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cart 253

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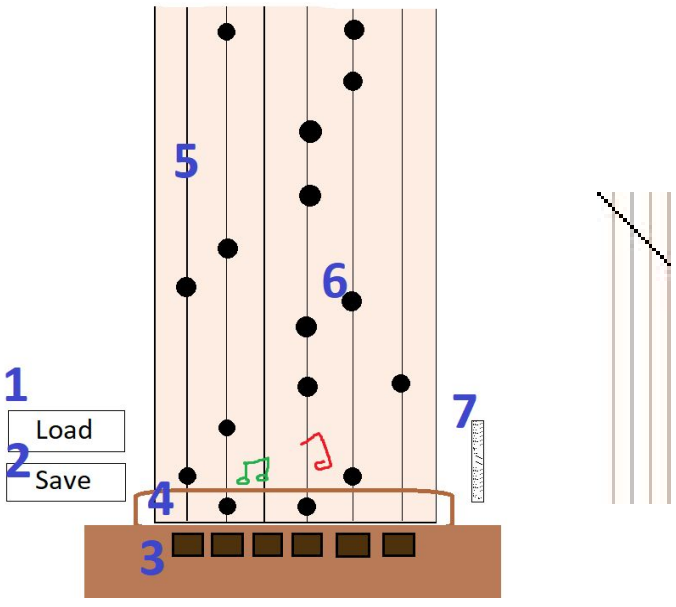
Project 2 Midterm: Proposal

Project 2 will be a digital music box that reads music cards visitors can create, save, load and share with others. Visually, the user sees a music card with black dots representing notes that move up from the bottom of the canvas. Depending on their location along the x axis, these notes will play at a specific pitch once they appear at the bottom of the canvas. The user can add notes on the music card by left clicking an empty space or left clicking an existing note to remove it. All of these modifications would be recorded in real time on a small image that acts as the actual music card. Arrow keys could be used to rewind or play the music card as well as modifying the speed at which it is read.

Legend

1. Button to bring up a file explorer window to load a premade music card.
2. Button to download the current music card.
3. Keyboard inputs to add notes. (May be removed for final version)
4. A window of the notes being played.
5. Staff for notes.
6. Musical notes.
7. A loaded music card



For the program to read the music card image it will need two for loops. One for loop that would look over every pixel in a row one at a time of the music card image checking for black pixels and playing a note at the appropriate pitch (left to right, lower to higher). The second loop will be needed to go down to the next column at a set rate or bpm. When it comes to saving or loading a pre-existing music card this would use the createFileInput() function from the p5.js library.

There will also need to be a grid system for adding notes using the mouse. What I foresee working would be a function to automatically round the mouse's x and y coordinates to the nearest point a note can be placed. At the same time, an If statement would be necessary to check if the place in question hadn't already been taken up and if so remove it rather than making one. Alternatively, circles could already be on the music card and simply become visible or change the fill to black. In this case it would only be a matter of checking every frame that the mouse is pressed and is below a certain distance of each individual circle to toggle between activated and deactivated.

Lastly, I will have set a proper pitch for each note, this could be done in one of two ways. The first and easier among the two is using a sound file and accelerating to alter the pitch. The second way would be to use the p5.sound synths using proper pitches and octaves. The two would sound distinct from one another way however either one should do the trick.

What is nice about this project is that if I get a working version of it out soon, I could share it in our class chatroom and people could share music cards they've made. It could potentially bring a whole other level of interaction beyond trying out what everyone is uploading where classmates could bounce music cards back and forth mixing and remixing to their liking.