

sdmay18-41: Energy blockchain implementation for free market P2P energy trading
Week 5 Report
October 7 - October 20

Team Members

Joseph Staudacher — *Power sensing & hardware fabrication*

Alec Dorenkamp — *Blockchain/smart contract development*

Noah Eigenfeld — *Blockchain/smart contract developer*

Brendon Geils — *Blockchain/API development*

Jackson Myers — *Hardware design*

Arun Sondhi — *Hardware/software interface*

Summary of Progress this Report

Created and tested Ethereum implementations and smart contract designs

Installed all the necessary software to develop and test the blockchain

Found an purchased current clamps

Read the Grid+ Whitepaper

Researched meter design

Pending Issues

Figuring out most efficient/effective way to perform blockchain implementation

Plans for Upcoming Reporting Period

Submit Project Plan (v2)

Develop and test low level hardware

Finalize blockchain ledger and API implementation

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Joseph Staudacher	Found current clamps we needed to buy. Read the Grid+ Whitepaper. Researched meter design.	7	26
Alec Dorenkamp	Created and tested Ethereum implementations and smart contract designs. Installed all the necessary software to develop and test the blockchain.	8	27
Noah Eigenfeld	Continued experimenting with writing and deploying smart contracts. Worked with Alec to build a basic design outline for the web app and blockchain.	8	27

Brendon Geils	Deployed and tested smart contracts. Met with energy mentor about implementation strategies. Reviewed comparable technology with Grid+ and spoke with them about their product.	10	42
Jackson Myers	Researched options for current sensors and helped finalize our decision. Read white papers/articles for existing implementations of solutions similar to ours. Did preliminary research into libraries that are available for Raspberry Pi devices. Developed a rough idea of what components would be necessary to build a custom PCB smart meter later in the project after we complete proof of concept on Raspberry Pi.	10	31
Arun Sondhi	Began initial Raspberry Pi API development to interact with blockchain. Testing GPIO analog inputs for expected current sensor.	8	27