

Group Number: 22A

Group Advisor: Professor Bigelow

Group Client: Professor Bigelow

Group Members: Hamzah Abeer, Aziz Almarzouqi, Nick Riesberg, Derek Schmitz, Matt Stobb, Brandon Umscheid

In this time of meeting, we talked about how much we had accomplished already and how much further we need to go to complete this project. The agenda provided by Derek helped a lot going through this meeting. The Agenda and Notes taken during the meeting can be seen on the next page.

A meeting with the car group would benefit us, because we need to ask some questions regarding the batteries. Some of these questions include: Voltage, Charge Rate, and Charge Capacity. We talked with the leader of the Electrical Car Group (Lawrence Woody) while we were meeting, he said that the batteries are to be connected in series and he also gave an approximate weight of the batteries. Derek and Matt will meet members of the car team on Friday regarding these concerns. We also discussed how a deadline needed to be set for the buck converter and the volt/current sensors. The deadline was set for two weeks from the date of this meeting.

Another component of the charger is the push buttons that allow the user to interact with the charger. We are going to need 4 of them (ON/OFF, Mode, Up, Down). We have yet to order the push buttons. When discussing the physical size and weight of the Charger, we thought of many ways to reduce the size of the charger putting into mind heat and humidity. An argument about the thickness of copper we should use for the surface of charger took place in the meeting. The thickness of the copper reduces the amount of area required to safely transmit the DC current, but it also adds on a lot of weight. There are certain trade-offs that needed to be taken into consideration.

Lastly, we talked about questions that we need to ask Professor Bigelow. These questions are regarding the casing of the charger station. Basically, we need some specification for the casing and what to put in mind while building it (rain, heat, humidity).

In preparation for next meeting, we hoped that everyone could dedicate more time into their designated tasks. Brandon needs to work on his Solid-State Relay. While Derek, Matt, and Nick need to get the buck converter working properly with the Full-Wave Rectifier. Finally Aziz and Hamzah need to work with the Arduino to see if the Volt/Current Sense and digital thermometer can be correctly programmed.

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# Agenda

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1. Weekly Report
  - 1.1. Who is writing this week's report? **Abdulaziz**
2. Meeting with Bigelow
  - 2.1. Monday 1:00 P.M (Nick cannot Make)
  - 2.2. Tuesday 12:00 P.M. (Hamzah Cannot Make) **←This meeting time Selected**
  - 2.3. Questions?
3. Meeting with Amariucaí
  - 3.1. Friday February 8<sup>th</sup> from 12:00 to 1:00 P.M.
  - 3.2. Questions? **←None**
4. Buck Converter
  - 4.1. Nick and Derek need to work on sometime this week.
  - 4.2. At least play around with it and setup testing equipment.
  - 4.3. Questions? **←None**
5. Arduino
  - 5.1. Hamzah needs to play around with the thermometer and Volt/Current Sense
  - 5.2. If additional help needed, just ask.
  - 5.3. Bluetooth Module? **←Need to Order**
  - 5.4. LCD Display? **←We have**
  - 5.5. Push Buttons? **← Need to Order**
  - 5.6. Questions?
6. SSR (Solid State Relay)
  - 6.1. Check over specifications? **←Needs Testing**
  - 6.2. Brandon can we flip the switch using the output of the Arduino? **←Needs Testing**
  - 6.3. Questions? **←None**
7. NEC
  - 7.1. Assemble a list of Information we need photocopied from the NEC. **←Derek Will Do.**
  - 7.2. Examples: Conductor Sizing, Casing Requirements, Fault Protection, and Temperature Ratings.
  - 7.3. Questions? **← None**
8. Board Assembly
  - 8.1. What are we assembling our Board On? **←Look into Copper Sheets/Plexiglas**
  - 8.2. Designate someone to Research. **←Everyone**
  - 8.3. Questions?
9. Deadlines
  - 9.1. What deadlines should we set for this semester? **←Working Buck Converter (2-weeks)**
10. Closing Questions?