Activity 10.1: LunaSat Flight Code

Team #3344

Task 1: Types of Testing

1. What is the purpose of testing all the sensors on the LunaSat?
   We want our LunaSat to work at the Moon
   We want to be sure that the data is correct

2. Explain the differences between verification and validation:
   Verification will tell us if the system works correctly
   Validation will tell us if we can use the system in our mission

Task 2: Experimental Set-Up

- ☑ ~~Connect one LunaSat to the FTDI and laptop~~
- ☑ ~~Select the correct board, processor, and port~~
- ☑ ~~Open up the "**FinalSimulationTest"** sketch~~
- ☑ ~~Verify and Upload the code~~

Task 3: Hypothesis vs. Results

- ☑ ~~Fill out the table below based on values you expect to see for each sensor~~
- ☑ ~~Upload the code~~
- ☑ ~~Open the serial monitor~~
- ☑ ~~Record the values you see for each sensor in the table~~

Sensor	Expected Room Condition Value	LunaSat #1 Recorded Room Condition Value	LunaSat #2 Recorded Room Condition Value
Temperature (TMP117)	27 C	27.02	28.5
Accelerometer X (MPU6000-X)	0 G	-0.04	-0.11
Accelerometer Y (MPU6000-Y)	0 G	0.01	0.06
Accelerometer Z (MPU6000-Z)	1 G	1.18	1.15
Magnetometer X (MLX90393-X)	20 uT	10.71	2.86
Magnetometer Y (MLX90393-Y)	-50 uT	-13.57	-5
Magnetometer Z (MLX90393-Z)	-7 uT	-1.43	-4.28
Thermopile (TPIS1385 - Object)	25 C	24.7	25

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Capacitive (CAP)	690	697	703