Members in Attendance

- Josh Mendez (Sponsor/Advisor)
- Nathan Truong
- Felix Moss
- Annika Boyd
- Eisa Alsharifi

Agenda

- PCB Work
- Show progress on 3D print of circuit box

Notes

- Eisa created a separate PCB for the MAX1032
- Felix created a preliminary 3D print housing for the circuit
    - Has holes for wires to the PCB
    - Has hole on lid for the OLED screen
    - Needs mounting holes
    - Needs exact dimensions
- Annika created the main PCB with the analog and digital changes
    - Needs mounting holes
    - Needs test points
    - Problems (direct quotes from Annika)
        - “i feel like the gap is not wide enough/components are too close to the edge but the connections to digital devices are not very easily split for the ADC and analog switch, I'm almost wondering if we have the wrong footprint for the ADC since its split horizontally and not vertically.”
        - “I don't feel great about those analog signals kinda being on top of eachother going into the analog switch, but the digital signals aren't supposed to cross the analog unless theres a buffer plane right?”
        - “I also read that it's not great to route digital signals under analog leaning ICs, or is it ok in this case since the digital signals are just the controls to the switches and are a lower frequency”
    - Notes from Josh
        - Get caps as close as possible to the pins
        - Change to analog switch ADG412 surface mount
        - Put switches on the analog side
        - Design the hole to have a solder pad
            - This is to be able to solder the tube directly to the pcb
        - Should add decoupling caps for the 9V power line and any power lines
            - Purpose of them is to reduce noise

            - Important that the power going into the pin hits the cap before it goes into a chip
            - Put a cap before each pin
            - Use 0805 caps for these
            - Order 1uF 0805 caps
        - Other than the above modifications, the PCB looks good
        - Control signals can cross over analog, as long as plane crossing isn't condensed to prevent noisy regions on the PCB
- Eisa and Annika went to print the MAX1032 PCB with Josh
    - This was so Eisa can get started on coding

Deliverables

- Eisa starts coding PCB
- Nathan starts designing faraday cage
- Annika continues PCB work
- Felix continues pcb box design