

Paint Music

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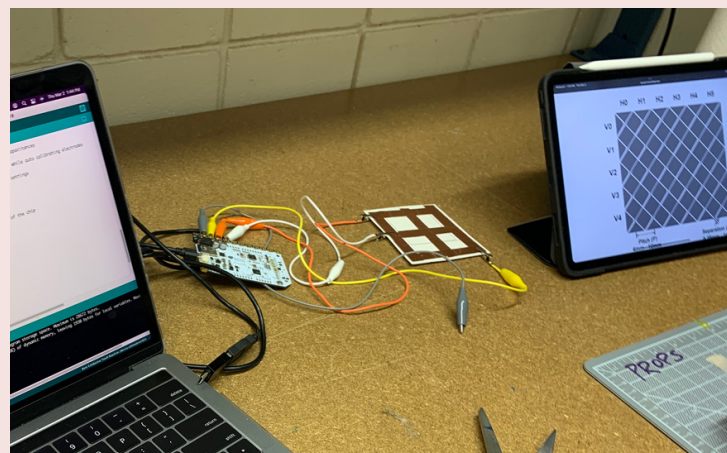
Introduction

Paint Music is an idea I had during my sophomore year. This idea I carried with me throughout my time in city tech. It's a small interactive installation that combines digital paint and sound. The user paints and creates music.

Process

There was an original idea where I wanted to create a physical interactive canvas using sensors and other components. Unfortunately, the idea didn't work out due to getting inaccurate data. And also the resolution would be seen as blurry and not appealing to the user.

I had a meeting with my TA. He suggested a different solution, either continuing with the interactive canvas or using an application that reads the location of the user's movements on the screen.



An Image of our meeting, prototyping the interactive canvas

I used, a TouchBoard Microcontroller, wires, copper tape

Materials Budget

- Touch Board
- Wires
- Copper Tape
- SketchBook
- Touch Osc
- Ipad
- Laptop
- Procreate

Items	# of Items	Cost	Total Cost
Touch Osc	1 pack	19.99	10
Brush Stylus	1 pack	0	25
Laptop	1	0	0
Ipad	1	0	0
SketchBook	1	0	0
TouchBoard	1	1	0
Sensors	1	0	0
Jumper Wires	4	0	0
USB cable	1	0	0
Pencils & pens	2-5	0	0
Total Cost			35

Methods

- I used processing to create the visuals and sounds.
- Soundcipher is a library used in processing, it has MIDI sounds, notes, chords, etc.
- oscP5 is a library in processing that communicates data to processing, I used to collect the data. from TouchOsc
- TouchOsc is an application where you can use different tools, like faders, oscillators, and grids. I used the grid to read the users' location on the screen.

Timeline

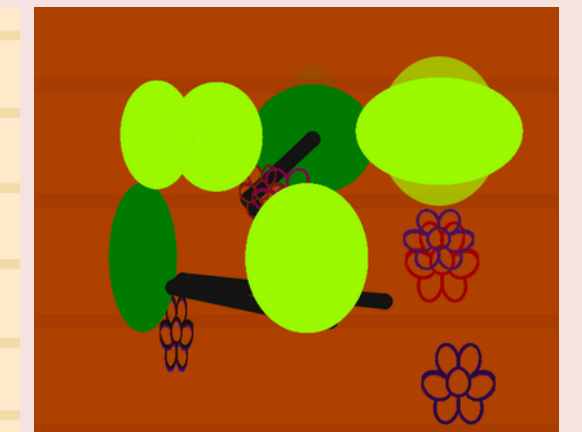
Month	Description
January	Research tools, sensors to create the first prototype.
February	Talked to my advisor about the research and the idea of the project. Build the first prototype, met with my advisor.
March	During the the beginning of March, I switched to using Touch Osc, I met a couple times with my TA (Josh Corn). He helped me connect the app with processing and organize the code a little.
April	Design, code the project. I added sounds, made the UI prettier. I was mostly coding and designing the project and adding some touches.
May	Finalize the project with my TA and present in the spring show

Results

As a result, I used Touchosc, it was an efficient solution and it was easier to program. Well, it was easier for me to understand I had to ask my TA and a good friend of mine to understand the code. Once I understood the code it was so much fun to build. I created three brushes and each brush has its own individual sound. I designed the canvas with straight lines across, to represent a music sheet.



Title page, I designed using procreate and photoshop



An interactive sample of the project. It shows three brushes.

Overall this project was fun and stressful. I was able to show off my design skills like the brush design and the interactive part. Although I don't have the best coding skills, this project pushed me to do my best.

Acknowledgments

Josh Corn, for guiding me through this project and my time in Citytech. Allison Berkoy for helping me and being my advisor. Bian for helping me understand the code. Chris for being supportive of this project and buying me the copper tape. Luis for giving me the micro USB cable.