sdmay23-36: Making microgrids plug and play

Week 3 Report October 15 - October 21

Team Members

Christian Pinta — API Reseach/Developer
Austin Thoreson — Systems Designer
Andrew Frank — API Research/Network Engineer
Ben Eder — Software Developer
Saketh Jonnadula — Nothing

Summary of Progress this Report

Picked up Raspberry Pis, installed required software on them, started script testing on the microgrids, and made plans on moving the Microgrids from PowerFilm to a Senior Design Lab space to make testing easier

Pending Issues

Figuring out the exact space we will move the Microgrids to on campus and figuring out a bug we were having when trying to connect to the Microgrid AXS port

Plans for Upcoming Reporting Period

Setup the Microgrids on campus, troubleshoot the bug we were having with our advisor, and start testing custom scripts on the Microgrid on campus

Individual Contributions

| Team Member | Contribution | Weekly Hours | Total Hours |
|-----------------|---|--------------|-------------|
| Christian Pinta | Ordered and received Raspberry Pis from the Iowa State ETG, installed all required software onto them and created a software image of the SD cards to make future installation easier, and started looking into how to and attempted connecting to the inverter using python scripts. | 6.5 | 0 |
| Austin Thoreson | Installed image and associated software on raspberry pi. Researched and installed pySunSpec and Tactical Microgrid Standard. Visit to Powerfilm, working on design documentation | 6 | |
| Andrew Frank | Drafted network topology option and software architecture. Continued research on TMS standard documentation. Reviewed SunSpec Python library and attempted to | 6 | 0 |

| | create Raspberry Pi virtual machine. Attempted connection to the inverter unit. | | |
|------------------|--|---|--|
| Ben Eder | Attempted connection to the inverter unit and researched pySunSpec and Tactical Microgrid Standard | 4 | |
| Saketh Jonnadula | Nothing | 0 | |
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| Gitlab | Activity | Summary | 1 |
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Nothing to report.