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Project 1 Paper

As an interactive media artist, I am interested in exploring the interactions between a computer and a person. More specifically, I am interested in the transformation of a digital artwork based on physical changes from a human participant. The participant produces physical changes such as changing octaves in their voice, which can then transform a digital artwork. The amplitude from the participant's voice will be the variable that will change the landscape and its fill in my sketch.

This project contains three variables on the plane: x, y, z. The x variable is used to rotate the landscape through the function rotateX. This landscape is comprised of triangle strips aligned together in a pattern by matching up the corners of the vertices. This pattern utilizes the noise function to alter variable z to change the height of the valleys and hills. Perlin noise is a function that can be used to substitute the random function. The random function returns values that can be very different in value from each other as long as it is in the threshold of numbers, whereas the Perlin noise function returns random numbers within the same range of one another. An array of numbers from zero to ten can deliver any of the following in the random function, whereas the noise function delivers a number in that list from zero to ten, such as eight and the following number might be a seven or nine. This allows for a list to be compiled and generates a random series of numbers that are similar; therefore, the draw function

can use these similar outputs to draw a smoother line as opposed to the chaotic values returned by the random function.

The other facet to this sketch is the data that is being collected by the interactive aspect. The amplitude of the participant's voice is measured through the microphone, and the measurements are plugged into the sketch. The values returned are used to change the fill of the moving plane. The threshold for the amplitude to change the fill is higher than an indoor-voice. The participant must exude more effort to change the amount of white fill within the plane. After reaching past the threshold for the necessary amplitude to change the fill, the mesh of the black triangle strips is revealed.

The issues throughout this sketch had been getting the desired speed for the moment when the rows travel down based on changes in their y coordinates as well as attempting to change the rotation of plane using `rotateX` by using the equivalent of the `setInterval` function in p5. Changing the speed for the rows using the y coordinates I ended up solving quicker than the second issue. The function I started working with to alter the rotation of the plane was the milliseconds function, `millis()`, which only executes an action every amount of time that it is set to. I tried to create a timer variable that will change the rotation of the x axis from  $\pi$  over six to  $\pi$  over two. This change I was able to execute for every two seconds, but the lingering effect I desired for this aspect, I could not seem to find the right function to use for it.

I am very happy with the sketch and the interactive ability of it despite some subproblems that I was unable to resolve. This was my first attempt at utilizing data in interactive art from a microphone, and I am pleased with the knowledge that I acquired. I was able to learn through setting a threshold for the data, and and this opportunity to

start thinking as an interactive media artist in making decisions about how I want that data to be used.