

CART 253 – Final Project Proposal

Submitted by: Alana DeVito

Date: Tuesday, November 3, 2020

Title of Project:

The Sonic Shop Virtual Gallery presents: Project Trajectory and the Living Composition II

Artistic Vision

The Sonic Shop Virtual Gallery is an interactive, web-based gallery space for the presentation and curation of audiovisual artwork. For the opening exhibition, the creative collective, *Project Trajectory* will be showcasing the piece titled, *The Living Composition II* which is a trio of interactive audiovisual artwork based on the collective cultural and societal experiences during times of quarantine.

Project Trajectory is a creative collective that I am a part of that includes my electroacoustic studies classmates, Charles Harding, Connor Cook, Malte Leander and our Prof. Michael Pinsonneault. Since May of this year we have been having regular meetings via ZOOM where we have been composing an iterative experimental sound composition that blends tonal and electroacoustic aspects which embody our collective experiences over the year. In July, I created *The Living Composition I*, which took the state of the composition (at that time) and separated it into 12 'stems' that were then uploaded into an interactive MaxMsp patch. The user had the opportunity to interact and transform the expression of the composition in a range of different ways, using either buttons and knobs or by activating the unique Webcam Control that I created for sensorial manipulation. The piece could also be played in a non-interactive, generative manner with the program algorithm doing the arranging. The Webcam Control allowed the user to change the direction and/or speed playback of a consciously chosen or randomly chosen track along with the stereo presence (panning) of that track by moving their hands in front of their webcam. Spheres mapped with abstract videos modulated in a centre space, visualizing the sonic changes of the composition. While this initial piece was 'exhibited' at the 2020 virtual rendition of the *Visionas Sonores AV Festival* in Mexico, there were some serious limitations to my vision.

The biggest limitation to the Living Composition 1 (seen here: www.amdevito.com) was the fact that I could not actually share the interactive Max patch with the public for general interaction. The concept for a 'virtual sound installation' was there, but the

application was stunted. After hours and hours of research, I could not find a clear (let alone easy) way to broadcast the Max patch for public interaction – a websocket utilizing JSON seemed to be the closest concept that I found that may translate my vision for the application.

This project proposal has the new solution.

Using my original Max patch as an introductory prototype I will translate the interactivity used in my patch to the p5.js environment and present each interface (3 in total) as ‘canvases’ that are displayed in a virtual gallery space that I call *The Sonic Shop Virtual Gallery*.

An integral social engagement aspect of this project is a voluntary option that a guest has to engage with the project. If they wish, they can email their chosen name, a 3 sentence ‘story’ that represents their unique quarantine experience and a 15-30 second sound file. The sound file may be a raw field recording, a short song clip (must be under 20 seconds), a spoken word piece or other type of experimental music composition (electroacoustic, noise, etc). There will also be an option to activate your microphone and record something on the spot. These 3 objects will be sent to a database or array and used in one of the installations in the virtual gallery exhibition. Another social engagement aspect will be a character or two moving around the space that you can have further dialogue and interaction with. Possibly an argument....

A 3D model built in Blender will be the ‘structure’ of the virtual gallery space, exported as a .obj file and then loaded into p5.js using the loadModel(); function as outlined in the tutorial [18.7: Loading OBJ Model – WebGL and p5.js](#) by the Coding Train. You will move through the space using your mouse and the arrow keys and to ‘enter’ an installation experience, you click on one of the 3 canvases you see on the walls of the gallery - which will then ‘zoom’ into the piece where you then can interact with the installation interface. I would like to utilize similar movement logic as the past student work piece [Melansuko The Decades Day Album](#) for the movement around the 3d modeled gallery space.

One of the installations will be a similar but expanded version of [The Sonic Shape Invader](#), the second will be more similar to the original [Living Composition 1](#) MaxMsp patch, but ‘translated’ from the MaxMsp language and into the p5.js language. The third piece will be a brand-new, generative piece that will use the guests’ submissions in the composition. The interface will be a picture of a bedroom with different pieces of furniture acting as the interface for the composition – I would like to graphically design

this installation similar to the style that I used in my Project 1 assignment, [The Great White Squirrel Caper of 2020](#). A computer on a desk will ‘type’ out different stories from all the guests that visit the site in a random order and the soundscape will be composed of the randomly selected sound pieces that are also uploaded from all of the guests. The sound pieces will be filtered through different effects to make the soundscape more cohesive and the guest will modulate the piece by interacting with the furniture pieces in the picture. I would like to keep this as an on-going project and change the room on a monthly basis. A door at the ‘back’ of the space will be the workshop door where you can hear static compositions and watch videos or read about the collective composition processes. Door labeled, ‘Workshop’.

To summarize, there are a number of different technical challenges at varying degrees with this project:

Attainable:

1. Converting current program to Object Orientated Programming.
2. Uploading a obj. model as a background but also as an interactive environment.
3. Storing and utilizing my own stem recordings for the composition interactions.
4. Trying a variety of sound manipulation techniques in p5.js -
<https://p5js.org/reference/#/libraries/p5.sound>
5. Implementing 3D movements around the gallery space.

Attainable but more difficult:

1. Learning how to create some sort of form that will save that typed information into an array or database to use in the generative project.
2. Learning how to create an upload form to collect, store and output recordings.
 - a. NOTE: A contingency plan will be to give people the option to email their story and recordings and I will manually upload them into the third, generative installation. They will receive an email when it is up and ready.
3. Learning how to record from a person’s microphone and store the recording for the installation. <https://p5js.org/reference/#/p5.AudioIn>
4. How to track a user’s hand (or eye?) movements via their webcam to make sound modulations. Using this technology:
<https://github.com/Tastenkunst/brfv5-browser>

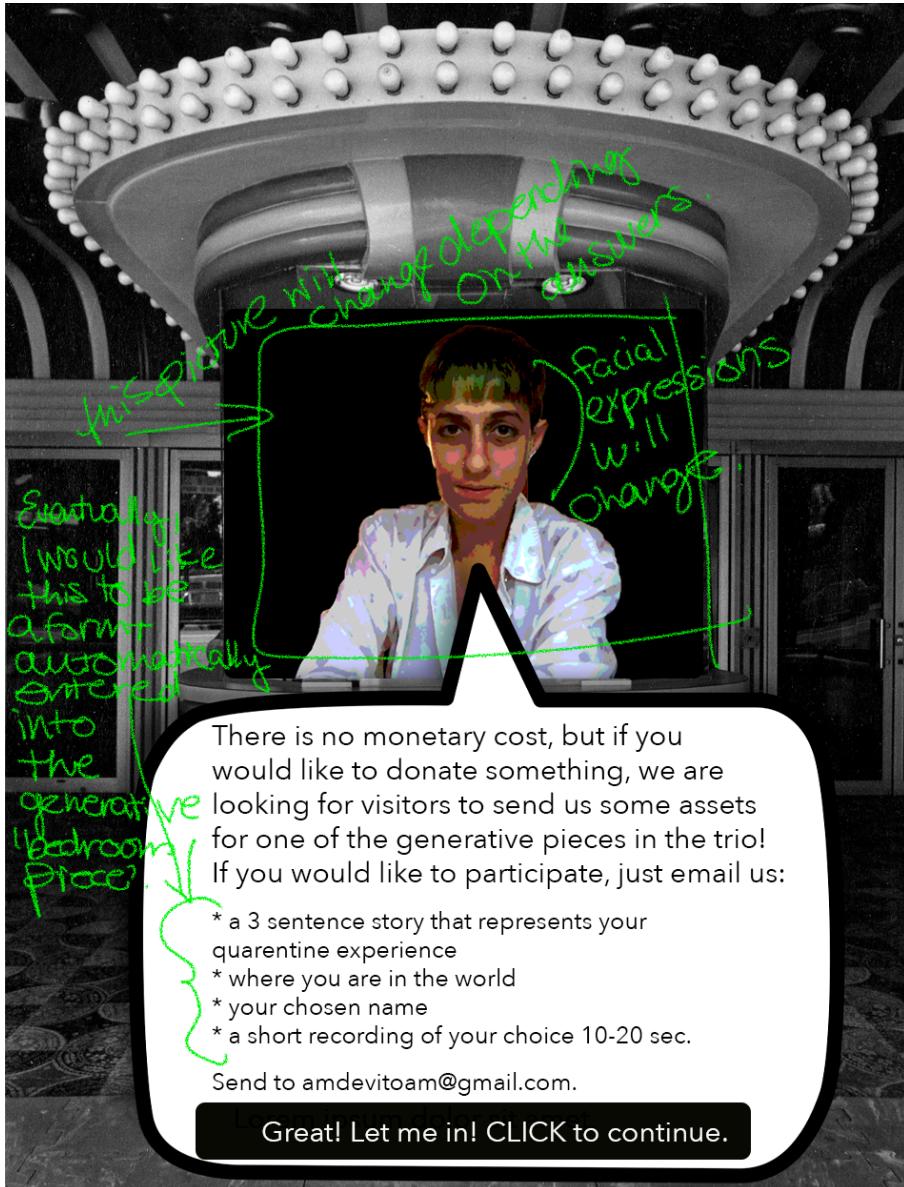
Possibly FUTURE Iteration:

I would like to plan on re-creating this 3-part audio visual installation in an expanded real-life setting - outdoors, during the summer in a social-distanced manner (if the pandemic is still in force). Plus, taking the gathered information from participants online and integrating them with a real-life installation would be a beautiful way to showcase

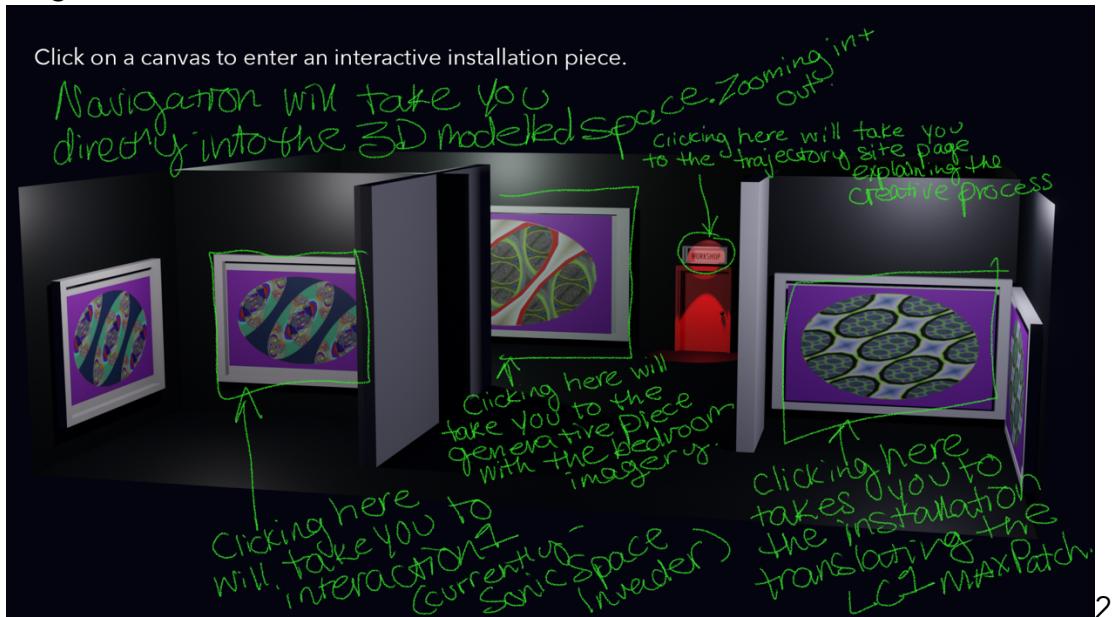
the different ways people coped and connected over the past year, in different parts of the world.

Annotated Images:

Main ticket booth image for gallery entrance and some changes I intend to make for the full version (img.1).



Scene from the rendered image of the gallery model and the goals for the full version (img. 2).

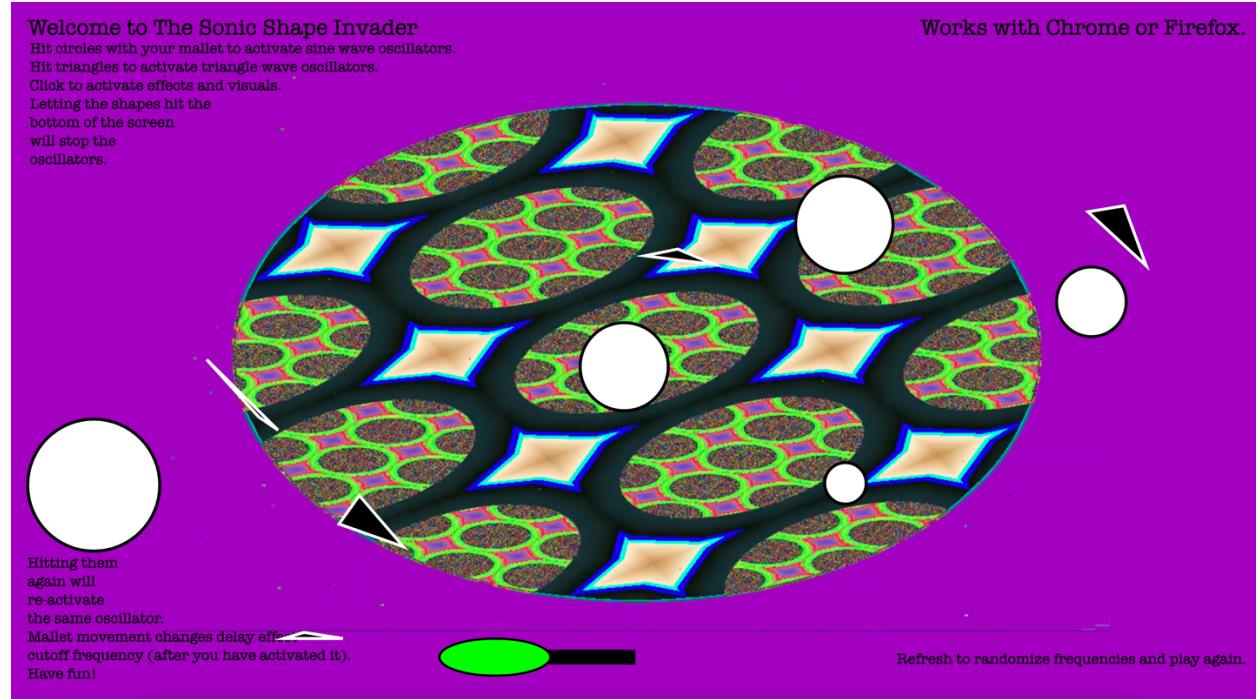


3rd, generative and explorative installation piece. I think that I would like there to be a limited amount of direction to the user and have them use explore on their own. Maybe I will have a 'secret' help key stroke, to suggest interactivity (img.3).



Reference images:

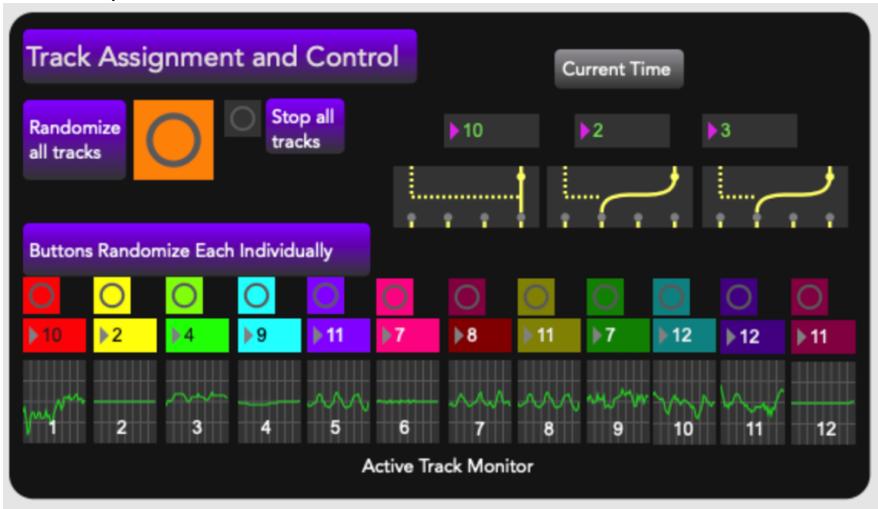
Interaction1 – Clickable canvas on current prototype program.



The Living Composition 1 – Main Interface



Close up of detailed sections of LC1.



Press X To Activate Camera - sel. webcam ctrl.

Video Input Select **Camera Select**

Webcam Control FaceTime HD Camera

Ctrl. Video Play Back **Ctrl. Webcam Access**

start stop open close open clear

Thresh. Frame Diff. **Temporal Smoothing On Frame Diff.** **Output Thresh.**

>0.05 >0. >8. >0.2

>821.07503 low scale output >40. high scale output >8000.

Motion Play off **Motion Play on**

Choose 3 > channels to SpeedPlay. Hit button > to Randomize

Speed Play

Let's do the Timewarp

1 2 3 4 5 6 7 8 9 10 11 12

>-0.014 Playback speed (motion only)

Reset REG speed

Individ. Knob Control

(1) (2) (3)
(4) (5) (6)
(7) (8) (9)
(10) (11) (12)

ALL

A large video preview window on the left shows a hand interacting with a surface, overlaid with motion tracking data. A green arrow points from the 'Timewarp' text in the Speed Play section towards the playback controls.