weekly memorandum

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| to: | James Pettit |
| from: | Bradford Stricklin |
| subject: | srt week 12 |
| date: | January 31, 2016 |
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**LAST WEEK**

This week I worked on the pinout diagram for getting of all of the data systems to work together with the pins available. To this end, I worked on making sure I could get all of the sensors to work with the microcontrollers. I have successfully completed data logging and know how to implement that as well as have been working with the IMU again.

Though I know how to extract data from the IMU as is, I have been working to deconstruct the code created by one of Sparkfuns users. The reason this code is so invaluable is it calibrates all of the sensors and does automatic error correction. On top of this, it provides absolute orientation based off of the magnetic field of the earth so that no matter what orientation it is in when it is started, its orientation will be absolute. The reason the code is so troubling is the fact that the code was meant to be used with an FTDI connection to a computer, and not with an Arduino.

I realize that there will be plenty of interference within the electronics bay and that the carbon fiber wrap will certainly not help with the IMU’s absolute positioning, but I think it is a good step in the right direction for future development.

**THIS WEEK**

This week I would like to finish implementing the IMU code on an Arduino as well as either begin working on the microcontroller’s stratified programming structure (for different phases of pre-flight and flight operations), or work on the XBee communication if the rest of the wireless communication pieces come in.