

sdmay18-41: Free Market Blockchain P2P Energy Trading

Week 8 Report

November 3 - November 13

Team MembersJoe Staudacher — *Hardware Design*Alec Dorenkamp — *Blockchain Developer*Noah Eigenfeld — *Blockchain/web app developer*Brendon Geils — *Blockchain/smart contract lead developer*Jack Myers — *Hardware/embedded programming*Arun Sondhi — *Hardware/software interface***Summary of Progress this Report**

- Tested current sensor and experimented with its integration to the Raspberry Pi
- Created the skeleton for the web app, complete with temporary usage data
- Decided to start working on an RF transmitter to create a better user experience for the smart meter
- Programmed the Raspberry Pi for sending and receiving data between the current sensor and back end of the web app

Pending Issues

- Continue to look into potential economic issues surrounding our project; consult with Leigh Tesfatsion
- Research RF transmission possibilities to accommodate the new addition to the hardware side of the project

Plans for Upcoming Reporting Period

Continue development of the web app and complete more hardware tests to gather data for the final panel review

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Joe Staudacher	Assisted with current sensor testing, spoke with faculty and field professionals about metering options, researched possible hardware needs going forward (AC line splitters, container options, RF transmitter components, etc.)	9	
Alec Dorenkamp	Worked on the implementation of real time energy utilization monitoring on the website and data download capabilities	8	52
Noah Eigenfeld	Continued developing system diagrams and implemented updates to the front end of the web app	9	55

Brendon Geils	Assisted with current sensor testing, developed code for recording usage data in the web app, launched a domain for the web app and improved UI	12	80
Jack Myers	Discussed possible hardware alternatives with hardware team (Electron-cellular data, designing a custom RF reciever/transmitter, Ethernet), assisted with current sensor accuracy testing in low current range, worked with Arun to begin initial Raspberry Pi data acquisition and posting to server, Planned desired expectations for the remainder of the semester, updated adviser on the project	12	
Arun Sondhi	Worked on Pi integration with the current sensor, wrote energy tracking script, integrated uploading of energy data to the back end of the web app	9	54