MAX MAINIO BEIDLER

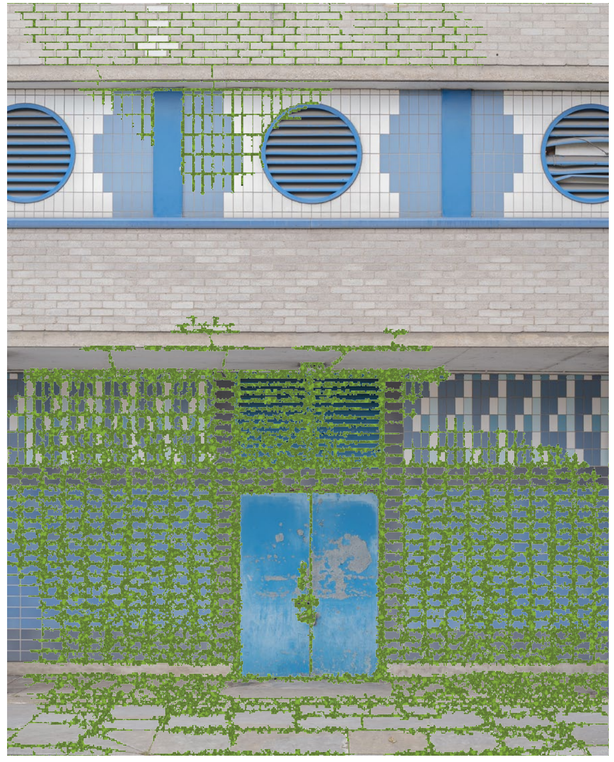
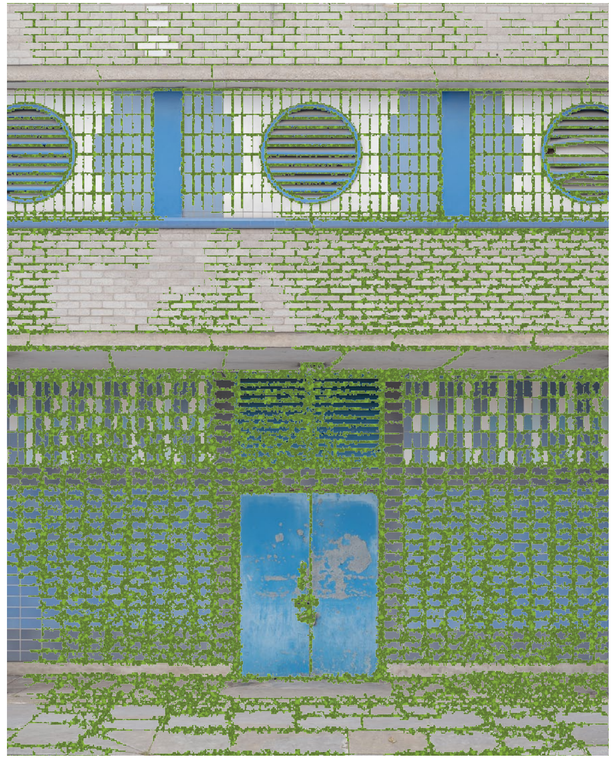
NIKE MOTION & 3D PORTFOLIO 2023

CROSSWALK-POETICS

Moss Growth Simulation

To better understand the natural process of moss growing in the cracks of my urban surroundings, I attempted to simulate it digitally. The process I found to work the best was reminiscent of John Conway's Game of Life. The main difference in my system is that instead of an endless uniform plane on which the pixels propagate, they live out their generations on any complex image of your choosing. By changing some set parameters you can affect how and where to promote and or inhibit pixel growth. Explore this visual system in more depth on my website.

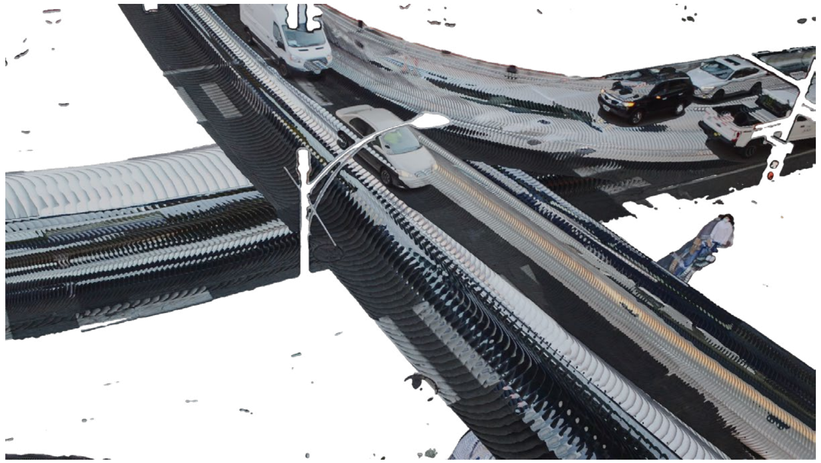


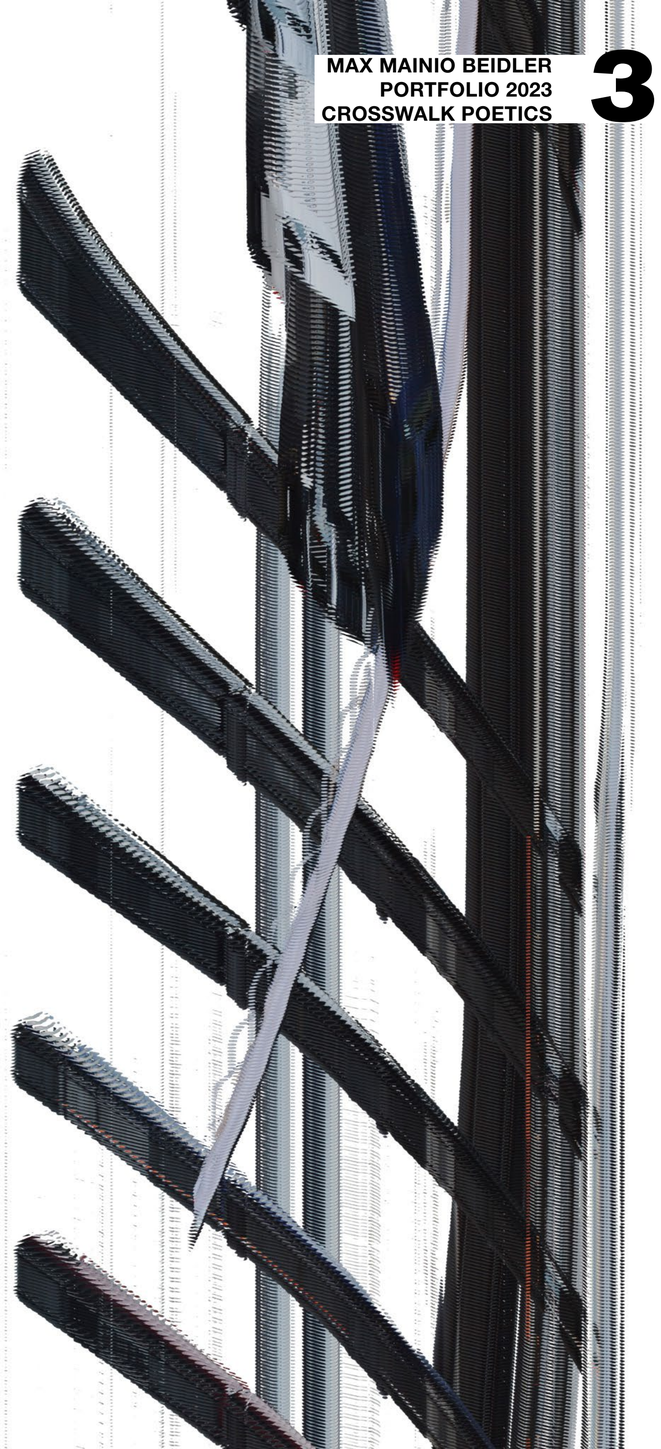



CROSSWALK-POETICS

Temporal Columns

From a video of an intersection I was able to isolate and mask out everything that moved through the intersection. Each masked frame was then stacked on top of one another to create a tall 3D column, 5 minutes in height. The further towards the bottom of the column you looked, the further into the future you were seeing. This column gives the impression of viewing the intersection from the fourth dimension, thereby offering a unique and sophisticated insight into the dynamic nature of the intersection. Explore this visual system in more depth on my website.





TYPE IN FLUX

Moving Poster

This project was for my Typography 3 course, I'm currently working on expanding on it. In this moving poster I tried to visualize reality melting into type. The method I came up with to simulate the dripping water is very similar to the system I made to model the moss growth seen in an earlier slide, just with an additional downward force to simulate the falling effect.

This will someday have its own designated subpage on my website, but for now I uploaded the moving version to a temporary NIKE subpage.

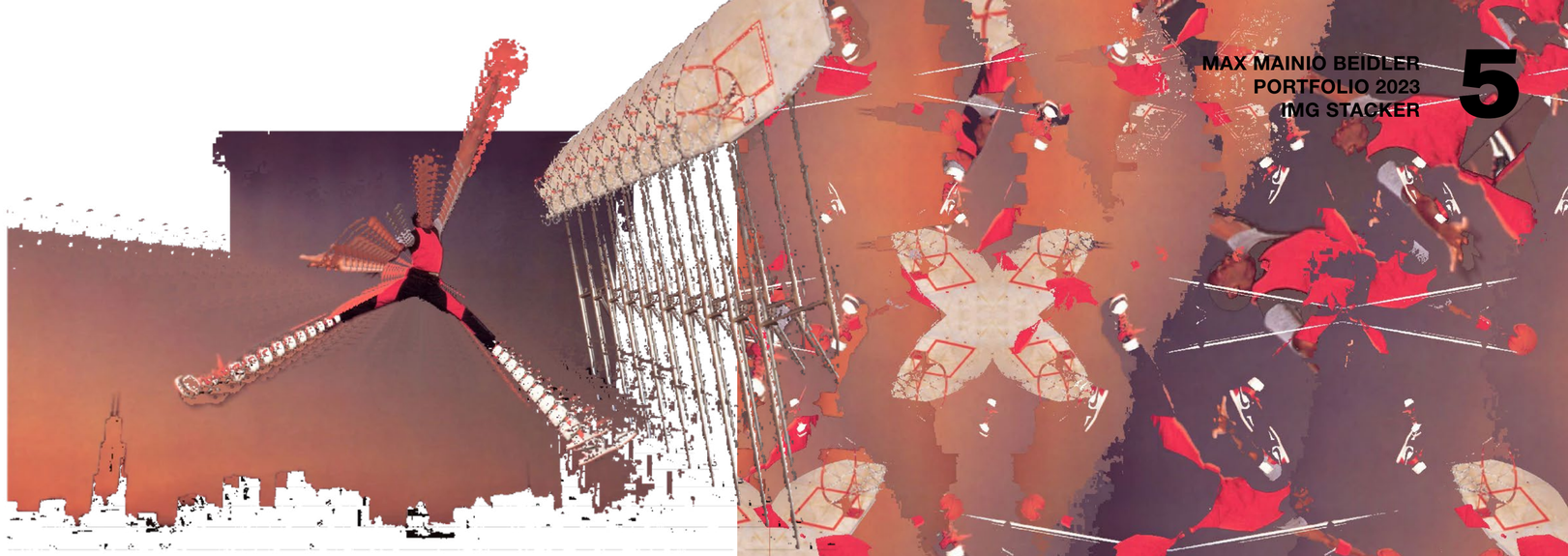
IMG STACKER

Personal Project

This generative system has a handful of variables, but the main concept is that it separates the input image or video into areas of more or less hue, saturation, or vibrance. Stacking these varying areas on top of the original image completes the effect. By manipulating the variables you can easily generate millions of unique variations of this effect.

The possible variety of effects this algorithm can produce can serve to add energy and motion to images or videos, it can completely abstract any input into infinitely tileable camouflage like textures, it can revamp and refresh old imagery, instilling it with new life.

Any input, millions of possibilities.



IMG STACKER

Personal Project

Please visit this link to see this and other systems in motion.

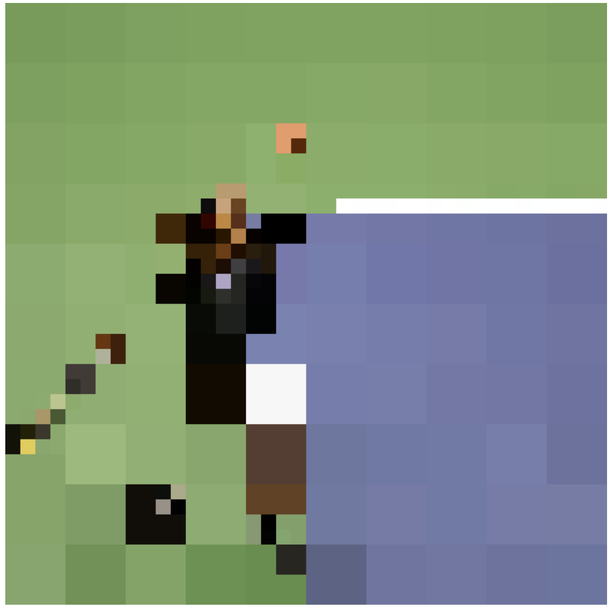
DETAIL PIXELATION

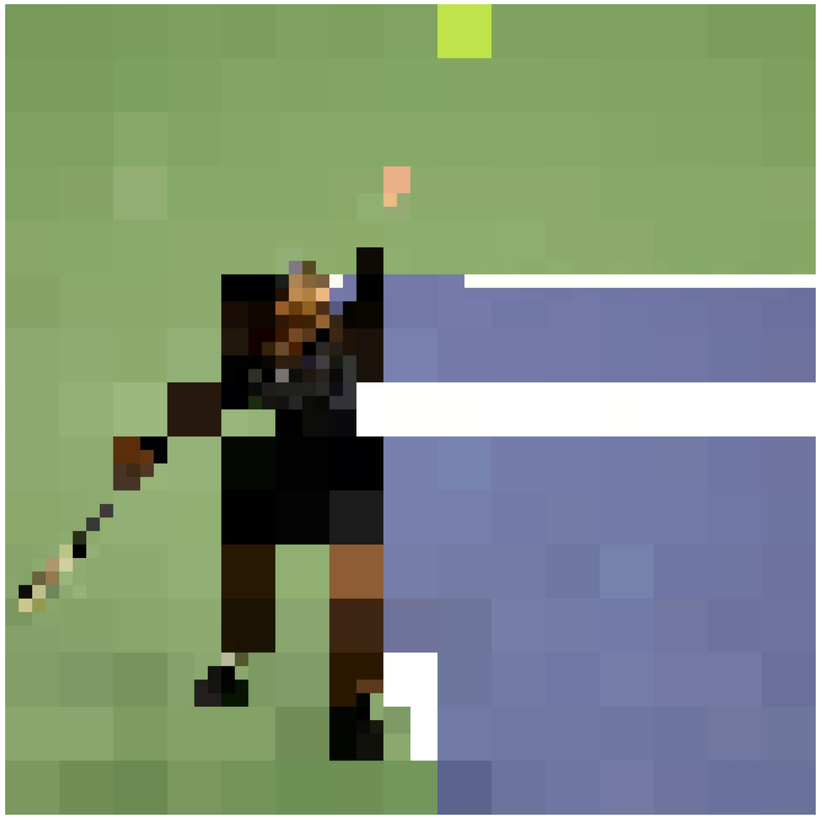
In Depth Walk Through, Introduction

Some like to piece together puzzles, others like to solve sudoku grids or rubix cubes. I love picking my brain by creating needlessly complex systems of spiderweb like intertwined variables and parameters which generate astonishing visuals.

These generative systems show great potential for remixing assets and elements, creating new possibilities. Here I'm demonstrating the algorithm in the context of sports using iconic images to create unexpected new visual assets.

Throughout the rest of this portfolio I will show you the process I use to discover these visual systems and how I go about exploring and building upon them.



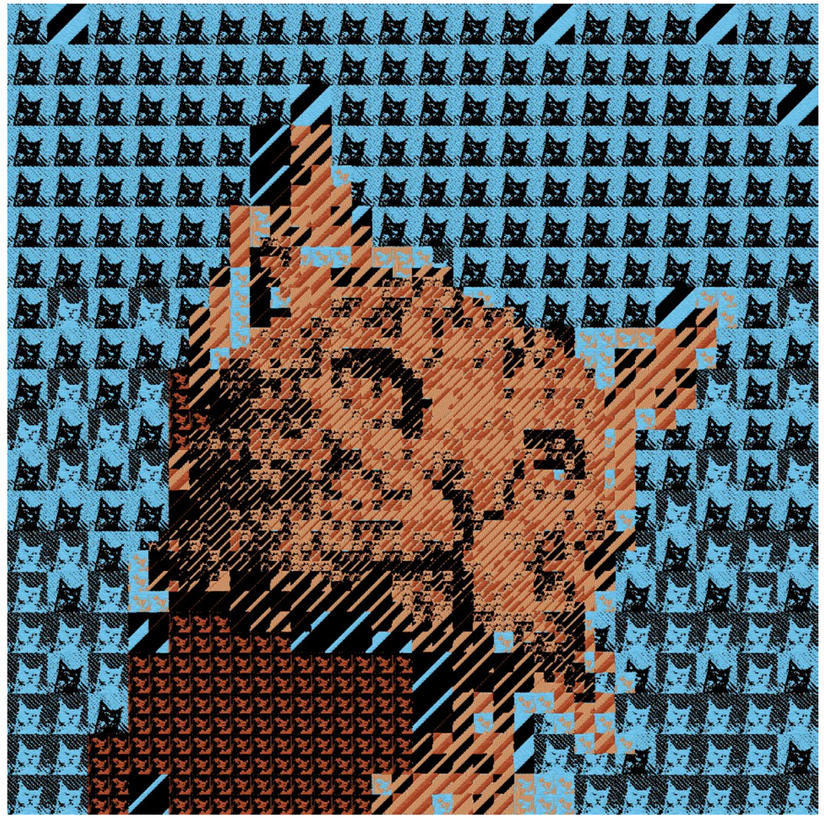


JACQUARD PIXELATION

Initial Use Case

For a personal project, I worked with a close friend who was studying Textiles. Our goal was to explore the similarities in the rendering of images on textiles and digital screens. Our inspiration for this project was sparked by a conversation about weave structures, which led to the idea of creating a tapestry featuring a cat made from smaller versions of the same cat.

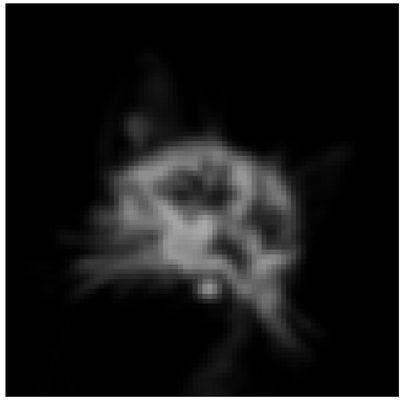
Here below you can see the input image and the output weave instructions for the Jacquard that it produces.

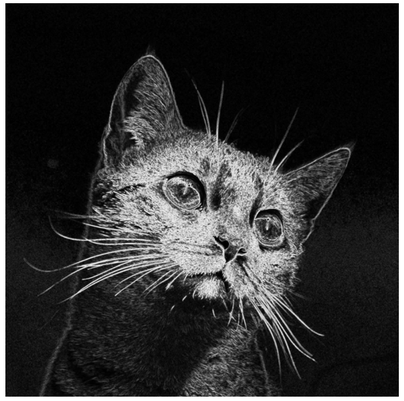


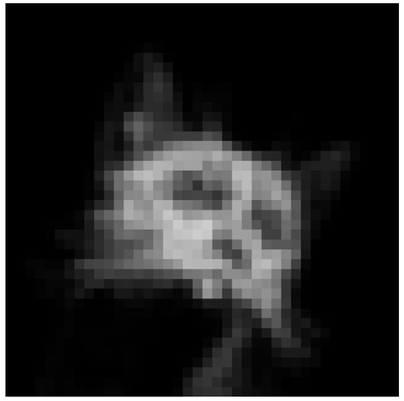
JACQUARD PIXELATION

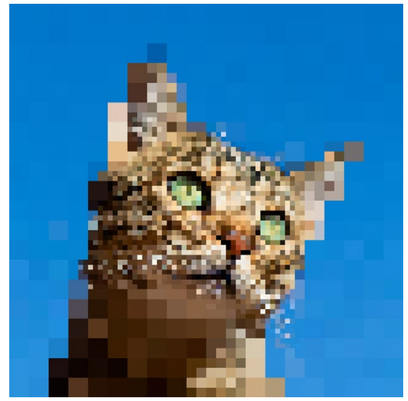
Behind the Scenes

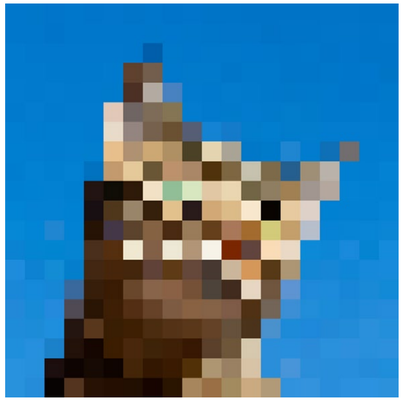
To create this cat fractal, we wanted the smallest weave structures to be around the finest detail so the overall image could still be recognizable as a cat. The more sparsely detailed areas of the image could be populated by larger weave structures.











Input → Detail Isolation → Pixelation → Mask Conversion → Recolorization → Digital Output

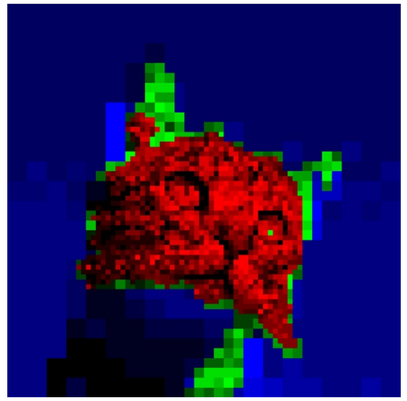
JACQUARD PIXELATION

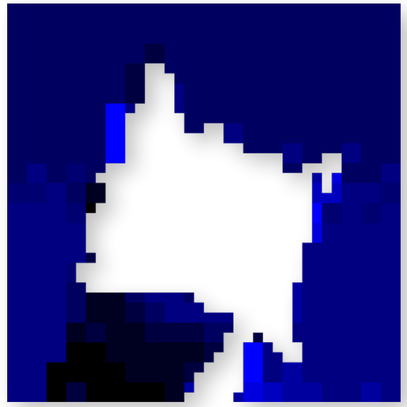
Behind the Scenes

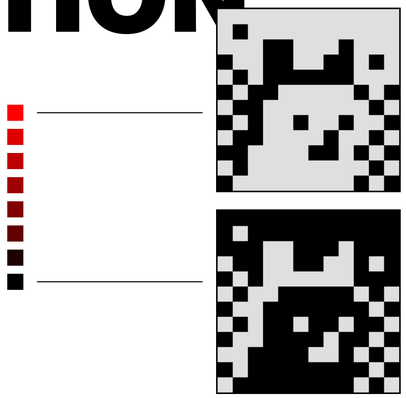
To create this cat fractal, we decided to limit our weave structures to three varying sizes:

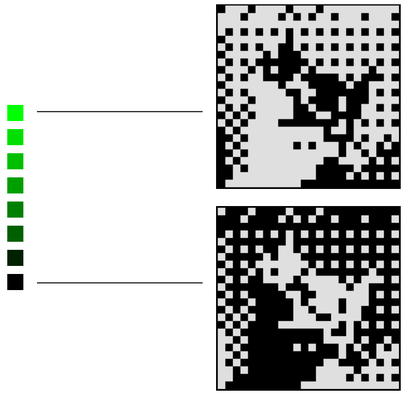
The bed of the Jacquard loom is 4 repeats of 1920 warp ends, two warps are equivalent to a single pixel, which means each repeat is 960 “pixels” wide.

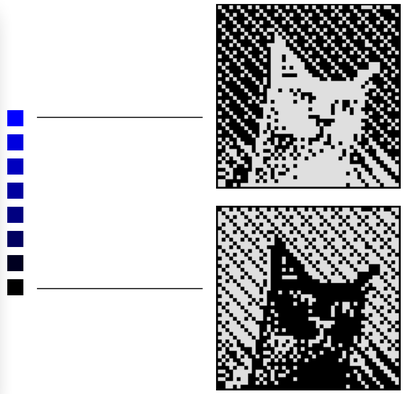
From here we settled on our three weave structures to be sized 48×48, 24×24, and 12×12.

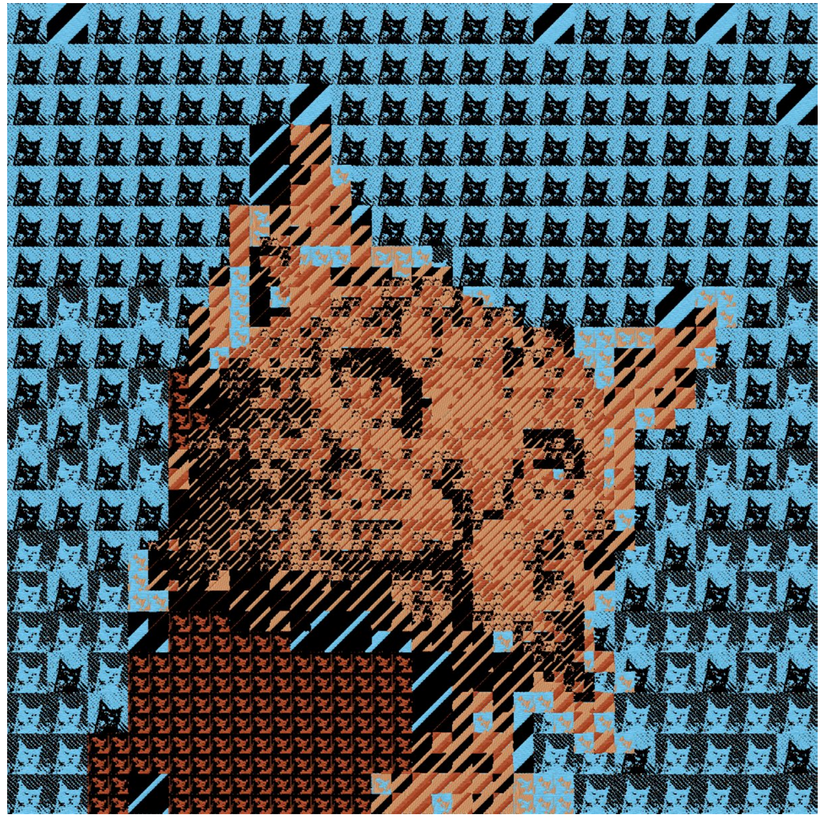










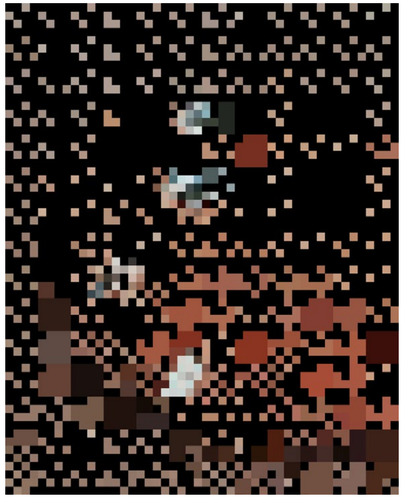


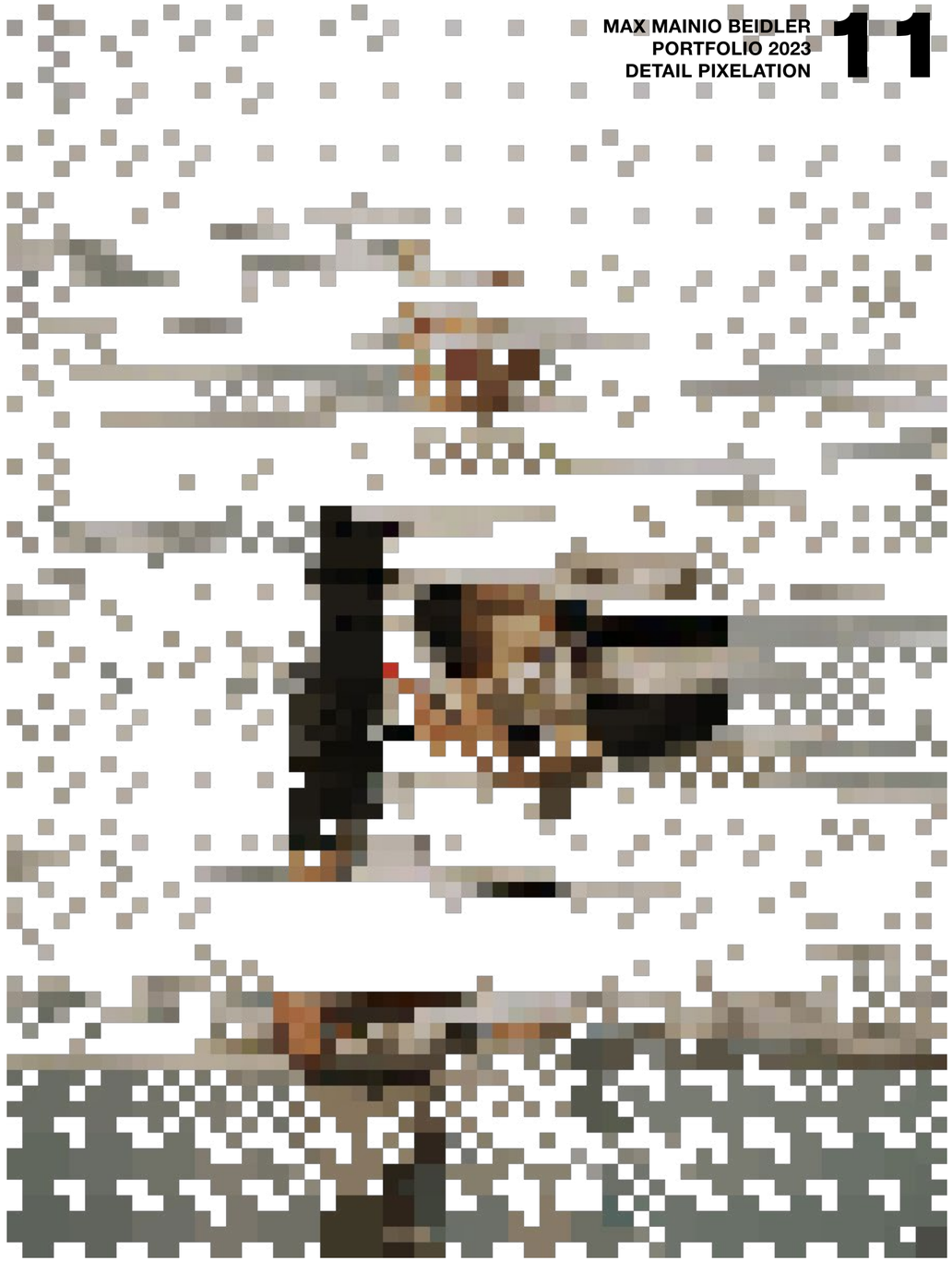
Recolorization → Data Normalization → Weave Structure Designation → Weave Ready File

DETAIL PIXELATION

Continuation

I took the system I made in TouchDesigner for generating Jacquard weave patterns, and repurposed it into a parametric image manipulator which could quickly and easily generate an infinite variety of new pixelated designs.
Here are just a couple examples:
See this effect in motion through this link.



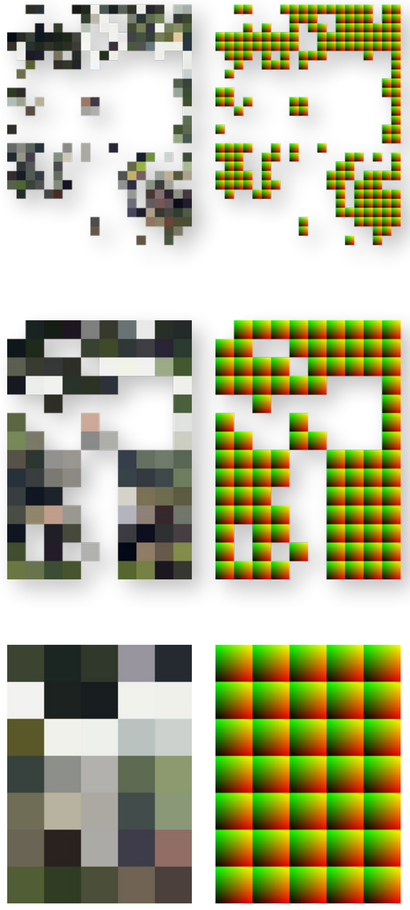


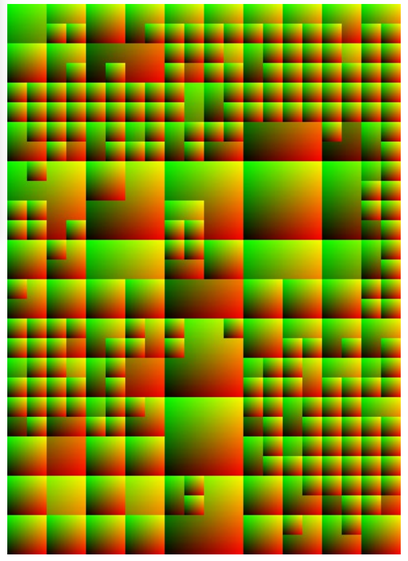
ACETATE PIXELATION

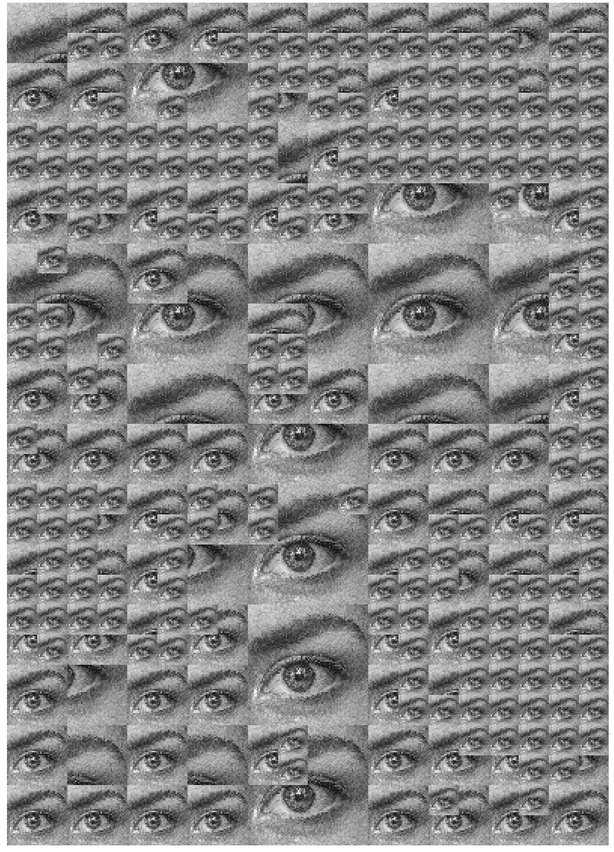
Even Further Continuation

On the side, I was toying around with another parametric system I had initially created to emulate old CRT monitors. Instead of using three areas that would represent red, green, and blue, I built my system to use any input image as a “digital pixel.”

I immediately knew I had to frankenstein this system together with the jacquard detail pixelation system I had created.





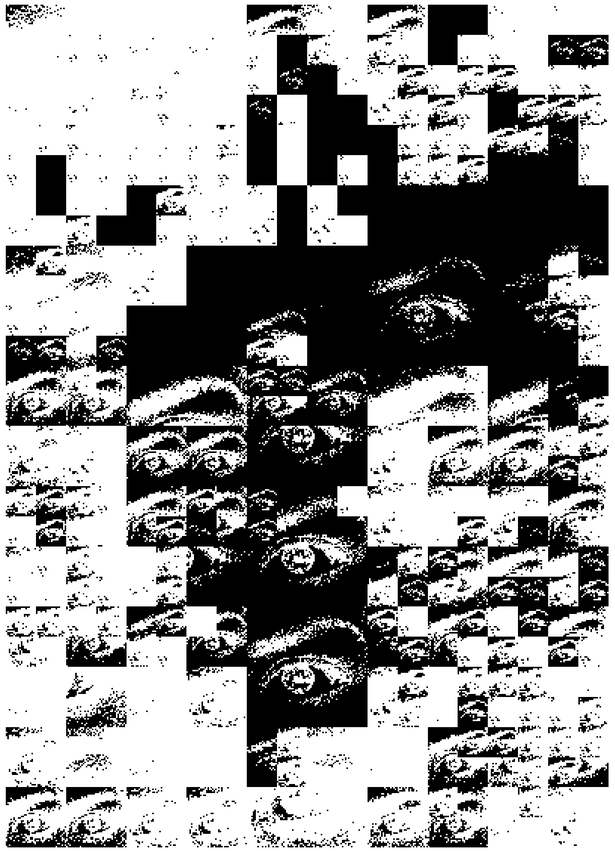


Input → Detail Pixelation & UV Map Generation → Secondary Input → Pixel Mapped →

ACETATE PIXELATION

Making it all Physical

This story doesn't end yet! The mosaic of images generated from the original image is hard mixed with the detail pixelated version of the image to create a purely black or white composition. This composition I vectorized and cut out of transparent vinyl to be used as a mask for a print of the original image. The print is on acetate, which is waterproof so it won't be destroyed when washed in disinfectant, the disinfectant corrodes away any exposed ink from the print.



Hard Mixed Version

Vinyl Cut Mask

Alcohol Washed

ACETATE PIXELATION

Making it all Physical

You can see more examples of this process on my website here.

This was a little walk through my work process, all the way from the initial idea to its many branching iterations and continuations through various other materials and mediums.

THANK YOU

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