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ENGR 460

Milestone 1

4 April 2022

Project Definition

**Project:** Solar powered phone charger

**Stretch Goal:** Make it a wireless charger

**Definition:**

For our project this quarter, we have decided to design power electronics to use solar power to charge a smartphone. This will be done using solar panels that will provide charge to a external rechargeable battery (maybe 2 AA’s?) which will then run through circuitry that has some type of switch that shuts off the charging when the maximum voltage has been reached and circuitry to allow the power to pass from the batteries through a USB port so that a smart phone can be plugged in. If time allows, a casing can be designed for the circuitry using 3D printing for a final portable product.

**References that sparked idea:**

<https://www.youtube.com/watch?v=OyslcihUtzQ>

* Youtube video explaining how to create a DC to DC Boost Converter

<https://www.instructables.com/Wireless-Solar-Charger/>

* Project using solar panels to create a wireless charger for a smartphone

<https://www.engineeringforchange.org/news/how-to-build-a-solar-powered-usb-charger-for-phones-and-other-small-devices/>

* Shows the process of designing a similar solar powered phone charger