

Meeting Agenda:

Review and update produce schedule as required. Discuss the general concept and when to begin developing simulations. Breakdown the upcoming tasks.

I) Project Modeling

a. Timeline for modeling

- i. Develop sketches, concepts, and wire diagrams (October Timeframe)
- ii. Use these to develop a general model and/or find specific off the shelf models that fit our needs and utilize those (November Timeframe)

-Will need to figure out our model on paper first, and then have a model simulation by early next semester

-When we start modelling it on paper, we will most likely have Jason stream his laptop, have him draw on there and we can all incorporate our ideas

-Is there a software that is similar to google docs that we can share our drawings with each other and edit them

-This Thursday we will have sketches of what we are thinking that this will look like, including wire diagrams

-Taking our product requirements and putting it in a metric diagram to organize the info for each product

- Break down testing procedures before going on to assembly

II) Controller Network

a. The raspberry pi 3 b is advantageous due to WIFI capability

- i. The pi 3 b unit can broadcast, transmit, and receive
- ii. A pi zero unit can transmit and receive, so can cut down on cost
- iii. Future projects could develop a phone app to adjust timing for the crosswalk

-Raspberry pi is a microcontroller and is coded in python rather than

-When a pedestrian presses a button to cross the wifi can be used to communicate with the other lights on the other side of the street

-We won't need sensors because it would be using wifi

-Complication: going back in and understanding that they communicate properly to each other

III) Upcoming

a. Design Validation Plan

- i. Coalesce design requirements into metrics
- ii. Develop simple testing procedures

-More explanation will come in our next general session, if not, we will ask our questions

- b. Value Proposition
 - i. General Session 10/13

-This will be talked about in the general session

IV) Additional Research

- a. Primary Objectives
 - i. Focus should be put on primary power generation and storage for our operational environment
 - 1. Once a general wire diagram and sketch is made, develop an idea for how much voltage, amperage, etc. is in the system
- b. Secondary Objectives
 - i. Is gravity storage feasible?
 - ii. Is small scale ac or dc generation feasible?
 - iii. Is a combination wind and waterwheel feasible?
- c. Tertiary Objectives
 - i. What non-motorized means can be utilized to adjust a solar panel and hold up over time?

-Need to start getting our feet wet with digging deeper into our ideas and if it will even be possible for us to do and will be useful to know before we start modelling what we want to achieve

V) Tasking

- a. Develop a concept design for how a commercial unit would look
 - i. This will be more Jason
- b. Develop a simple wire diagram for major components
 - i. This will be more Kat
- c. Develop a sketch for how the assembled proof of concept might look
- d. Research NEMA for electrical safety codes
 - i. There are already sort of boxes
 - ii. After Thursday – I will know more about the volume and what size of box that we will need
 - iii. This will be more Charlie
- e. Develop a metric sheet from the Design Requirements
 - i. Have it organized by per component

Matlab Model – look at mathworks file exchange

Improving the efficiency of the PV – move the solar panel to be face to face with the sun

If we add a motor to the solar panel

Meeting Adjourned: 1:27 pm

