

Senior Design - Weekly Report

February 4th - February 18th

Team Number: sdmay23-37

Project Title: Microgrid Data Platform Enhancements

Advisor/Client: Mathew Wymore

Team Members/Roles:

Alexander Haack - Software

Carson Love - Cybersecurity

David Harmon - Software

Harvey Forchu - Computer

Kenyon Fergen - Software & Cybersecurity

Summary

During this period our group started to lay out the framework of the solution. On the front end this involved creating generic pages/graphs, and populating them with mock data. On the backend this meant digging into the existing Cassandra data, and building out tables for new user data. For Cybersecurity this meant acquiring proper permissions to begin testing and creating frameworks for findings.

Accomplishments

- Alexander
 - Explored Cassandra database and backend from previous project
 - Added user data storage capability to database
- Carson
 - Drafted and submitted a Statement of Work prior to security testing
 - Reached out to Steve Nystrom and got the prior senior design team's VM up and accessible
- David
 - Set up the overall layout for the website and created a few patterns for adding new components and pages.
 - Set up Google Login support on the frontend using React Google OAuth verification.
 - Set up Google Verification on the backend using Google's verification API to verify the credential token from the frontend.
- Harvey
 - Research and understand the scripts from the previous group
 - Research more crate sensors and how to set them up
- Kenyon
 - Created plot component on frontend
 - Set up export data to csv

Individual Contributions

Name	Individual Contributions	Hours this period	Hours Cumulative
Alexander Haack	Researching Cassandra; Set up DB tables	7	7
Carson Love	Draft Statement of Work; Track down VM	8	8
David Harmon	Framework Website; Google login	8	8
Harvey Forchu	Research more crate sensors (Tesla Gateway)	8	8
Kenyon Fergen	Set up Plotly	8	8

Plans for Upcoming Weeks

Alexander Haack - Add needed backend API and connect to the frontend

Carson Love - Begin security testing of VM. Investigate Google Auth finding an iastate maintainer

David Harmon - Connect frontend Google Login with backend Google Verification. Allow users to be given access to different sites.

Harvey Forchu - Start implementing a script for the Tesla Gateway

Kenyon Fergen - Connect frontend plots with backend sensor data

Meeting with Advisor

Our team met with Mathew Wymore on Thur Feb 16th. Each member gave a report on what they had been working on the past 2 weeks. Discussed what abstraction of solar crate sensors would look like, what can practically be reused. Requested firm information on when the solar crate would be redeployed.