weekly memorandum

|  |  |
| --- | --- |
| to: | James Pettit |
| from: | Bradford Stricklin |
| subject: | srt week 6 |
| date: | October 11, 2015 |
|  |  |

**LAST WEEK**

This week I worked on figuring out all of the electrical requirements for the flight computer, micro-controllers, and sensors to ensure that the battery from last year would be large enough. I also worked with an expert on I2C communication to understand and plan how commands and data would be streamed or stored among the controllers.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sensor | Voltage draw | Amp Draw (each) | Power Draw (each) | Flight or Test | Quantity |
| Thermocouple | 3.3 V | Negligible | N/A | Both | 3 |
| IMU1 | 3.3 V | 1.2 mA | 3.96 mW | Flight | 1 |
| Strain Gauge | 5 V | 100 mA | 500 mW | Flight | 2 |
| Pressure Transducer | 12 V | 10 mA | 120 mW | Testing | 2 |
| TeleMega2 | 3.8 V | 150 mA | 570 mW | Flight | 1 |
| Arduino | 5 V | 25 mA | 125 mW | Flight | 1 |
| Flight Total: | - | 396.2 mA | 1.938 W | - | 13 |

1. IMU Power based on official tutorial listing 3.7 V lasting **about** six hours with 400mAh. Number increased by 8% for FOS.
2. TeleMega numbers based off of running conditions with the minimum required voltage of 3.8 V still

**THIS WEEK**

This week I will continue to work with the IMU and hope to have the I2C communication set up so that we will have more control over what modes the IMU is in, as well as already having a working and tested IMU data collection and calibration program. If this is accomplished, I will move back to the XBees to work on the wireless network more.