Interaction Design Media Motion and the Body

Project 2:Time and Data

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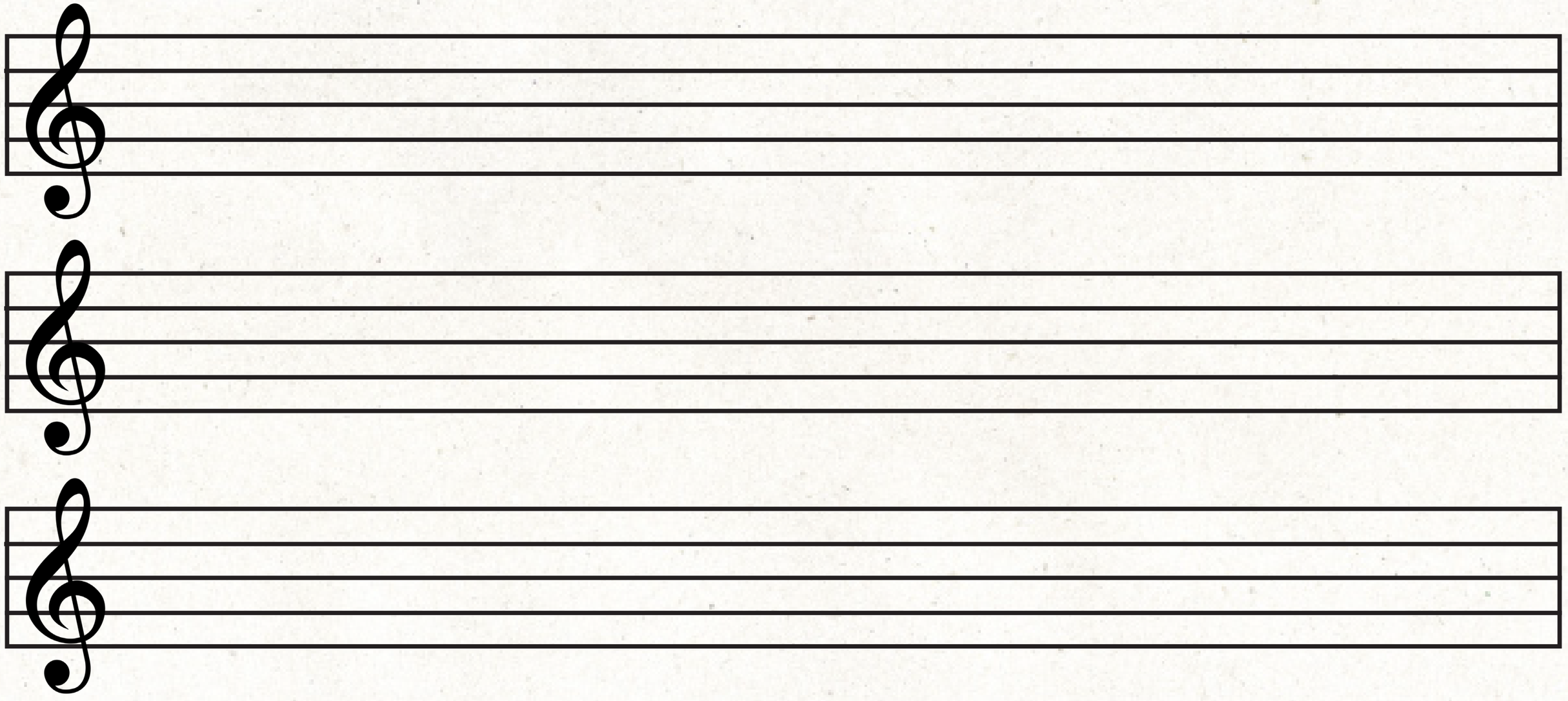


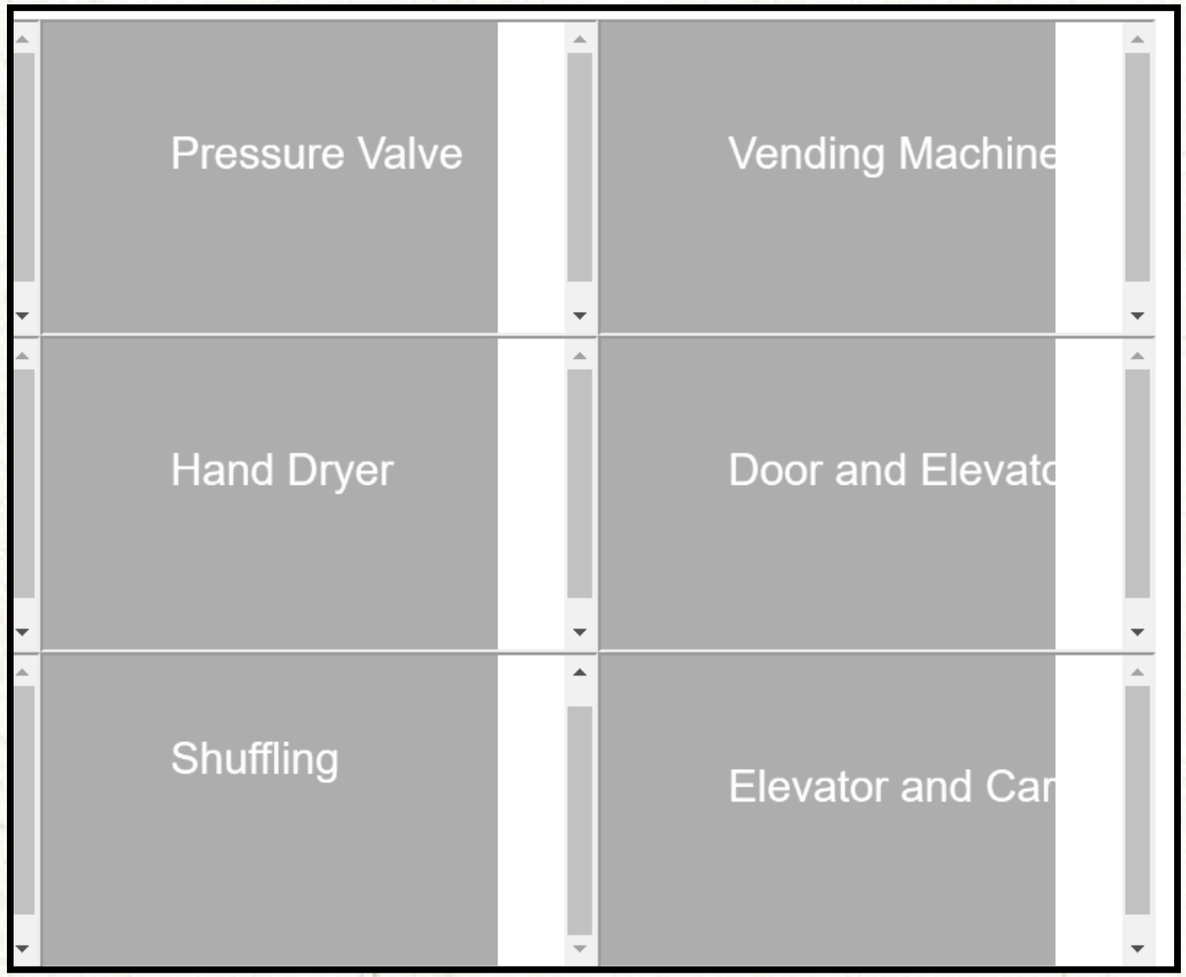
Design Statement

This project is the culmination of explorations into technology that processes, edits, and creates sounds and voices, such as P5.js, P5.Sound, Teachable Machine, and chat bots. The result is a web app that is able to guide a user through learning to play the flute by listening to and correcting the notes they play in cojunction with related visuals.

Week 5

Week 5 I walked around campus listening for intersting sounds to record. When I was finished I listened to them all again and uploaded them to the web template. While this week did not produce any ideas that inspired my final product, collecting and listening to the sounds did teach me about what type of sounds record well, and how different file formats affect how the sound is played, something which I used in my final.

For my final, I had to make sure I had a quiet space to record and that the microphone on my computer would pick up the sounds I wanted to make and be sensitive enough to not garble them.

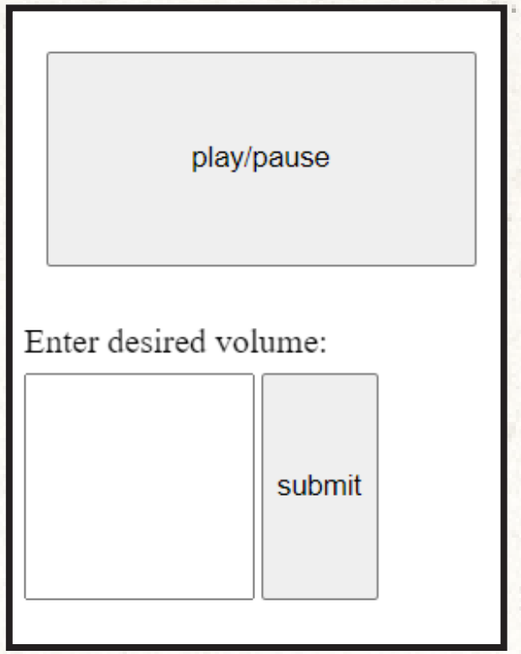


Sounds I collected in Week 5

Week 6

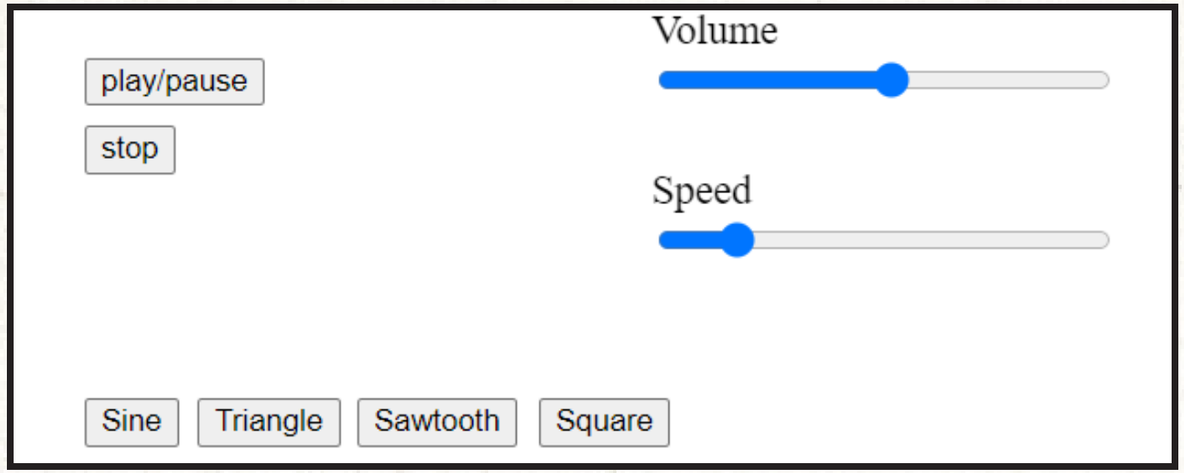
This week I explored P5.Sound's capabilities and learned how to manipulate it to do what I wanted. While my iterations were simple, they helped me gain the skill I needed to complete my final.

This iteration plays and pauses a sound file using a button click, changing the volume level through input that isn't a slider, like the majority of my iterations. This allowed me to experiment with converting user input such as text to values that P5.Sound could use for controls such as volume.



This iteration creates a sound using an oscillator, changing the frequency, and therefore the pitch, with a slider. This made me begin to think about the frequency of the oscillator in terms of music, and if I could match certain frequencies to notes in order to play music.

I used this concept in my final, in which buttons can be clicked to play change the frequency of the oscillator to create a desired note.



Week 7

This week I experimented further with P5.Sound, but also tried out text to speech, speech to text, Teachable Machine, and a chatbot.

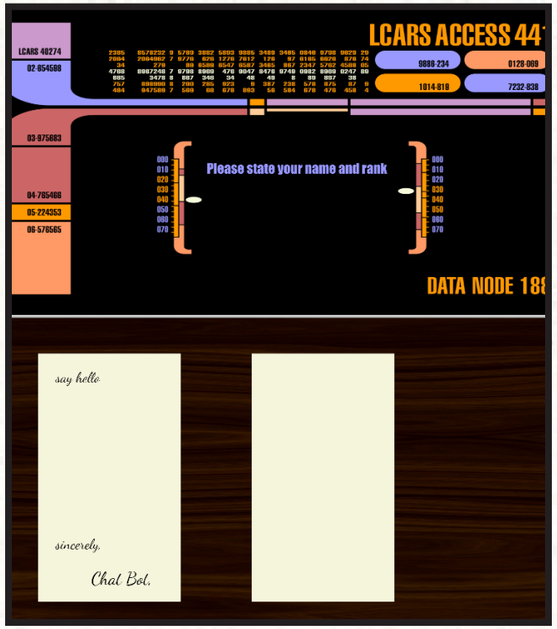
In these iterations I tested the Teachable Machine to see if it could differentiate between notes play on the flute. When I found out it could, I went further and used my idea from Week 6, adding buttons for the A and Bb notes that played an oscillator at the same frequency of the note. I wanted to make an iteration that allowed the user to select a note, then tell them if they are playing it correctly or not, but the code what too complicated for the time I had.

This iteration differentiates between notes played on a flute in the Bb scale.

This iteration differentiates between notes played on a flute in the Bb scale.

A B

I also played around with visually styling my iterations to look different. In these iterations, I made a Star Trek contol panel and two letters.

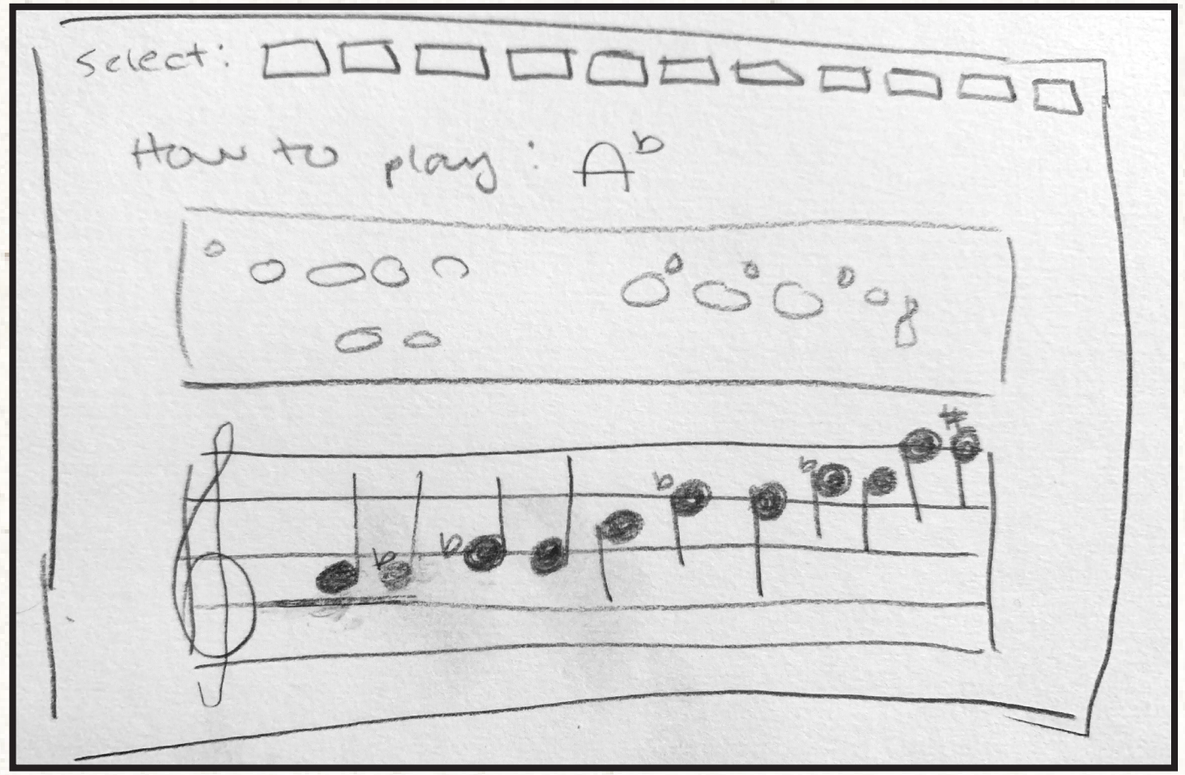


Concept

I decided to take my idea from Week 6 with oscillator generated notes, and the music note iterations with the Teachable Machine from Week 7 and bring them together for the final.

I knew what I wanted the project to do functionality wise, but after in-class feedback, realised I also needed to think about how the visual aspect and design will enhance the project.

I decided to mimic the look of sheet music and music instructional books, including a staff and a treble clef that will show notes to tell the user which note they are currently playing and if it matches the one they wanted to play. In order to make the look more authentic, I used a paper textured background and the same font, EB Garamond, that is used in sheet music.

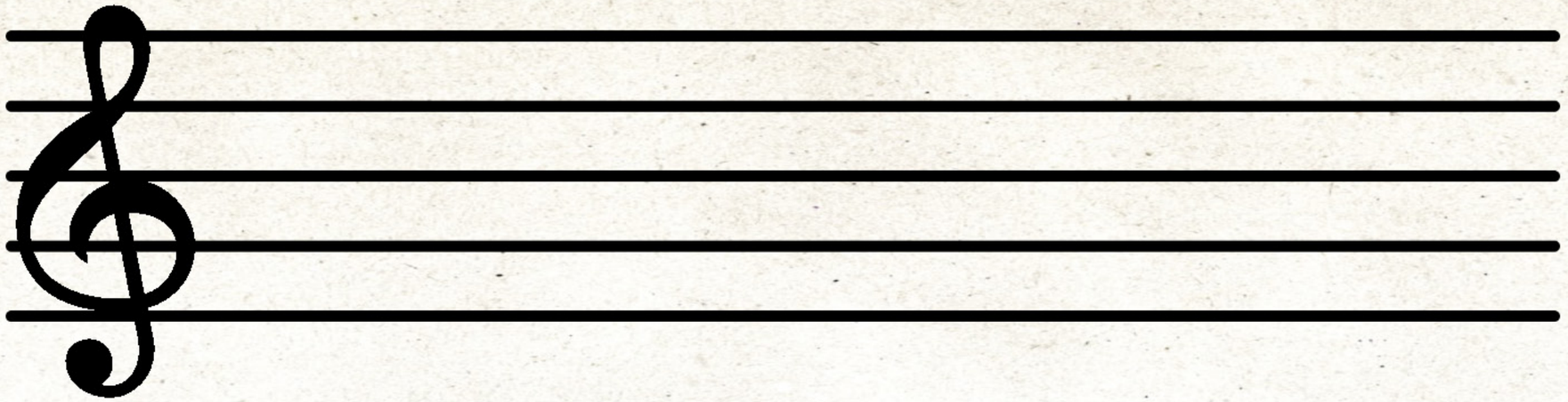


Final

https://ixd595.phoenix.sheridanc.on.ca/mmmod2final/

Select the note you want to play: Ab A Bb B C C♯ D Eb E F F♯ G

Hear note



Sources

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