**Signatures:**  Joshua Hanson: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Jordan Ziegler: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Rocky

Delyon:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Jordan Rainey:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Daniel Lombardo: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Client: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

CoE:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

EGR 102 - Document of Requirements

**Team Name:** Sneaky Rain **Blog:** http://sneakyrain.blogspot.com/ 2/8/13

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**Document of Requirements:**

Structure:

* Portable Station
  + Made out of mild steel and aluminum
* Can be deployed off grid and outdoors
* Can withstand weather
* Withstand Heat / Snow / Rain / Humidity
* Light enough to support easy transportation
* Wheels
* Remote control
* Has an insulation system
  + Incorporated fans in the design for better cooling
  + Installation (fiberglass) in the inside of the model
  + Heat sink to disperse heat from interior electronics
* Includes the school's logo along with the college of engineering logo
* Outlets on the outside of the structure
  + Traditional outlets for AC
  + USB
* Needs to look like Wall-E

Inner Circuitry:

* Device is expected to convert DC current from the Solar panel into AC
* 120VAC
* Use an Inverter
* Gages need to be included (analog or digital) to measure voltage, power, current and battery status on the device in an easily readable location
* Expected to be under a couple hundred dollars budget

Software for Data Recording:

* USB hookup
* Labview to record data
* Data streamed into an excel file
* Record the output as long as the computer is connected
* Engineering economics
  + Determine how long to break even (monetarily)
  + power output
  + compare to commercial version
* National Instrument DAQ