

Advisors: Venkataramana Ajarapu

Client: Venkataramana Ajarapu

Members (roles):

- Daoxi Sun- *web master*
- Riley O'Connor- *team leader*
- Trevor Webb-*communication leader 1*
- Shihao Ni – *web master*
- Xiaokai Sun- *communication leader 2*
- Ben Ryan- *concept holder*

Project Title: Hybrid Solar Wind Generation System

Weekly Summary

At the end of fall semester our team had successfully simulated both the solar and wind generation systems in Matlab Simulink. The challenge for this semester is now to implement our designs with equipment, and produce the desired results.

Put wind team stuff here

The second battery finally arrived, which allowed the solar team to connect the solar system and begin testing the power flow. We tested a few different loads to get a starting idea of how much of a load we can power.

Meeting notes:

General Notes

- I. Present solar material and wind material to our advisor
- II. The solar team will use the battery moving forward to perform some power flow calculations under various conditions. A test load will also need to be made.
- III. The Wind team will drive the motor with the microcontroller and to the on load test.

10/2 Group Meeting with Advisors

Duration: 60 min

Members Present: 5

Purpose and Goals:

Present relevant background information over our project to both our advisor and our fellow group members. Both the solar and wind teams now have made some progress with hardware, and will present that progress while getting useful advice on how to proceed from our advisor.

Achievements:

Both groups obtained advice for moving into week two of working on this project.

The solar team connected the entire solar system and was able to successfully demonstrate that the solar panels could supply several different loads under sunny conditions and that the battery can supply the load under dark conditions.

The wind team connected the motor with the rectifier and filter and the boost converter. But, the motor is jammed by something inside. It must be taken out.

Pending issues

1. Successfully creating solar and wind generation individually
2. Combining both forms of generation to supply one load

Plans for next week

1. Wind team: (Ben, Xiaokai, Shihao) will meet to design and implement their wind generation system
2. Solar team: (Riley, Daoxi, Trevor) will meet to further test the system now that the battery has arrived
3. Each team will also develop results that can be presented at our next meeting with our advisor and his grad student.

Individual Contributions (this week)

Daoxi Sun: 13

- Built new load
- Attended weekly meeting to meet with advisor
- Got switches and mounts
- Tested with battery disconnected
- Improved IRP PowerPoint

Riley O'Connor: 13

- Panel output testing and load calculations
- Attended weekly advisor meeting
- Combined the solar and wind simulations
- Began testing the PV system with batteries

Trevor Webb: 13

- Began testing the PV system with batteries
- Attended weekly advisor meeting
- Updated information in the weekly report
- Combined solar and wind simulations
- Connected the full solar system

Shihao Ni: 6

- Help to do motor test with no load

Xiaokai Sun: 7

- Attended weekly advisor meeting
- Updated information in the weekly report
- Research to make the boost converter simulation

Ben Ryan: 8

- Attended weekly advisor meeting
- Build up the boost converter with the microcontroller
- Try to do motor test with no load

Total contributions for the project

Daoxi Sun (100 hr)

Riley O'Connor (118.5 hr)

Trevor Webb (116.5 hr)

Shihao Ni (101 hr)

Xiaokai Sun (99 hr)

Ben Ryan (116 hr)