

EE 492 Weekly Report MAY15-21 Week 16-17 (02/23/15-03/08/15)

Advisors: Venkataramana Ajjarapu

Client: Venkataramana Ajjarapu

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.

The wind team has made progress with building their circuit, but a mistake lead to a rectifier being burned and now they are working to make a new one. Parts that the wind team ordered came in this week, which has helped them make progress on their circuit.

The solar team has salvaged what they can from the batteries, and has enough capability to power some of their components individually for testing purposes, but cannot test the entire circuit until more batteries are obtained. These batteries will be ordered as soon as possible. While testing the inverter functionality a light bulb was successfully powered. All components for the solar team seem to be operating as desired.

Meeting notes:

General Notes

- I. Present solar material and wind material to our advisor
- II. Focus on becoming familiar with equipment
- III. The solar team demonstrated the functionality of the inverter by powering a light bulb. Moving forward they must test their system as a whole and begin planning to combine with the wind system.
- IV. The Wind team must ordered the rectifier and research for the boost converter.

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 is now confident that all individual components are operating as desired, but will not be able to test the system as a whole until the batteries arrive.

The wind team was waiting for the new component ordered.

Pending issues

1. Obtaining batteries to power various devices: MPPT and inverter
2. Altering existing systems to suite our needs
3. Successfully creating solar and wind generation individually
4. 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 discuss means of combining systems with the wind team and depending on the batteries test the system as a whole.
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: 6

- Tested the inverter and solar panels
- Obtained parts for connections
- Attended weekly advisor meeting

Riley O'Connor: 6

- Tested the inverter and solar panels
- Obtained parts for connections
- Attended weekly advisor meeting
- Submitted parts order to the advisor

Trevor Webb: 6

- Tested the inverter and solar panels
- Attended weekly advisor meeting
- Updated information in the weekly report
- Obtained parts for connections

Shihao Ni: 3

- Attending weekly advisor meeting
- Research for the boost converter

Xiaokai Sun: 3

- Attending weekly advisor meeting
- Research for the boost converter
- Updated information in the weekly report

Ben Ryan: 3

- Worked with Lee to get the wind team's power supply up and running
- Received parts and mounted them in the wind system
- Contacted Lee about getting the gen-motor mount finished
- Attended the weekly advisor meeting

Total contributions for the project

Daoxi Sun (82 hr)

Riley O'Connor (79.5 hr)

Trevor Webb (77.5 hr)

Shihao Ni (92 hr)

Xiaokai Sun (88 hr)

Ben Ryan (100 hr)