Rachel Walter

CMSC388E

Rachel_Walter_Project3v1.pde

Overview of the Piece

This semester I have been thinking a lot about movement: joining a Latin dance club and learning salsa, watching my mother struggle with hip problems, trying to work out after being sick all winter break. When people think of art, they are quick to list visual art and singing or playing music. Yet, dance and movement seem like an after though to the arts. I thought using movement as a medium of user interaction would create a unique kinetic piece and allow users a new way of interacting and thinking of art.

Message/Themes

As stated above, dance and movement seem like an after though of arts. However, our movement is as unique as our finger prints. It is an affordable form of expression that doesn't need extra training or art supplies or musical instruments. There are international styles and infinite ways to dance.

One goal of this piece is to show the unique nature of every individual's movement. Depending on the direction, intensity, and timing of someone's movement, an art piece of colors blending into each other will be created (red value of color determined by X-axis movement, green by Y-axis movement, and blue by the brightness). The likelihood that anyone will move in the exact say way at the exact same timing is incredibly unlikely; this generates all movement into a completely new, unique, and transient piece of art.

The second goal of the project is to manifest movement as a visual art form. By changing physical movement to visual representation, we are forming a new way of seeing it. It will be

interesting to experiment with how changing physical movement to numbers and data might change the emotional quality of the piece. In Laban Movement Analysis, an analytic practice done in theatre and dance, movements are described along four axes: body, effort, shape, and space. Together, these qualities form certain categories of movement labelled names like "Float" or "Press." This way of categorizing movement allows in more emotional connotation, but how could you express an entire dance piece in just combinations of Laban labels? This project will make dance and movement a more palatable visual art version, but it will not be as full of an artistic experience as watching the dance itself. The beauty if the visual piece along with the realization of detail lost in translation will hopefully reveal the power of movement and dance as an art form.

Explanation of User Interaction

There are a few forms of interaction within the piece. The main form of interaction is movement tracking through video processing. This version involves a user selecting a color on the screen to track. The code will then track the most similar color on the screen and the motion of that color can be tracked. This methodology is rudimentary and not always reliable (for example if you're wearing a blue shirt and the walls of your room are blue) but is a good starting prototype. As long as the user selects a recognizable color and stays in the vision field of the screen, an art piece will be generated based on their X, Y, and brightness values (R, G, B respectively). This in turn will manipulate the color, pattern, and movement in the piece. The overall structure of the piece will be stripes of colors melted together using gradients. However, depending on movement the piece could be a rainbow quilt or huge chunks of one monochromatic color scheme. This contributes to the concept of the piece that every second there is a new, completely unique snapshot of movement.

I chose this form of user interaction because it was one of the only ways to track movement without needing any additional hardware. Much like how dance is accessible because you don't need extra materials, I wanted the first iteration of the project to be accessible. I hope to improve it in the next iteration with a Kinect or a Raspberry Pi for the final to increase accuracy.

Other forms of interaction are built in to the design of the project. These interactions are mainly to assist the mechanics of the main interaction with movement. Pressing Tab stops the tracking and allows the user to see video and choose a new color/object. This allows the Clicking lets the user actually select the color/item to track. Pressing Enter/Return will save a screenshot of the screen. This feature was added in case someone loves the movement art they created at that exact moment in time.

Sources

Coding:
- Tutorial from CodingTrain: https://www.youtube.com/watch?v=nCVZHROb_dE&list=PLRqwX-V7Uu6bw0bVn4M63p8TMJf3OhGy8&index=5
- Code Examples from CodingTrain:
  - https://github.com/shiffman/LearningProcessing/blob/master/chp16_video/example_16_13_MotionPixels/example_16_13_MotionPixels.pde#L54
  - https://github.com/shiffman/LearningProcessing/blob/master/chp16_video/example_16_14_MotionSensor/example_16_14_MotionSensor.pde
- Gradient Tutorial: https://processing.org/examples/lineargradient.html
- Processing Documentation

Art Inspiration:
- *Coronation* (1979) by Leon Berkowitz (https://www.nga.gov/collection/art-object-page.177135.html)
- Laban Movement Analysis (https://en.wikipedia.org/wiki/Laban_movement_analysis)