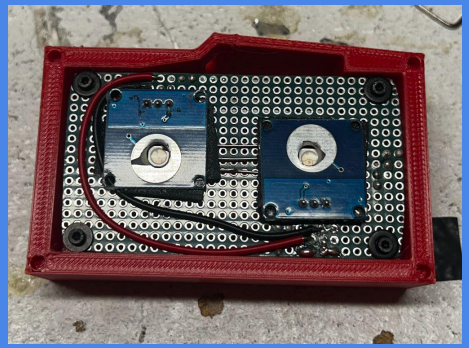
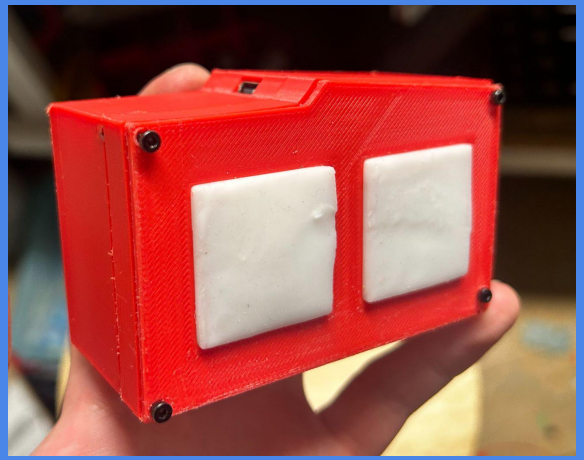
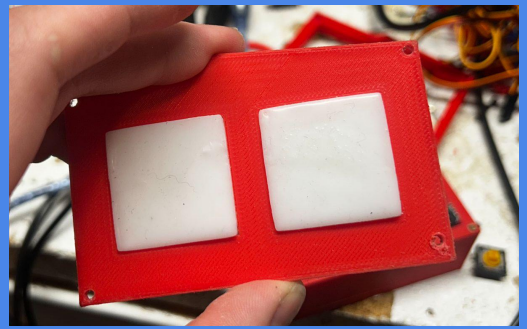
Custom 2-Pad Beat Pad









Custom 2-Pad Beat Pad

Problem:

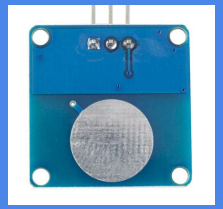
I'm not good at programming sampled drums. I like to be able to feel the beat of a song I'm making. Commercial beat pads are too expensive for me, and too complex to use when I want to quickly get an idea down.

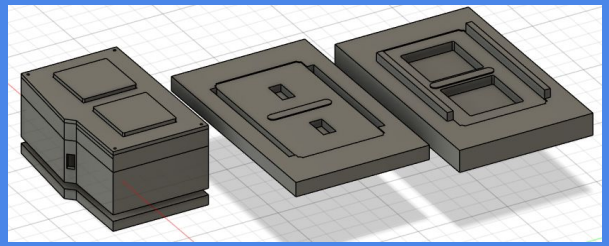
Design:

I wanted something rubbery, with touch sensors to feel like a commercial beatpad. I also wanted it to be chunky- able to fit in hands like an old gameboy, using my thumbs for the pads.

I decided to build a beat pad with only 2 pads, because I don't usually program more than 2 drum parts at the same time- typically kick and snare and then I'll go back and add hi hats and flourishes. I kept it simple with a retro inspired shell in 3 parts, fit for multiple different microcontroller units (I ended up going with a Pi Pico for the easy access to MIDI)

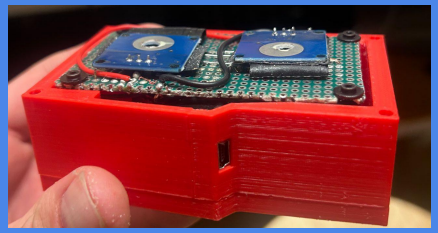
I was working with constraint in my touch sensors- they were solid, and I wanted LEDS to shine through them. I found out I could drill through the center and still get reliable data.



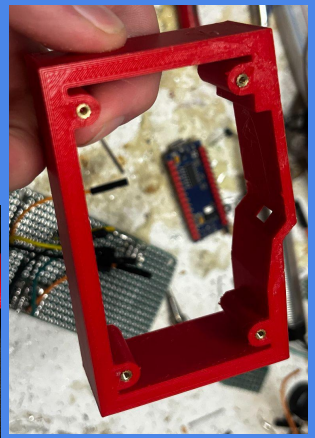


Build Process:

I screwed the shell pieces together into heat set inserts, set a custom protoboard piece on top of the upper lip of the top shell. I 3D-Printed a mold for 2 part rubber which I turned into a single sheet containing two pads. I lay this on top of my top shell piece, covering it with the third piece and screwing it in.







Results/Retrospective:

The beat pad could be more touch sensitive, but overall there aren't any significant issues with it. I use it all the time.