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SP11 thesis

“Dipped In Matrix Fluid”: An exercise in interactive visual experimentation
Submerge yourself within the matrix fluid.

Main Idea: In the distant future, Humanity and Technology have reached a convergence. Code biases have blurred the once clear landscape of individual thinking distorting our view of reality in a matrix fluid filled with data. We have the choice to either immerse ourselves or emerge from the fluid.

We interact with an endless amount of objects on a day-to-day basis, tech, AI, museums and various other mediums/spaces have become more accessible to the public with an increasing emphasis on giving the user a unique experience fit to their interests.

When I was young, some of my first experiences using interactive tech involved using an early Xbox Kinect and a Gameboy Advance. The Kinect was fun for me because similar to the Wii, it allowed you to use your body in coordination with the game you were playing. The only difference with the Kinect was no controller needed to be held for certain games which was quite refreshing.

The idea behind this project was to create something interactive but also carried the essence of nostalgia older forms of media had. I wanted it to be a memorable experience and Touchdesigner was the perfect software for me to achieve my vision. It took me around 3 months of watching YouTube tutorials, reading through Reddit and Discord communities searching for guides on creating live visuals.

Inspirations:

One of the biggest inspirations for the project was a poem by the video artist Ultralyat. The poem was recited in their video titled Golametra, Alahoss.

*“I’ve found myself inside this coded fever dream
There’s no escaping from this perfect binary
I am waiting, meditating, never aging, I can’t die
Emulating never changing, ruminating, overdrive
So unplug me, and I’ll taste the breeze and sweet release of life*

*I want you to know what I know, I want you to see what I see
There are many places we’ll go, there are many things that we’ll be
I want you to know what I know, I want you to see what I see
Someday you will push your own keys*

We’ll touch reality...

*I want you to know what I know, I want you to see what I see
There are many places we’ll go, there are many things that we’ll be*

*I want you to know what I know, I want you to see what I see
Someday you will push your own keys*

We'll touch reality..."

I interpreted this poem as the basis for the visual aspect of Dipped in Matrix Fluid. A “coded fever dream” is exactly how I would describe the look of the final render, especially in combination with the various effects used.

Tech:

Korg Nanopad (Midi controller)

Mac Mini 2020 (computer)

TouchDesigner (software)

Breakdown:

TouchDesigner is a node connection based software. Its main use is for but not limited to creating interactive multimedia installations, live performance visuals, and real-time visualizations. It has been used in various fields such as art, design, music, advertising, and more. Essentially, the software works by connecting a series of nodes or operators to create a visual network. Each node represents a function or operation, and the connections between the nodes define the flow of data. For example, you might have a node that generates a 3D model, a node that applies textures to that model, and a node that animates the model based on user input. By connecting these nodes together, you can create a complex and interactive visual experience. I find the creative process for this software to be very user friendly as it is easy to see how the piece you are creating works in real time. TouchDesigner also supports various input and output devices such as sensors, cameras, and audio interfaces (MIDI). You can use these devices to create interactive installations that respond to user input which was the basis for my project. It also supports various media formats such as video, audio, and images, allowing you to create multimedia installations through various forms of processing.

Originally, I wanted to create an installation using an older Xbox Kinect that I had purchased from eBay earlier in the semester, but the requirements for getting it to work on my older macbook pro seemed like it would be too much of a hassle, so I had to find a way to pivot. I ended up going on a deep dive into TouchDesigner tutorials, communities, and blogs in an attempt to find any spark of inspiration or a foundation for an idea. The only requirement that I held myself to was the project HAD to be interactive in some way. Otherwise, I probably wouldn't have been satisfied with the project had it not been that way.

With the accumulation of tutorials I had in my bag, creating this project was much easier than I had expected thanks to the amount of resources available to me. I started by downloading a basic 3D face model from Grilla Interactive. After that, I created a basic 3D grid to start building the fluid that the face would be submerged in. Applying a fluid material to the grid and combining the two assets with a ray mat and spring created the ripple effect that is mapped to the first button on the controller. I also added some vertical and horizontal forces to the fluid to

give the background movement, making it feel more abstract. The tube grid in the background is a shape that I imported via a geo node and just adjusted the size of to fill the screen. Proceeding, I added a camera and two colored cone lights to create the color palette for the render. With the 3d camera node, I was able to adjust how the asset would be presented in performance mode. After that, I began adding the effects which would be mapped onto the Korg nano pad midi controller. Touchdesigner has a good amount of native effects with parameters that can be easily adjusted and mapped to MIDI.

Exhibit A - Camera and Lighting nodes

Exhibit B - Ray points + spring node that enables ripple effect

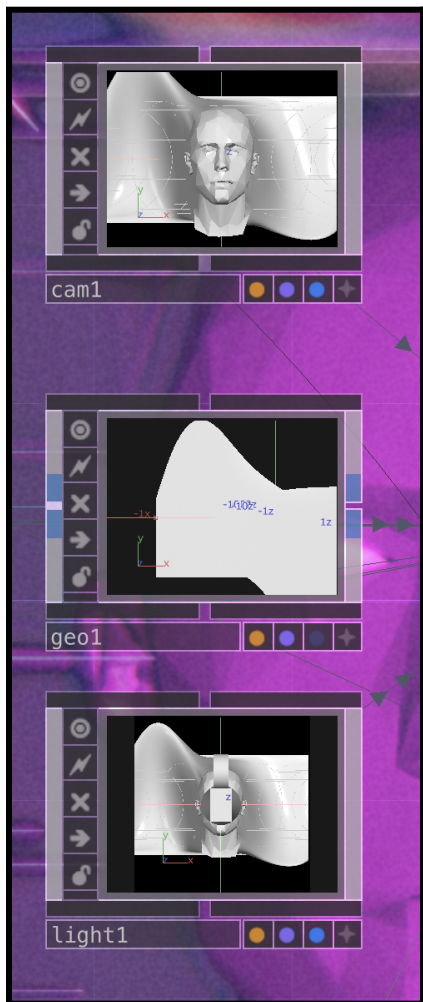


Exhibit A - camera and light setup

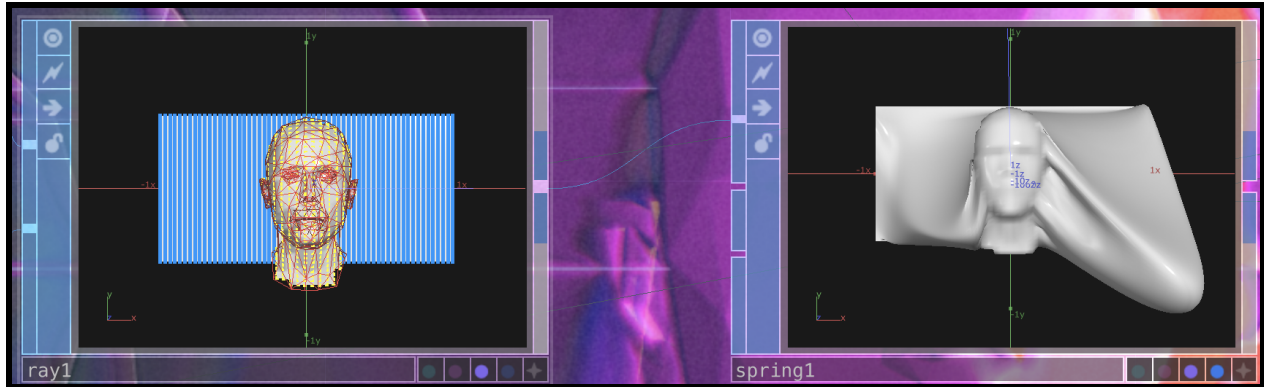


Exhibit B - Ray node + spring to enable ripple effect

Ripple - create a water ripple effect within the matrix fluid. Mapped to the first button

Pixelate - Speaks for itself

Monochrome - desaturates the asset into black and white

Displace - Creates a point cloud map of the asset

Light tunnel - Cone shaped tunnel enveloping the asset

Installation:

The installation for this project was fairly straightforward, shoutout Jerzey for hooking me up with the Korg nanopad and USB 2.0 extension cords. Room 2032 is quite spacious so it made for the perfect environment to do a visual installation. The midi controller was secured on a pedestal in which the USB 2.0 cable would be taped to the ground and connected to the MAC Mini on the left side of the room. With the help of CTS I was able to install touchdesigner on the computer and emailed myself the project file. Once everything was set up, I created an instruction manual for those who stumbled upon the installation without my presence in the room to explain it (See Exhibit D). I had originally planned to include my own music in the installation but ended up going with SEGA Dreamcast music instead as I felt that style of music was very fitting for the ambience of the room. It ended up working out really well, and I noticed the dreamy soundscapes helped lure people into the room because you could hear it coming from both ends of the hallway. Finally, I created a flier to promote the installation since it was in a space further away from the other exhibitions.

Closing remarks:

Overall, I am extremely happy with how this project turned out and I know that this is just the beginning of a grand undertaking in exploring the endless potential of interactive visuals within touchdesigner. The reception was overwhelmingly positive and seeing my parent's reaction to the result of months of hard work was the best part of it all. One of my favorite notes in the crit book I had was by a friend of mine named Tdot. In his very words he wrote:

"Illness will always prevail".

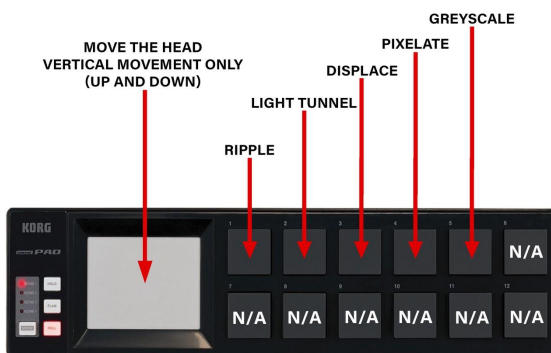


Exhibit C - Final setup

DIPPED IN MATRIX FLUID

INSTRUCTIONS

(BUTTONS ARE PRESSURE SENSITIVE)



VISUALS: SPECTRXM (@SSPECTRXM)
 MUSIC: SEGA DREAMCAST
 JUSTIN FONROSE
 BSVA SPRING 2023
 MADE IN TOUCHDESIGNER

Exhibit D - Instruction Manual

DIPPED IN MATRIX FLUID



**AN INTERACTIVE INSTALLATION
BY JUSTIN FONROSE**

VA ROOM 2032



Exhibit E - Final poster

Sources:

Qualia. "Grilla Interactiva / Holo – Eric Prydz / VFX." *Qualia AV*, 15 Aug. 2021, qualia.social/2021/08/15/grilla-interactiva-holo-eric-prydz-vfx/.
<https://qualia.social/2021/08/15/grilla-interactiva-holo-eric-prydz-vfx/>

YouTube. (2022, December 5). *Golametra, Alahoss*. YouTube.
<https://www.youtube.com/watch?v=eEDoCGQ8FBY>

[Ultralylat - Golametra, Alahoss](#)

Dreamcast playlist:

[Relaxing Dreamcast Music \(100 songs\)](#)