

Week 9:**Date:** 10/21/2021**Total hours:** 10**Description of Design Efforts:**

In summary for this past two weeks. We prepared for design review, recovered from design review, and ordered the PCB as of 10/20. It was a productive week; however, we are no longer ahead. Maybe worry is just setting in but the thought of having only a few weeks of soldering and testing the circuit is profound.

- Midterm Review

The most criticism we got was for our PCB and overlooking how difficult a mounting rig for camera/projector imposes. The PCB had a large of problems:

- 1) Ground plate below clock oscillators
- 2) No extra Front layer ground plate on the analog side
- 3) Incorrect diode footprint for the SOD-323
- 4) Decoupling caps were far from the microcontroller and power
- 5) USB-C could not be plugged in "upside-down" because of no cross wiring of the connector

As of the mounting rig, I may get on that as I wait for the PCB. Or start on camera sensing, but James did a good job of that this week. We can now see the blob that's to be the ball. So, about the rig, it must be very compatible in moving. I was thinking something height adjustable that can be easily transported into and out of rooms. The material needed for this is questionable at this time. Something sturdy enough to hold up all the devices but also can't be too big that it would get in play.

- Fixing up the PCB

Attached below in Fig. 1, is the PCB with all of its fixes. I also doubled the trace thickness for the 5V traces. Which may not be necessary These fixes were enough for nothing to be added for the review and we proceeded with ordering the PCB. However, we still need to order the button matrix PCB if it hasn't been done so already by Jack.

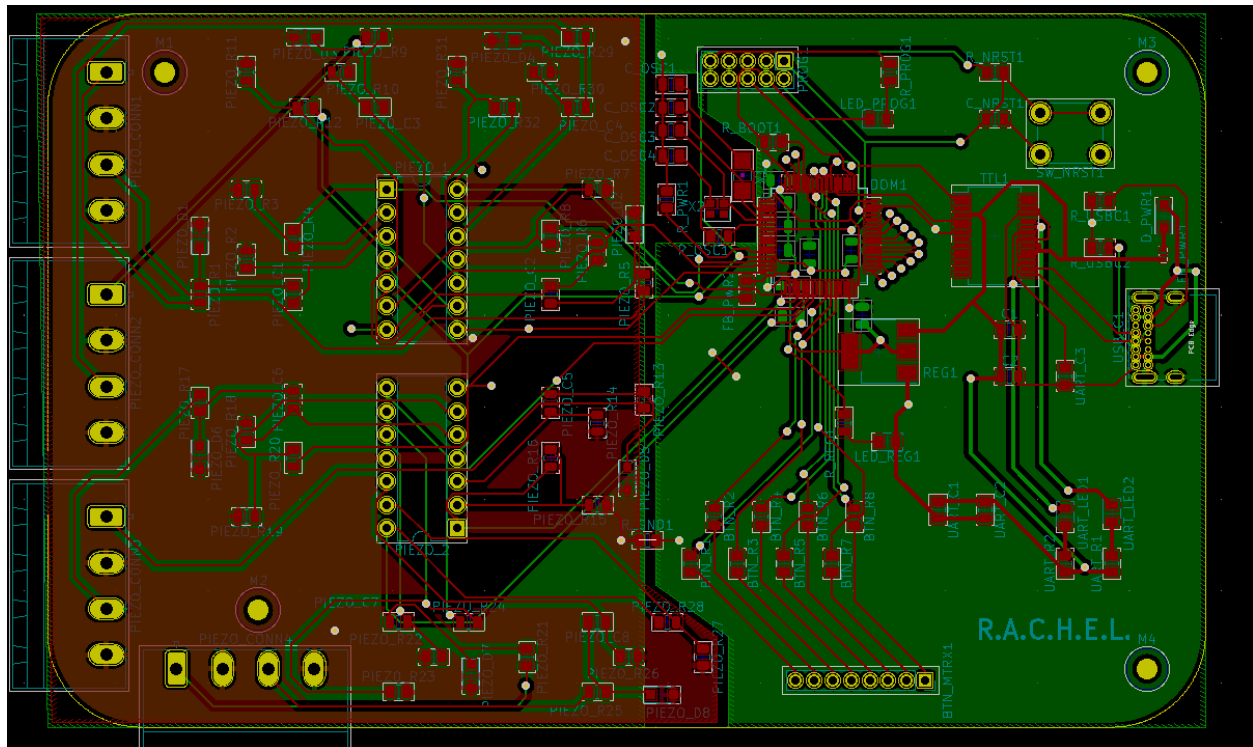


Fig. 1 The completed PCB without any errors

- Next Week

Two words: OpenCV and the rig. That is what I'll be working on until the PCB comes in.