

EE/ CprE 491 – ssddec18-19 Weekly Report

11/5/18 – 11/19/18

Group number: 19

Project Title: Design and Implementation of a small scale standalone Hybrid Solar PV and Wind Energy Generation System

Client & Advisor:

Venkataramana Ajjarapu

Team Members/Role:

Christopher Goodrich: Circuit Design Lead

Taylor Mullen: Testing Engineer

Kenny Nguyen: Webmaster/Circuit Design Engineer

Damon Stubbs: Software Lead

Andrew Wassenaar: Team Leader

Past Week Accomplishments:

- **Created, redesigned, and updated lab manuals. Continuation of updated lab manuals will be a weekly occurrence.**
- **Created Resistor Box and punched holes for mounts for resistors, and banana pins.**
 - **Soldered wires to banana pins.**
 - **Mounted clips to resistor for mounting.**
- **Received enclosure for circuitry, created a CAD layout of the holes needed to be cutout with a Mill.**

Pending Issues:

- **Waiting for buck-boost converter to arrive so that rewiring can be fully accomplished.**
- **Training needs to be done in order to use the Mill to cut holes in the enclosure of the circuitry.**
- **Poster needs to be developed and finalized by the end of Thanksgiving break.**
- **Rewiring needs to be accomplished by the Monday, 11/26/18 so that it can be tested.**
- **Resistors need to be mounted and connected by banana pins.**
 - **Resistor bank will be completed by Monday, 11/26/18.**

Individual Contributions:

Name	Individual Contribution	Hours this Bi-Week	Cumulative Hours
Christopher Goodrich	I finished the AutoCAD drawing for the enclosure. I then scheduled the use of a mill and the holes should be cutout by the end of today, November 19th. In addition to this, I am working on building in a 12 V supply for our circuit and our resistor bank. I have two AC/DC converters that I am going to wire into the existing hardware. This is to make sure we always have power for fans and displays. I will have to do one more cutout on the enclosure by hand since the mill was not big enough to make the hole I needed. The next two weeks I am going to focus on mounting and rewiring the circuit in the enclosure. I will also help with the final circuit schematic and setting up a hardware presentation.	20	110
Taylor Mullen	Went through the circuit and drew a circuit diagram of all the connections through AutoCAD and will continue to change based on the changes to the actual circuit to make sure we can put the circuit together again after we take it apart to clean up all the wiring.	12	72
Kenny Nguyen	Help Drew design the resistor bank. Soldered wires to the banana pins, and made sure that all parts that were ordered arrived or is arriving. Plan on helping Chris with rewiring and will help Drew with creating and finalizing final senior design document. This will include all the parts	27	101

	that we have ordered, prices, where to find them, schematics of the parts, overall layout of the circuitry, what every component does, problems and issues that arouse from the design of the circuitry, what we did to fix these problems, what problems that could still exist, and other tasks that can improve the lab in the future.		
Damon Stubbs	Analyzed Arduino circuitry and code and documented all functions of the Arduino pins and wires. Reviewed the poster assignment and all team needs for it. Drafted document to aid in completing the poster. In the coming weeks, I seek to continue successful Arduino implementation in hardware and software as well as picking up any other tasks needed.	14.5	90
Andrew Wassenaar	Worked with Kenny to create the resistor bank. Made precise measurements for holes to be drilled in the enclosure. Then drilled all holes for screws in the enclosure and the acrylic top. This week will finish screwing resistors in place as well as screwing the jumpers on to the resistor terminals. Once the resistor bank is complete, I will work on final documentation.	25	111

Plans for coming 2 Weeks:

- **Create schematic for overall project, with components and how they function with one another.**
- **Finishing resistor bank.**
- **Create an enclosure for Circuitry.**

- **Recode Arduinos to a Multimeter screen to display DC voltage and current.**
- **Continue rewiring and fixing up wiring in the circuitry and making sure the system is safe for use.**
- **Create poster for Senior design presentation.**
- **Start on Senior Design final document.**
- **Develop a wiring schematic for the circuit.**
- **Develop a circuit mount for the internal components inside the enclosure.**
- **Mount all circuit components.**
- **Rewire circuit.**
- **Testing on all circuit components.**
- **Develop a circuit mount**