
EE / CprE / SE 492 - Bi-weekly Report 5

3/10/18 - 3/23/18

SDMay18-41

Free Market P2P Energy Trading and Analytics

Client: Sodima Solutions

Adviser: Goce Trajcevski

Team Members/Role:

Arun Sondhi: Embedded Engineer/Hardware-Software Interface Lead

Alec Dorenkamp: Software Engineer (back end)

Noah Eigenfeld: Software Engineer (front end)

Brendon Geils: Software Engineer/Technical Lead

Jack Myers: Hardware Engineer/Project Manager

Joe Staudacher: Hardware/Power Engineer

Weekly Summary

Although one of the the weeks in this time frame was Spring Break, solid progress was made towards project completion. Progress was made in mobile development, energy marketplace design and implementation, admin graphs, and data aggregation, project security, and PCB design. Final deliverables were established for each member, and final project tasks were assigned.

Accomplishments in past two weeks:

Arun:

- Finished Login and Settings page in React Native app

Alec:

- Met with Dr. Daniels to review security threats
 - Determined need for server public/private keys for secure data posting
- Fully implemented data aggregation
 - Also redesigned code to enable rapid changes in case of changing aggregation requirements

Noah:

- Polished account creation
- Made progress on user location within admin maps

Brendon:

- Met with Dr. Daniels to review security threats
- Worked on marketplace design and implementation

Jack:

- Soldered PCBs
- Tested boards
 - Power supply board works as desired
 - Determined current reading on other board works, took notes on necessary changes
- Programmed the smart meter screen to show voltage, current, and power
 - Currently displays filler values)
- Organized template and compiled requirements for final deliverables

Joe:

- Researched smart meter enclosures

Pending Issues

- Implementing Okta Login via the React Native app

Individual Contributions

| Team Member | Contribution Summary | Bi-Weekly Hours | Total Hours (Semester) |
|--------------------|---|------------------------|-------------------------------|
| Arun Sondhi | Worked on the React Native application, finishing Login and Settings pages | 15 | 73 |
| Alec Dorenkamp | Completed data aggregation, revised security concerns, created plan for improved project security | 26 | 89 |
| Noah Eigenfeld | Polished account creation, continued steady progress on user location and admin maps | 6 | 66 |
| Brendon Geils | Worked on Marketplace design and implementation | 5 | 95 |
| Jack Myers | Soldered PCB, tested boards, programmed the smart-meter screen, organized/created template and compiled requirements for final deliverables | 30 | 109 |
| Joe Staudacher | Researched smart meter enclosures | 5 | 70 |

Plan for coming weeks

Hardware team:

- Revise PCB design and order new board
- Finish program display software (consulting Brendon)
- Test and integrate all components of smart-meter
- Design and implement smart-meter enclosure
- Create final component and integration testing plan

Software Team:

- Finish mobile app deliverables
 - Okta, user-facing graphs
- Implement additional security features
- Implement Green button to allow users to download energy data as CSV
- Work on web app deliverables
 - Finish admin map of users
 - Finish consumer-facing graphs
 - Add to admin graphs
- Implement energy trading platform
- Create final component and integration testing plan

Arun:

- Resolve Okta authentication errors
- Create mobile user-facing graphs/maps

Alec:

- Implement additional security features, including server public/private keys for secure data posting
- Implement Green button (easy way for users to download their energy data as CSV)

Noah:

- Finish admin map of users
- Finish consumer-facing graphs
- Work on admin graphs

Brendon:

- Implement energy trading platform

Jack:

- Revise PCB design and order new board
- Finish program display software (consulting Brendon)
- Test and integrate all components of smartmeter
- Design and implement smart-meter enclosure

Joe:

- Revise PCB design and order new board
- Test and integrate all components of smartmeter
- Design and implement smart-meter enclosure