Summer of Avionics Plan

Scope

Main goals

Design a system of tools to make a minimum viable Avdasi 2 Avionics model.

1. **Research I2C pressure tapping + integration**
    - Tim's board
2. **Basic cube configuration guide**

2.1. Pymavlink
- How to connect to cube
- Links to relevant ardupilot docs

2.2. Wifi
- How to set it up
- How to connect to it

2.3. Rc
- How to configure channels
- How to pair with cube
- Have RC as main/wifi as backup

2.4. I2C & Lua cube guide
- Link ardupilot LUA documentation
- Guide to I2C wiring

3. **Example code – minimum viable**

3.1. Flap sensor example code
- Take adc from average sensor and store it
- Bit operations
- Send to gcs

3.2. Servo control example code

3.3. Ground station example code
- Connect to cube through Mavlink

3.4. Arm disarm example code

3.5. UI example code
- Make ugly
- Angle input for 1 control surface
- Connection status
- Arm disarm button

3.6. Cube mode switching example code

- Template could be any mode
- Stabilize/Manual or Rc/Wifi

3.7. Pressure sensor example code

4. Flat board demonstration of everything

Stretch goals

5. Mechanical demonstrations

5.1. Flap

5.2. Aileron/Rudder/Elevator

5.3. Flap sensor

- Potentiometer installation

5.4. Basic minimum working example for above

5.5. Excellent example for above

5.6. Pressure tap rib good example

6. Telemetry Processing examples

6.1. Find resource to make it easy

7. Servo mechanism calibration tool

- Mock mechanism test demonstrator (so you can test before the rest thing is built)

Schedule

Week	M	Tu	W	Th	F
12/5	Plan			1.	2.
19/5					3.1.-3.6.
26/5					4.
2/6	3.7.				
9/6					7.
16/6					
23/6					6. 8.