we believe will save the future of public education. Educators are leaving schools because of unsustainable workloads. Our goal is to use data from this tool within our unions to influence decision-making at the district level across the state to change how resources are allocated and ensure we can meet the needs of our students.

Two previous field sessions have migrated many of the core elements of the CEA Workload Calculator from Google Sheets to a web based application. We are looking for a team who can add functionality to this existing web app in order to make it more practical for widespread use. Our goals for the website include creating a more user-friendly navigation and graphics experience, providing additional capabilities for users to aggregate and visualize data, and adding functions for administrators to manage users and data. The ideal candidates would have strong communication skills to be able to manage this project and have regular (weekly) meetings with our team and a consultant(s).

Project Goals Requirements

Currently the web app allows a user to log in, fill out a survey, visualize data from a single survey response; there are administrator functionalities as well. The goals for this project will enhance and expand upon these pre-existing capabilities. Goals include:

- Designing new ways to aggregate and visualize aggregated data across users from different districts, professions, grades, regions, etc.
- Improving security features of existing website
- Formatting existing website for mobile device use

The primary elements of this application will be:

- Full Stack:
 - Front-end responsive single page web application built in Javascript using React
 - Back-end REST API built in Python using Django
 - SQL database
 - Build and deployment
- Security, authentication, and user permission levels
- User interface design
- Data cleaning, management, aggregation, and visualization
- Creating tools to automate reporting
 - Compare districts to selection of other districts
 - Compare specific data points with averages, max, min
 - Compare workload across different providers
 - Compare workload across grade levels
- Any other problems that students see as we show them our current process that they think a script can solve

Student Requirements

Specifics

- Team Size: 3 - 4 students
- Work will be done remotely
- One meeting per week, more upon request
- Students will develop a timeline for the project to track and review progress at regular meetings
- Potential contract work after the project is over
- Students will sign a non-disclosure agreement related to intellectual property and CEA protected data.

Skills

- Relevant skills:
 - Database Management
 - Web Development
 - Python, Javascript, SQL
 - Server Deployment
 - Web Security
- Relevant interests:
 - Data Analytics
 - Data Visualization
 - User Interface Design

Contact Information

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