

Reflection Template

For this project, I followed the template good doc and saudered and cut many wires, which successfully created a high pitch sound machine.

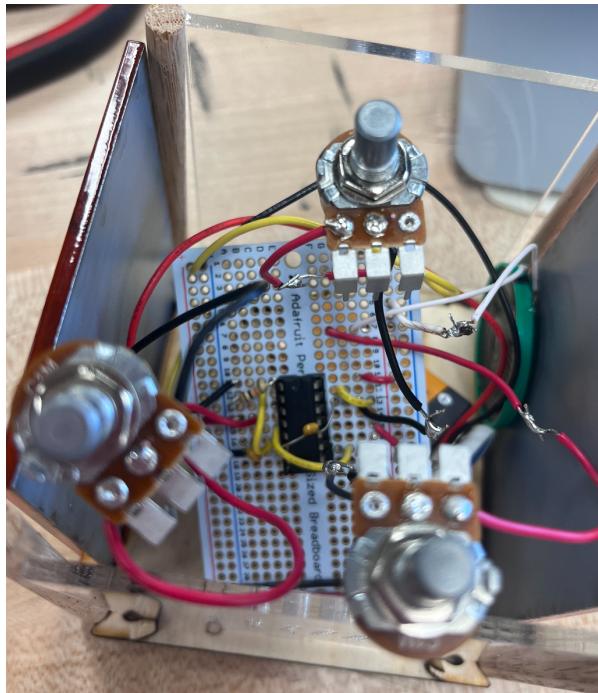
The steps were as follows:

- Lie out all materials
- Cut wires
- Trim wires
- Sauder pieces to breadboard
- Follow steps on canvas
- Attach speaker
- Add battery
- Run trials and check over everything until the sound works
- Take video
- Redo the same process onto the perfboard
- cut wires
- Checked connectivity with potentiometer
- Sautered all wires in place
- Fixed short circuits
- Created box
- Glue bottom piece of wood to the bottom of box
- Created a switch insert hole on illustrator
- Used laser cutter to cut out switch on side of box
- Used illustrator to create speaker
- Laser cut the holes onto the opposite side of box
- Cut wooden spools
- Put wood planks into place
- Inserted all sides of the box
- Un sautered switch and re sautered once in the box
- Made box
- Took apart switch
- Placed in the holder in the side of box
- Resaudered
- Placed all pieces inside box
- Cut off extra metal on knobs
- Used on shape to create 3d printed knobs
- Printed
- Put it all together

The process:

After collecting all of the materials and taking a noiled picture of them I was able to follow the steps on canvas. I first cut all of the needed positive and negative wires and found which holes they were supposed to go in. Then I trimmed the wires and saudered them to the breadboard. I followed all of the steps on canvas and after all of my wires and materials were on the breadboard I attached the speaker. Then I added the battery and flipped the switch. I ran multiple trials and checked over everything until the sound worked. Then I took a video of my sound machine and redid the same process onto the perf board. I then made the perf board and fixed all the short circuits. I then created the box by gluing a bottom piece of wood to the bottom of the box and cutting wooden spools. I then put the wood planks into place. I created a switch insert hole on the illustrator and used a laser cutter to cut out the switch on side of the box. I also used illustrator to create a speaker and laser cut the holes onto the opposite side of the box and then inserted all sides of the box into the wooden bottom piece. I had to un sautered the switch and re sautered once it was connected to the box. I then had to fix some small issues with my board. I then placed everything inside the box and cut off the extra metal on the knobs. I then used on shape to create 3d printed accessories for the knobs. I then printed out the knobs and placed them on the box.

After it was all assembled I checked the speaker and took pictures!



[https://github.com/phoebewise/ED1/blob/main/Synth/IMG_5960%20\(3\).mov](https://github.com/phoebewise/ED1/blob/main/Synth/IMG_5960%20(3).mov)

perf board

Video of perf board

Challenges, setbacks, and solutions:

One setback I had was that my speaker wires detached so I had to Solder them back on!

<https://drive.google.com/file/d/1uXQioagdUmyqun6D4wP-gjmsnxyo1voo/view?usp=sharing>

Finished project



knobs



Final box



Final box