Electronics Project Outline

1. Names of collaborators

Ryan Nealis and Jason Canaday

2. Describe your project idea and goals in 100 words or less.

We are interested in helping Raj with his research in the area of environmental sensors. Our goal is to research the factors that create viable self-sustaining environmental sensors. This includes considering temperature, renewable energy source, energy storage, data transmission and other limited factors.

3. List the sources of information you are starting with.

https://www.youtube.com/watch?v=KPZhtGLfGn4

https://www.google.com/search?q=how+to+charge+a+battery+with+a+solar+panel&oq=how+to+charge+a+battery+with+a+&aqs=chrome.1.69i57j0l5.6609j0j4&sourceid=chrome&ie=UTF-8#kpvalbx=1

https://www.amazon.com/dp/B07H9XQN98/ref=sspa_dk_detail_0?pd_rd_i=B07LF7ZHPG&pd_rd_w=gwiGn&pf_rd_p=46cdcfa7-b302-4268-b799-8f7d8cb5008b&pd_rd_wg=2PaTM&pf_rd_r=DHWHX0HCHG9ZTTH5JPHJ&pd_rd_r=5c8a2c24-6ab3-11e9-81c3-e19ee3aed6a0&th=1

4. Outline the minimal set of theoretical concepts you need to acquire/understand in order to do this project.

- Charging a battery
- Energy consumption of a raspberry pi
- Solar cell
- Operation of circuits at different temperatures
- Available energy from light at different latitudes

5. List the items your project needs that are not available in lab.

Item Name	Digikey Part Number / Adafruit Product ID / Other Vendor link	Cost
Volatge Adapter (12v to 5v)	https://www.amazon.com/KNACRO-Converter-Step-down-Transformer-Waterproof/dp/B07D2	10$

	7XD69/ref=asc_df_B07D27XYCH/?tag=hyprod-20&linkCode=df0&hvadid=322002184011&hvpos=1o1&hvnetw=g&hvrand=595851094685841643&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9002597&hvtargid=pla-653034540896&th=1	
Solar Pannel	Adafruit #: 1525 (https://www.adafruit.com/product/1525)	
USB power measuring tool	Look on Amazon	Apx $15

The product chart above is incomplete, we realized today how difficult of an engineering feat this is for us. We will continue with the raspberry pi measurement and the