



# Squid Squad

SquidBox Team 1 - HUA 3910

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# Our Goal

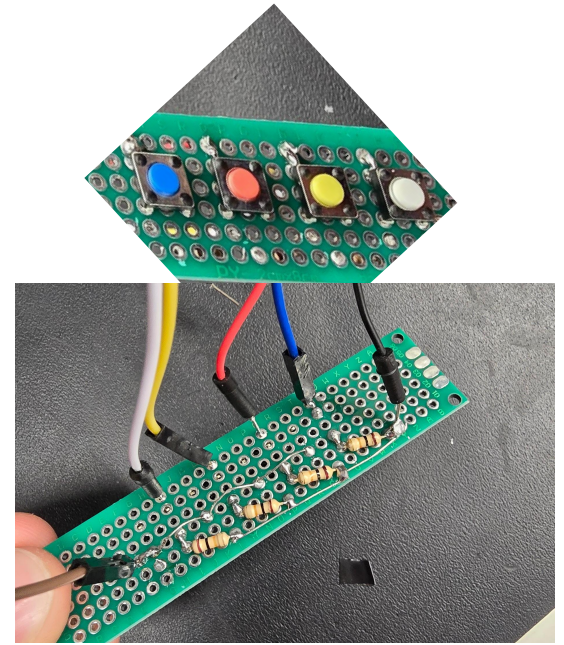
- Create a user-friendly velocity sensitive MIDI pad
  - Be able to produce sound using bluetooth
- Design a reasonable and accessible CAD print to encase and hold our design

## Why This Goal?

- Create real velocity sensitive buttons from scratch
- Check off an important part of a successful MIDI controller

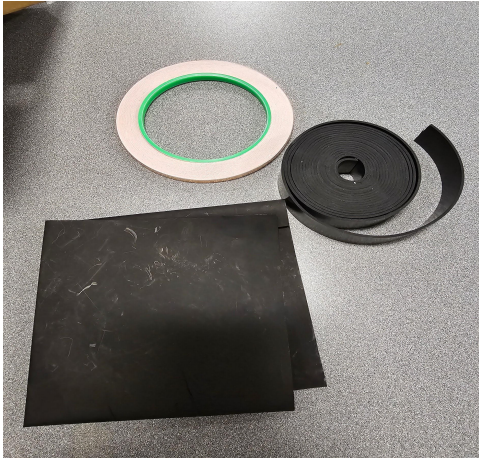
# What We've Accomplished

- Successfully created an updated CAD print for the Squidbox MIDI controller
- Overhaul of buttons
  - Implemented 1 successful velocity sensitive button
  - Added a few buttons that are only for menu navigation
    - **Up**, **Down**, **Select**, and **Back**
- Created a 'Velocity Demo' menu to show the velocity output of the button being pressed

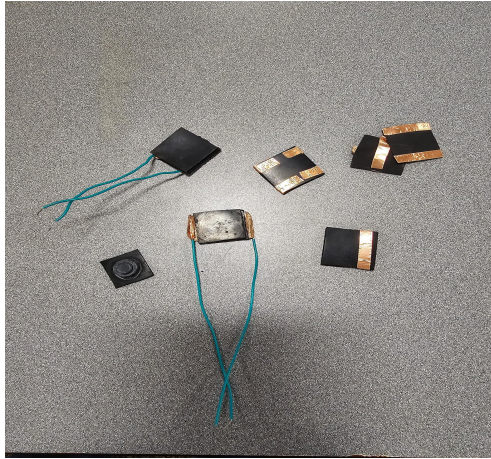


# Our original plan was to use Velostat

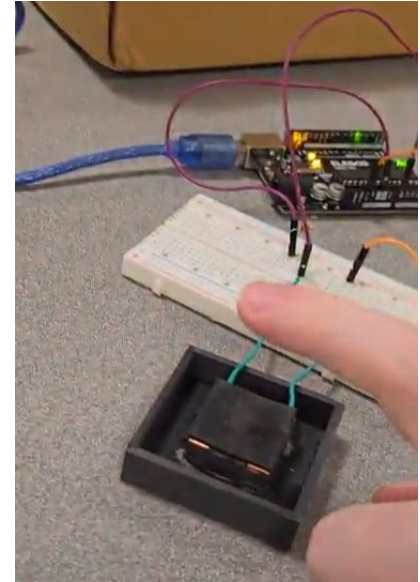
Original Materials



Prototype Buttons

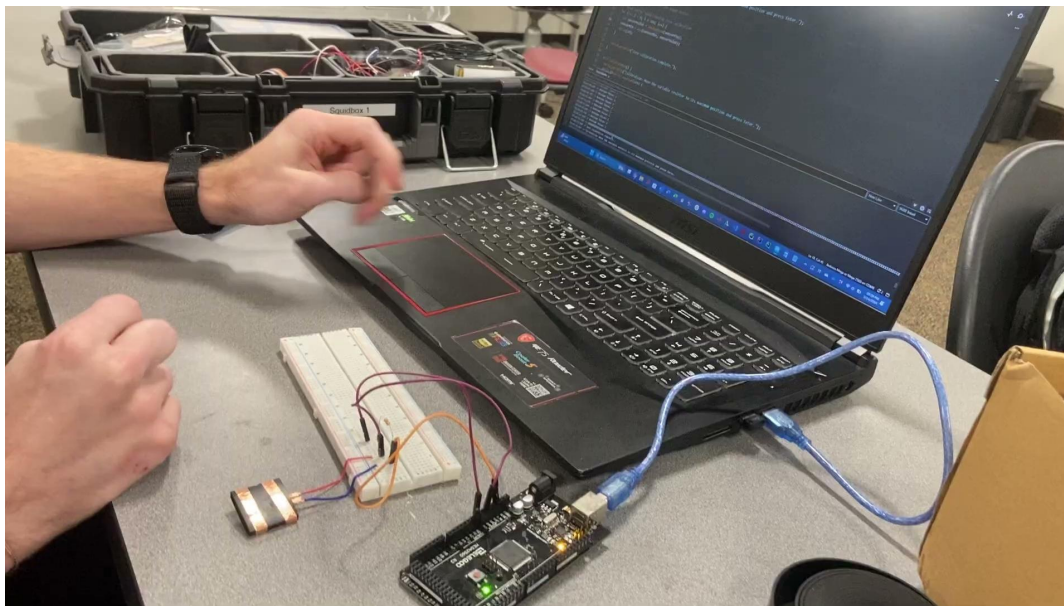


Testing Velostat Button



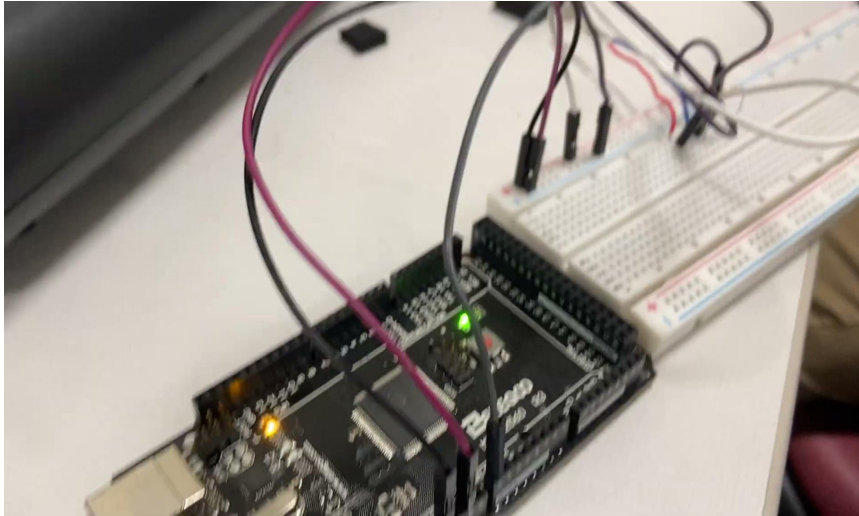
# Our original velostat buttons were inconsistent

Video demonstration of velocity testing with velostat button



# New Button Design

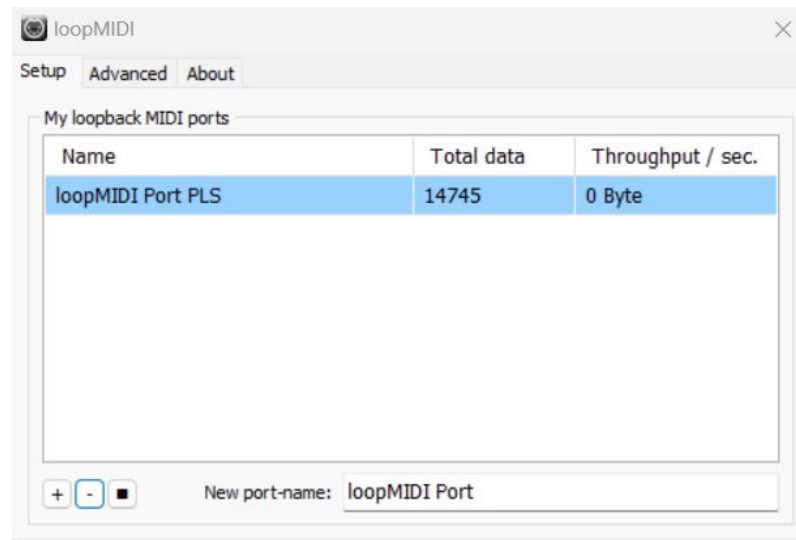
Video demonstration of new pressure sensor button



# Connecting To DAW



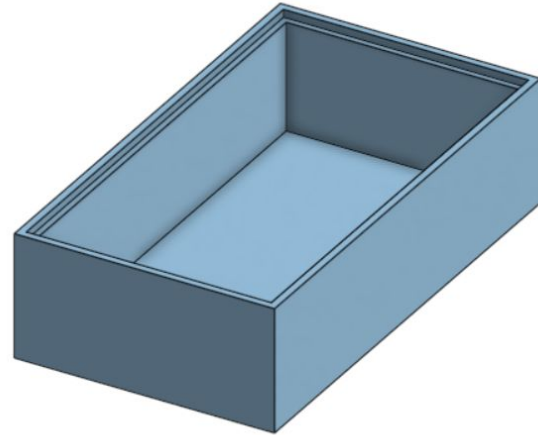
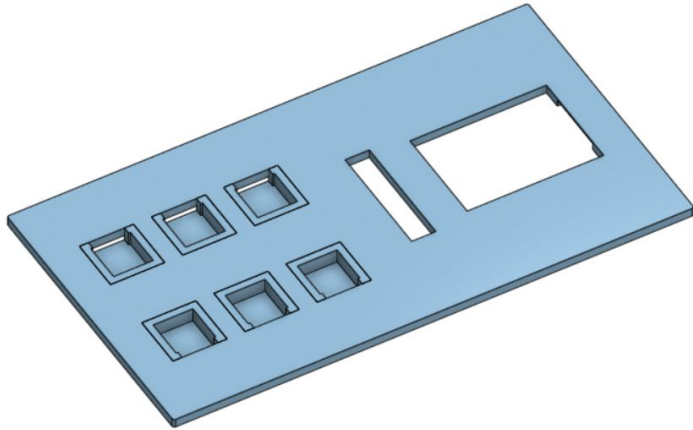
Receives serial data from the Arduino and  
converts it to MIDI data



Receives MIDI data from Hairless MIDI and sends  
it to Ableton



# Final CAD Design



- CAD final design should have 8 pads not the 6 shown
- Make sure 3D printer has enough room to fit the case

# Our Struggles

- Our main struggle was the velostat and initial custom design of a velocity sensitive button
- The Arduino board is in very poor conditions
- CAD went through multiple iterations
- Setback from lack of understanding of the previous code and the physical deliverables
- Bluetooth functionality was outside of the time constraints

# Future recommendations

- Construct and calibrate the rest of the 8 buttons and the functionality for simultaneous multi-button pressing in the code
- Bluetooth functionality
- Possible combination of Squidbox Team 2's deliverable to have a final completed MIDI controller
- Buy a new Arduino
  - The one that's soldered to the LCD right now has shorted out pins, making them useless