# Distance

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nteractive generated portraits

https://vimeo.com/822971805

https://github.com/JianWang1231/WCC2-Final-Project

# Introduction

<Distance> Create a series of portraits using computational algorithms that represent the changes between two people due to distance, the screen represents the perspective of the other person in the relationship, showing a portrait of the 'I' in the perspective of the other person.

The portraits are made up of lines, and particles that change as the distance between the two people changes. When the two people are very close, the portrait is made up of many small lines that are closely intertwined. As the two people move further apart, the portraits will become more sparse and become particles.

# Concept and Background Research

The algorithmic nature of the artwork means that it is not just a static representation, but rather a dynamic and evolving representation that changes over time, so I decided to make a dynamic interactive artwork.

Artwork should have an emotional depth that goes beyond the technical aspects of its creation. I wanted to reflect on the important role of people in an interactive piece and wanted to create a discussion around human relationships and present it in an interactive format. Then I realized that the emotional distance that exists between people can be a powerful metaphor for the so-called emotional distance between people is in fact a bias in self-perception

It's found that people tend to view themselves more positively than others view them and that this bias is more pronounced for traits that are central to the self-concept. Also, people are generally objective and accurate in their perceptions of others, and the bias in self-perception may be due to a lack of information about how others see us.

Through <Distance>, one can feel the paradox of this self-perception bias, where we see a different version of ourselves through the eyes of others. It is an example that to

explore complex ideas and emotions in new and innovative ways, which demonstrates the power of technology to create art that is both visually engaging and emotionally resonant.

## Technical Implementation

The use of lines imitates the brushstrokes of an Impressionist painting. The Impressionists sought to capture the fleeting effects of light and atmosphere and to depict the world as it appeared to the human eye, rather than following the rigid conventions of academic painting. This approach led to the use of bright, vibrant colors, and loose brushwork. As a result, the paintings have abandoned the 'photo-like' realistic style and present a subjective picture effect.

Lines and particles are both visual elements that can be easily manipulated using code, and the way they change in the artwork is a visual representation of the distance between the two people. I mainly use the noise function to create this line effect, where the Arduino ultrasonic sensor captures the exact value (in centimeters) of this change as the distance between the viewer and the screen changes. I create both effects (lines and particles) in two layers, and when the conditional distance is met (e.g. within 20 cm), use the transparency change to replace the particle layer to show the flowing line effect. The exact change in value can also be displayed in the top left corner for testing and debugging.

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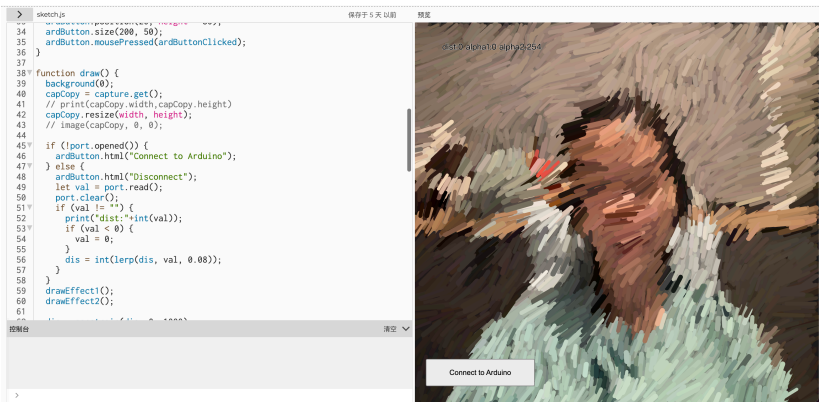


Portrait of Alexander Reid, Vincent van Gogh

As the viewer moves closer to the screen, they will see that the abstract dot-like mosaic effect gradually turns into a more realistic flowing line, which seems to be faintly visible, but still abstract, showing the contradiction between the 'Self' and the 'Other'. This process reveals the contradiction between the "Self" and the "Other", a manifestation of the bias of self-perception. This use of abstraction to represent distance is an example of how computational art can take complex ideas and concepts and present them in a visually engaging and accessible way.

## References

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