6DOF Systems Outline

1.      Abstract

2.      Systems Engineering

2.1.   Deliverables

2.2.   Timeline

3.      Procedure

3.1.   Hardware Development

3.1.1. Initial Setup

3.1.1.1.            Phase 1 – Provided Servo Controller Board

3.1.1.2.            Phase 2 – Modding USB Cable for Power

3.1.1.3.         Phase 3 – Board Doesn’t Work

3.1.1.4.    Phase 4 – Switch to Other Provided Board

3.1.1.5.    Phase 5 – Other Board Doesn’t Work

3.1.2. Transition to Raspberry Pi

3.1.2.1.     Phase 1 – Configure Adafruit Servo Controller with Raspberry Pi

3.2. Software Development

3.2.1. Initial Setup

3.2.1.1.    Phase 1 – Provided Software and Drivers

3.2.1.2.     Phase 2 – Provided Software Doesn’t Work

3.2.1.3.     Phase 3 – Switch to RealTerm (Serial Port Terminal)

3.2.2. Transition to Ubuntu

3.2.2.1.     Phase 1 – Connect Directly to Serial Port through Main Terminal

3.2.2.2.     Phase 2 – Doesn’t Work because Hardware Doesn’t Work

3.2.3. Transition to Raspberry Pi

3.2.3.1.     Phase 2 -- Configure Raspian for i2c Devices

* sudo nano /etc/modules
* Add to end of file:
  + i2c-bcm2708&nbsp;
  + i2c-dev
* sudo apt-get install python-smbus
* sudo apt-get install i2c-tools
* sudo nano /etc/modprobe.d/raspi-blacklist.conf
* Comment out:
  + blacklist spi-bcm2708
  + blacklist i2c-bcm2708
* Detect connected i2c devices
  + sudo i2cdetect -y 1