Codrin Tablan Negrei
CART 253- Creative Computation I

Professor Pippin Barr
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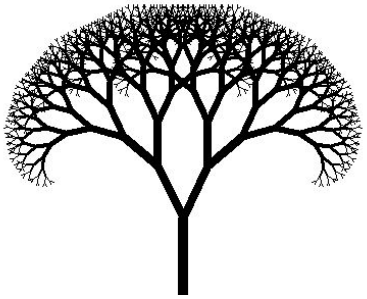
Final Project Pitch

Summary.For my final project, I decided to focus on recursion as that would be challenging enough technically and interesting visually. More specifically, with recursion, I would like to create fractals that react to video input. The way that would work is that the program will scan the frame and look for pixels. Based on those pixels, the program will draw a line from those pixels and turn into fractals, hopefully creating an interesting psychedelic experience.

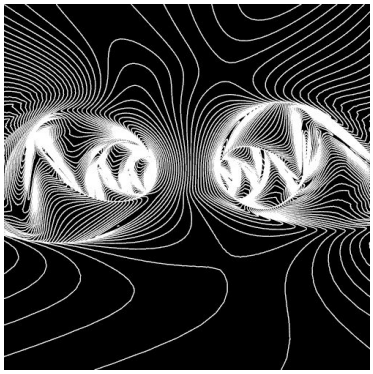
Media.

Left: An image of a webcam feed that changes the image to white and black contrast for edge detection. **Right:** An image of a 2D fractal tree that is generated through recursion

My objective would be first be to create a program that contrast the video feed into black and white colors for edges detection. My second object would be to create a basic program for a 2d fractals and initiate it on the white pixels of the video feed

Inspirations.

Originally, my inspiration for fractals came from the 3D fractal models that I come across on pinterest or artstation. In addition, I was also drawn to the black and white or wireframe

aesthetics that you can occasionally find on 3D renders. I chose the black and white wireframe because it would make it easier for the program to consistently spot certain pixels as there will only be black and white pixels. Consequently, I decided to fuse these 2 elements together on a webcam feed for more interactivity.

Technical approach.The program would need to be divided into 3 processing files. The first processing would handle all the setup and draw function of the other classes in the program. The second processing file would be a new class (called BlackAndWhite) that would use the video library to change the video feed into black and white. The third processing file (called DrawFractal) would be another new class that would scan the video feed (after it has been converted to black and white) in order to draw the 2D fractals from the white pixels. Therefore, this class would make use of recursion to draw fractals.

Technical research.Since my project deals with the video feed from a laptop camera, I will be using the processing video library for more added functionality.

Video library: https://processing.org/reference/libraries/video/index.html

In addition, the project will also be dealing with the creation of fractals which uses the method of recursion. Luckily, processing explains how to deal with recursion and draw 2d fractals.

Recursion: https://processing.org/examples/tree.html