EE Senior Project

Fall 2019

Weekly Progress Report and Planning Sheet

Solar Powered Charging Dock for eScooters

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Week of: 11/5/2019

Activities Completed This week:

- Met with Professor Adel and spoke about the project for 45 minutes. We discussed batteries and charging. We decided that the arduino would be powered separately from the battery that charges the scooters. Professor also gave us some data to use from similar projects.
- Website progress on Wix.com was abandoned due to not wanting to pay for a subscription.
- The PV Panel was tested with the MPPT (Maximum Power Point Tracking) charge controller.
- Research on how DC-DC converters work. A DC-DC converter to convert 12VDC to 42 VDC for the charging of a scooter might be used.

C. Platt, *Encyclopedia of Electronic Components*, vol. 1. Sebastopol, CA: Maker Media, 95472.

- Worked with the IT department to update the computer software in Adels lab to include Matlab, NI Multisim, Simulink, Photoshop, and Illustrator.
- Research on DC-AC inverters. An inverter may be introduced to make the electrical easier to realize. There is one we can use already in the lab.

C. Platt, *Encyclopedia of Electronic Components*, vol. 1. Sebastopol, CA: Maker Media, 95472.

- Measured out some dimensions for the local Lime scooters.
    - Step Width is 6 and 5/16”
    - Depth is 42”
    - Step Height is 4 and ¾”
    - Socket Height is 46”
    - Total Height is 50”
    - Depth @ kickstand is between 12” and 13”
    - Column depth is 3 and ½”
    - Column width is 2 and 5/16”

Activities in Progress:

- Samu is sourcing the components that will be used to create a prototype in adels lab, and is also modeling the station in solid works and lock.
- Nate is working on building the progress website from the bottom up, since it is free and looks better than the google sites website.
- Zach is working on building the circuit in simulink to get some data.

Activities to be Started Next Week:

- More research.
- Finishing Website
- Working 3D modeling

Issues for Immediate Action and Attention:

- Should the charging be hard wired into the circuit, or should an inverter be used in conjunction with the charging cable that comes with the scooter? Maybe the cable can be added in a way that is impossible to steal? Maybe have a deal with a

Key Team Interdependencies and Resolution:

- Relying on Nate for all the website production/upkeep.