Goal 1 Build Outcome

1. Adafruit's instructions/code for the Pocket Pigrrl build can be found here:
   https://learn.adafruit.com/pocket-pigrrl/overview
   -Was made with PLA (clear) and ABS (black) plastics

2. Build Pictures: Pages 2-6
   -Page2: Build of Pocket PiGrrl
   -Page3,4: Gap between front and back ends.
   -Page5,6: Inside of Pocket PiGrrl

3. Problems encountered/Solutions: Pages 6-7
   -Gap between front and back ends
   -Does not close that well
   -Audio issues

4. Lessons Learned: Page 7
   -Drill press required
   -function buttons without NinjaFlex plastic filament

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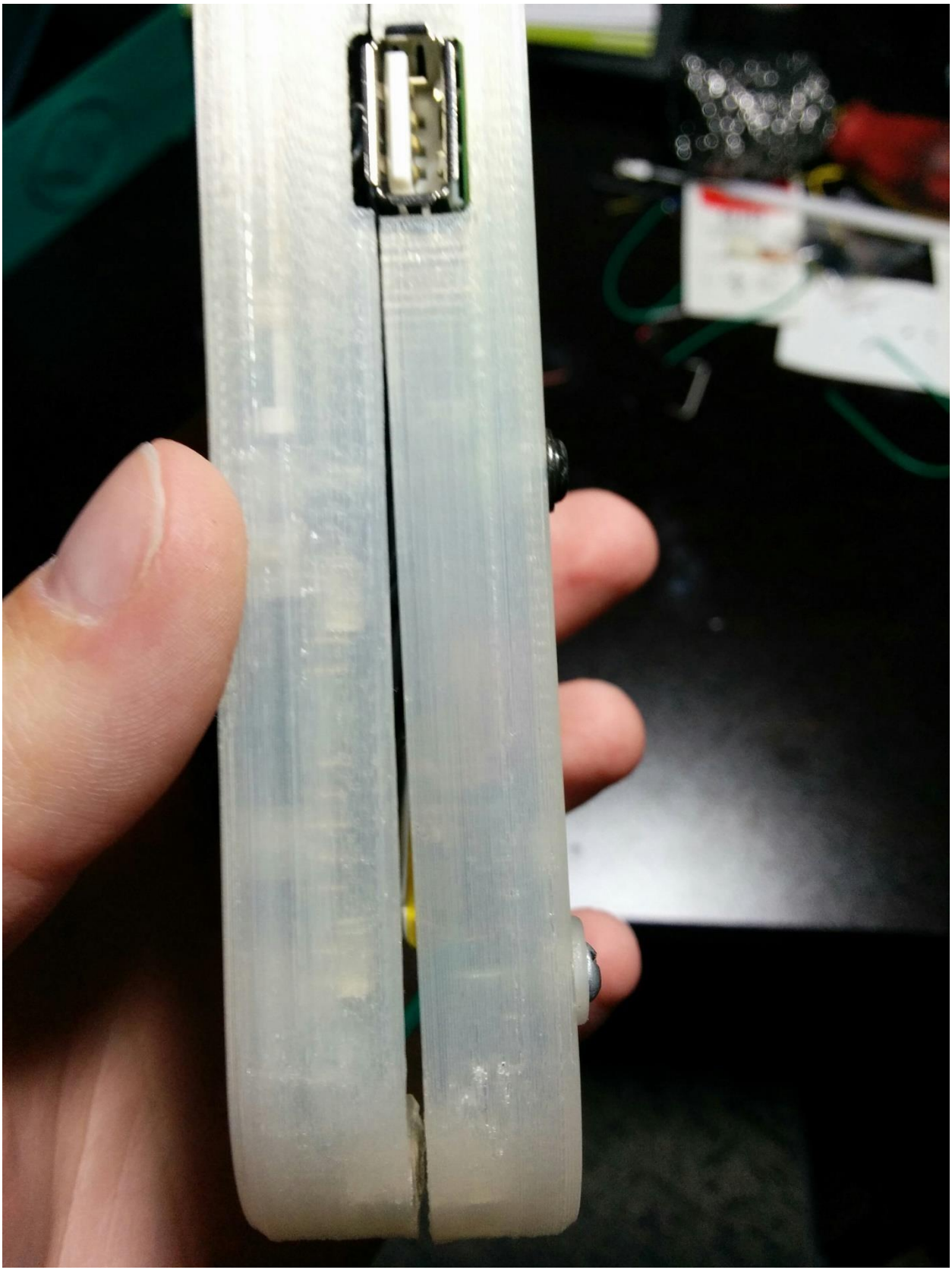
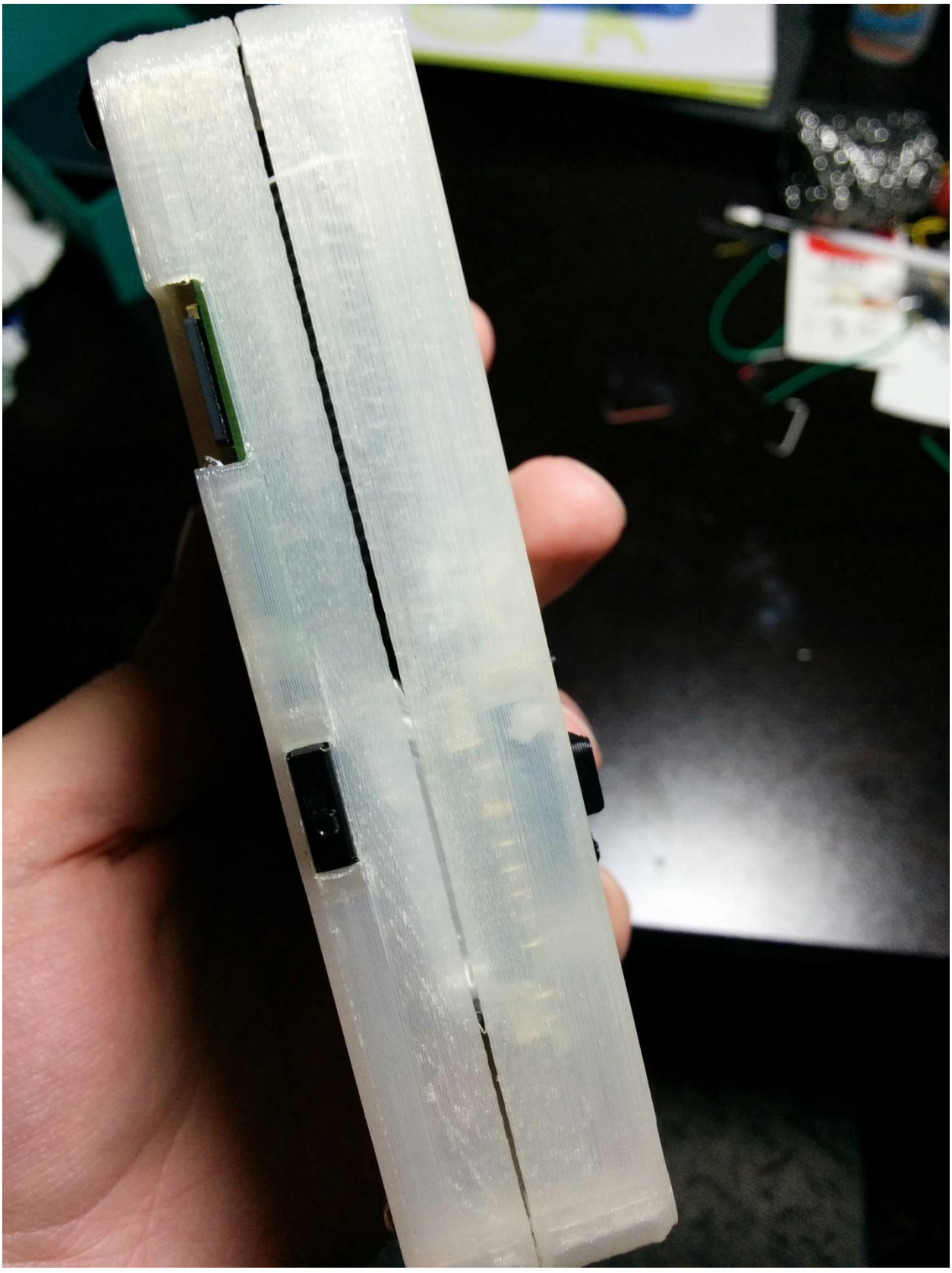
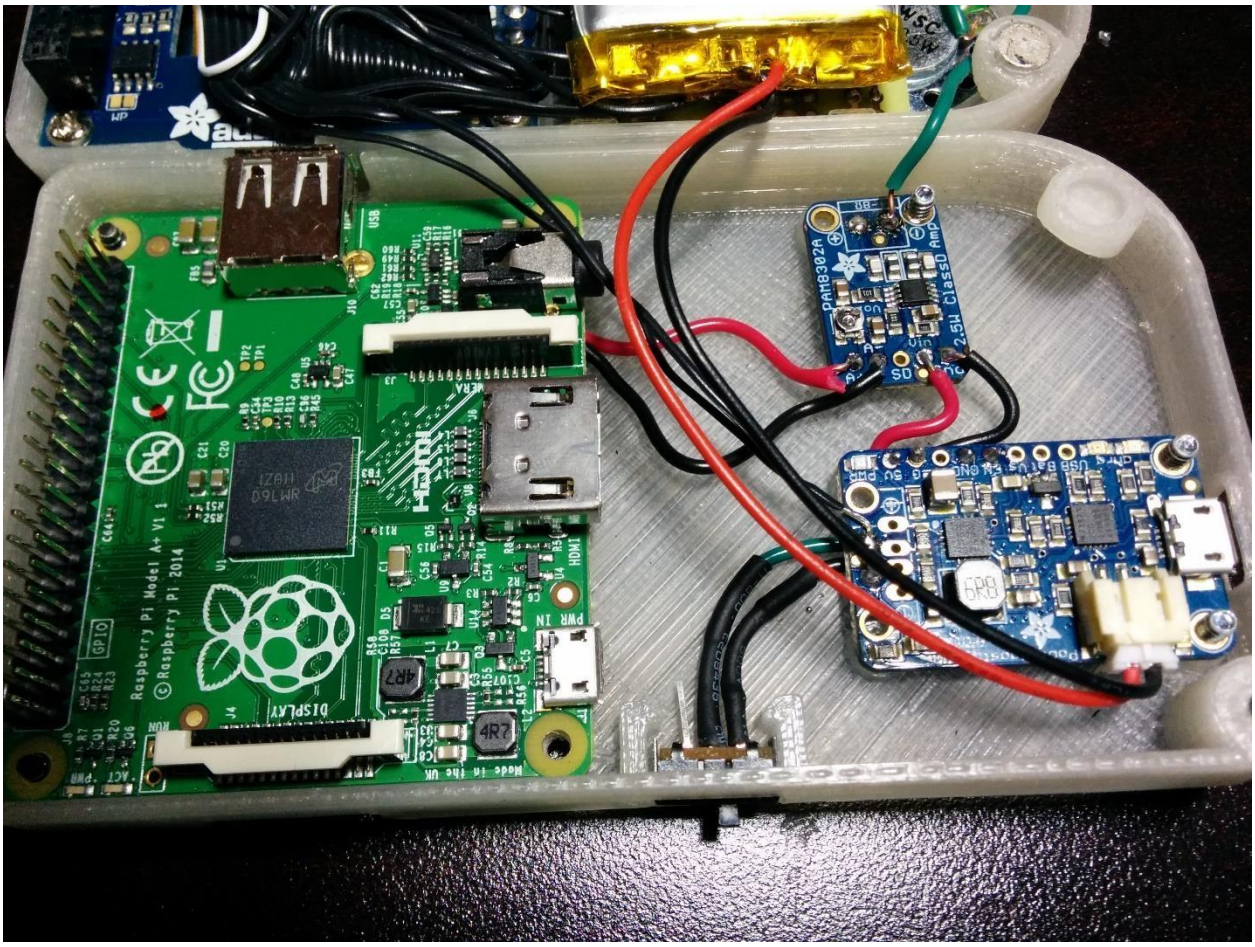
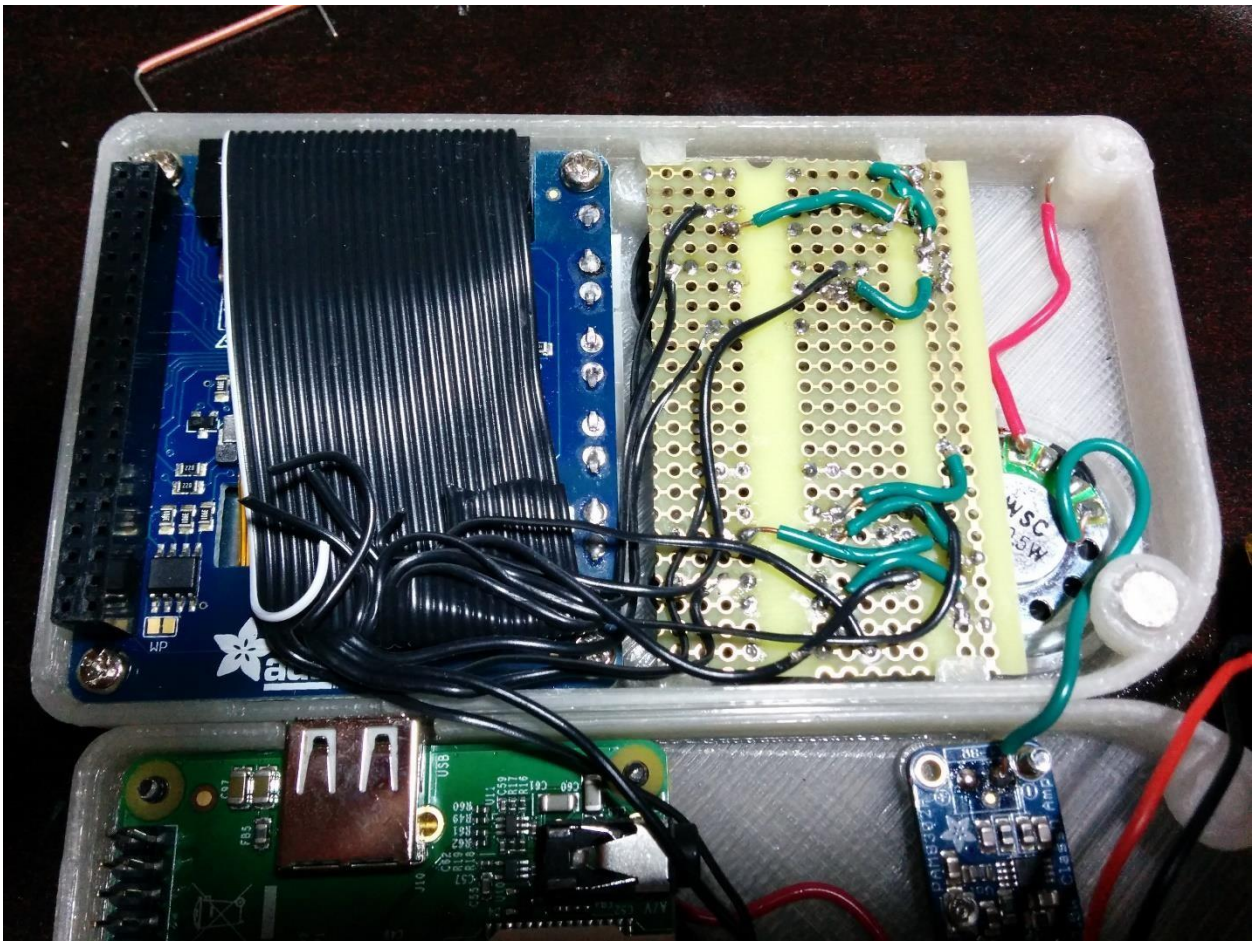




From these last two pictures you can see the fairly large gap between the two pieces. Firstly everything is packed pretty tightly causing resistance when closing. Also I will most likely use stranded wire in the future for more flexibility. Lastly, the magnet as seen below does not help in closing the gap.





The speaker is not attached here because audio is has major issues coming out of the pi, and AdaFruit's Amp is not helping to smooth it out.

Problems

Problem: Gap between front and back sides.

Proposed Solution(Not Yet Attempted): This may be a limitation with my 3D Printer and so a complete CAD solution may not be possible. Instead I will Increase the height of the sides and sand them down a bit to make them level.

Problem: Magnet is not strong enough to keep it securely closed.

Proposed Solution:
-Increasing the sides slightly will help with providing more room for the components inside.
-Stranded wires vs solid will be more flexible and provide less resistance when closing.
-In the CAD design, replace the magnet with another screw.

Problem: The audio has major interference. This appears to be a well reported issue with the Pi (Not yet sure about the Pi2), and plugging in headphones directly to the Pi confirms this. Adafruit's amp dies not improve this.

Proposed Solution: Plan on trying another amp. Currently no concrete solution.

Lessons Learned

1. A drill press is required for this project. Not using one, as I've learned' ends in many of the screw standoffs breaking. Also makes it difficult to take screws out thus reducing the cases durability.
2. Because I'm not using Ninja Flex for the buttons, the top functional buttons needed to be broken apart from each other to work. This does work but it is possible for the buttons to rarely fall out which can be extremely frustrating to get them back in without taking apart the Gameboy.
3. AdaFruit provides an outdated ISO image for RetroPie. Using a fresh image of RetroPie, then installing AdaFruit's Pftft screen libraries caused major problems with the button inputs. Best solution is to update the image that they provide.