Senior Design Meeting - 9/5/22

9/5/22

- Haki - showing diagram of project components
  - separated housing from external components
  - made 3 specific components inside housing
  - looked at Borris' Research
    - 3 arduinos - wifi, sensors, angle control
      - connected to a central arduino
  - solar kit, connected to battery, then inverter, then 110 V AC output

- Roger - written out purchase list, main components

- Haki - pulled from the list given to us by Wey

- Roger - included more details, and we can 3D print to save money if necessary
  - pulled from research of classmates

Wey - inverter will be purchased
- the motion, sensing, and GUI will be our main priorities
- the diagram is a good start, we need more detail on it though

Borris - we aren't fully committed to arduinos, we might instead use a raspberry pi
- a lot of solar kits have ways to pull data from them, raspberry pis are often used with them
- found a kind of all in one sensor but it has its own battery with a two year life

Wey - don't want that type of thing, sensors should run off batteries

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- Borris - Raspberry pi's are pretty power hungry compared to arduinos
  - Arduinos require very little power which is appealing
  - we don't need Arduinos if we use a raspberry pi

- Zheping - does Raspberry pi have a low power mode?

- Borris - can it use the low power mode if its constantly sending data somewhere

- Zheping - should we have external charging abilities?

- Wey - we can do that with a lab supply, thats not really necessary

- Borris - website should probably not be locally hosted because it's power hungry

- Wey - sensors are gonna need to be added, we should probably build our own sensor system

- Borris - some of the sensors could become redundant which we don't need

- Wey - we should expand our diagram
  - how should things be connected, how should other components be powered?
  - how will we step down voltage etc?
  - next step - work on proposal? make a list of to do from that and distribute work load
  - What is the anticipated power load of all these components.

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- Haki - should we add to the diagram

-Roger - for now - dashboard is displaying data
-website is for senior design class

-Borris - should we be able to control it from the dashboard

-Wey - it shouldn't require any sort of remote control - if the sun is shining batteries should be charging.

-Borris - some of these solar kits have dashboards built in, model off of that?

-Wey - What's the plan for tomorrow?
- make to do list · starts checking things off
-start putting the document together to get deliverables
-as a customer, how will it work / feel to use?
-how many solar panels, how much power, etc.
- temporary ideas, estimates of cost

-Borris - can give a rough model of a UI

- Haki - senior design website questions
- Roger - how do we do that through the school
-Zheping - wordpress sight -> make one
-Roger - is it free
-wey - apply through the school help desk
- Haki - can do that
-Roger - tomorrow - plan document, start writing
-Wey- document is going to require work