Activity 7.1: Basic Analog Read

Team #3344

Task 1: Capacitive Sensor Background

1. What does lunar regolith consist of?
   Comprised of things like dust, rock and other materials

2. What does the capacitive sensor measure?

Directly detects dielectric constant of material being measured
Indirectly measures composition makeup and moisture content of lunar regolith

3. What does dielectric mean?

A dielectric material is a poor conductor of electricity but an efficient supporter of electrostatic fields. It can store electrical charges, have a high specific resistance and a negative temperature coefficient of resistance.

Task 2: Experimental Set-Up

- ☑ ~~Connect the LunaSat to the FTDI and laptop~~
- ☑ ~~Open up the correct sketch and add in the necessary line of code~~
- ☑ ~~Verify and upload the code~~
- ☑ ~~Open the serial monitor~~

Task 3: Test the Capacitive Sensor

- ☑ ~~Locate the capacitive sensor. If you need help, ask a staff member.~~
- ☑ ~~Record the values of the LunaSat sitting on the table as a baseline below~~
- ☐ Lightly dip a cotton swab into the liquid
- ☑ ~~***Gently*** spread the moist cotton swab onto the capacitive sensor. ***Do not get water on the other parts of the LunaSat.***~~
- ☑ ~~Record the values for the unknown material that you are testing. Note: multiple values will appear on the serial monitor, so pick a number close to the ones you are seeing.~~

Substance	Sensor Output
Baseline	697
Unknown Liquid	350