



THE TEAM



SIN XUAN

A certified kidult and self-proclaimed creative chaos machine who spends 50% of her time plotting her next masterpiece, 30% sleeping and the last 20% overthinking.



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ABSTRACT

Human Error is an interactive projection installation that will annoy participants through jarring audio and visuals. This provokes them to actively engage with a button as their only means of stopping the disturbance. This also plays in on our innate curiosity and urge to press buttons.

RESEARCH

Out of the 4 main symbiotic relationships, the finger and button falls under Mutualism, whereby both entities mutually benefit each other.

The button depends on the finger for activation whilst the finger relies on the button to trigger an action. This is done so through the act of pressing.



RESEARCH

Electric push buttons, essentially on/off switches for circuits, came on the market in the 1880s.

The initial public reaction was curiosity mixed with fear, partially due to widespread fear of electricity, a relatively new technology at the time.

"You press the button, we do the rest." - the Eastman Company's famous slogan for Kodak cameras, to promote a product that was "worry-free".



FINDINGS

A button is a symbol of instantaneous action and consequence - it creates a direct link between input (pressing) and output (reaction).

Automation and Convenience.

Over-reliance on buttons which leads to a false sense of control. Instinctively, users will think to press the button so as to stop the noise.

Temptation to press due to curiosity and the human tendency to explore the unknown.

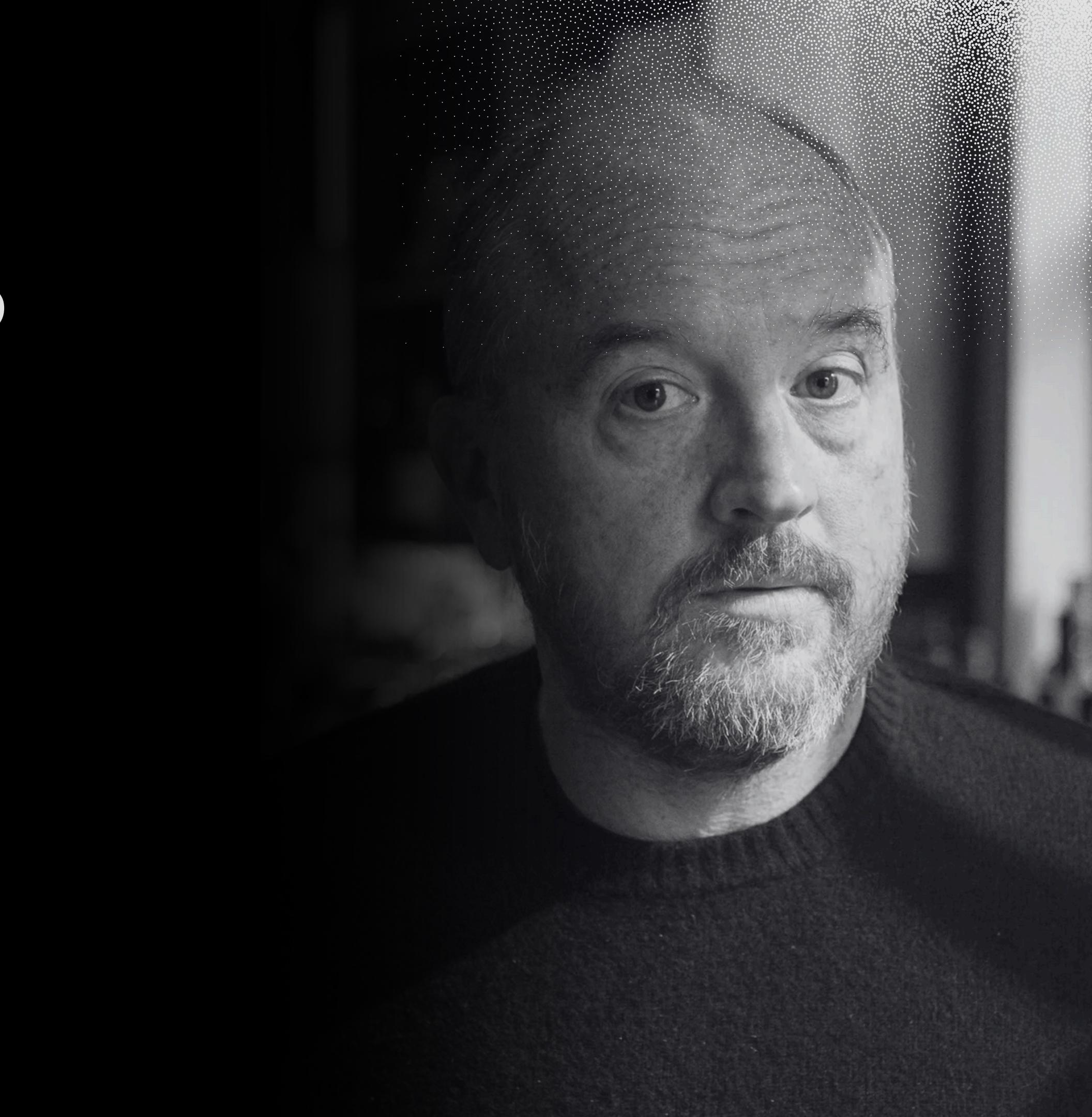


ARTIST REFERENCES

Louis C.K, "Press the button"



Watch on: YouTube



ARTIST REFERENCES

Louis C.K, "Press the button"

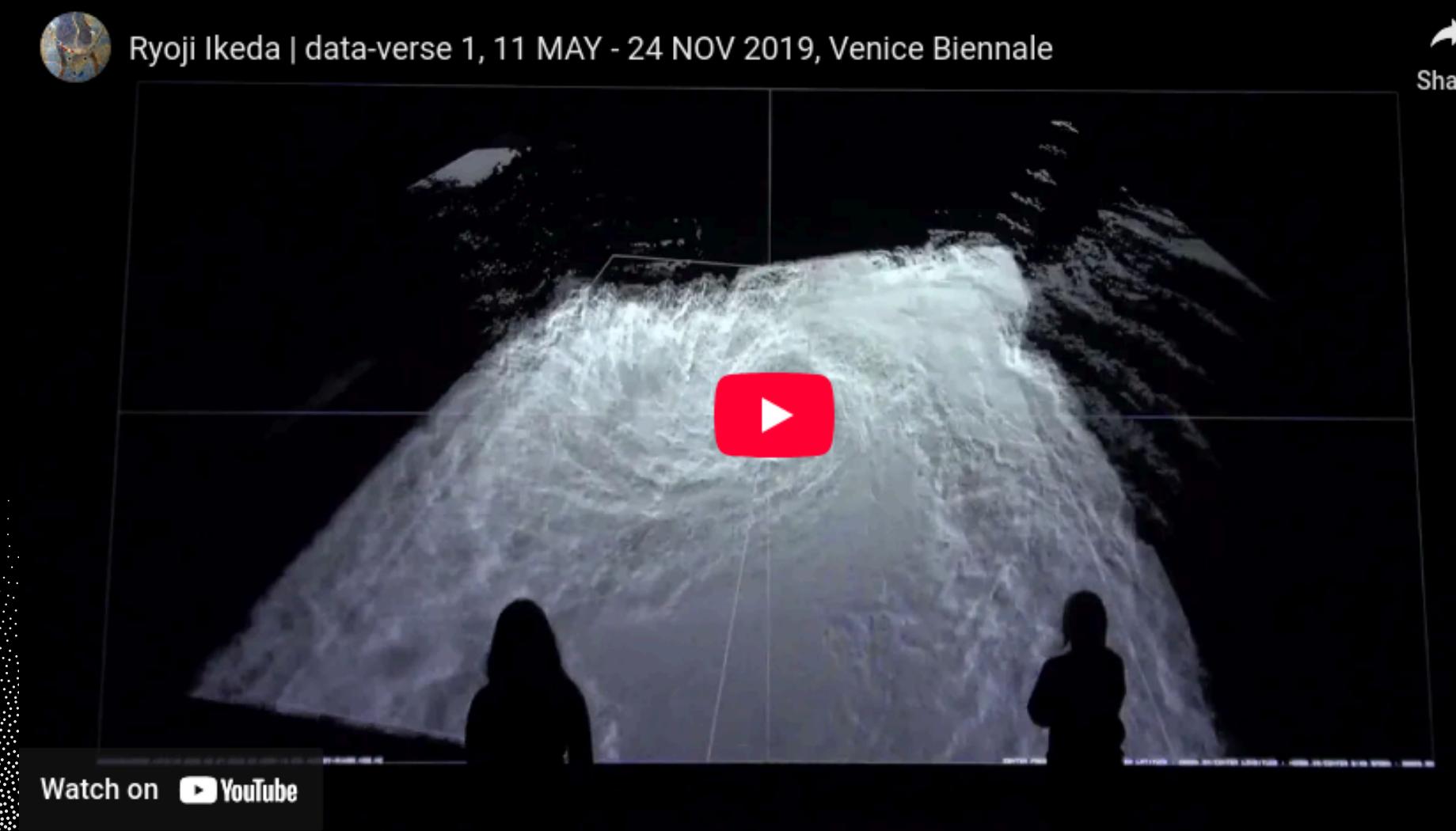
Louis C.K. was tempted by a button labeled "PRESS." When he gave in, a speaker blared the N-word. To prove he wasn't responsible, he pressed it again—only for it to now play harmless animal noises, making him seem guilty.

This installation is simple yet effective, playing on human curiosity and the irresistible temptation of the unknown. At the same time, it evokes emotions such as embarrassment and regret, creating an amusing yet thought-provoking experience.



ARTIST REFERENCES

Ryoji Ikeda, Data Verse 1



ARTIST REFERENCES

Ryoji Ikeda, Data Verse 1

Data Verse 1 reflects the progressive digitalization of our society and allow viewers to visually and acoustically experience digital universes. It captures the world down to the smallest detail, making abstract volumes of data and computing power comprehensible.

The beeping audio is subtle and constant, allowing viewers to focus on the ever-changing graphics which consist of abstracted versions of human anatomy and maps. This evokes varying emotions in viewers and allows them to ponder on how massive these digital universes are.



SYMBIOTIC RELATIONSHIP

Finger and Button

The act of pressing a button is intuitive and naturalistic to us. In many ways, we have become overly_reliant on them.

Due to this, we are instinctively_tempted to press buttons, even when we are unsure of their purpose.



SYMBIOTIC RELATIONSHIP

Nature and Human

Our chosen audio and visuals are heavily inspired by the conflicting relationship between Nature and Man. Our unpleasant audios are produced by man-made practices and inventions, whilst the pleasant audios are those of which you might find in nature.

We wanted to juxtapose the action of pressing a button against the impact we have on nature and to highlight how we are truly never in control.



AUDIOSCAPE

PLEASANT (NATURE)



1) GENTLE RAIN/HEAVY RAIN



2) SOFT MELODY



3) FOREST AMBIENCE



4) FLOWING WATER



5) FIREPLACE

UNPLEASANT (MAN-MADE)



1) BABY CRYING



2) ALARM CLOCK



3) CONSTRUCTION



4) SCRATCHING CHALKBOARD



5) EXPLOSION

AUDIO COMPOSITION

Unpleasant Audios

I used multiple audio files and layered them to create a more dynamic sound. I also tried to ensure that there is a clear “high”, “mid” and “low” in the audio, so that I could later extract them in Touchdesigner to distort the visuals.

Construction Audio



The audio files I used are...

- Construction Site Ambience
- Hammer hitting on metal
- Power Drill

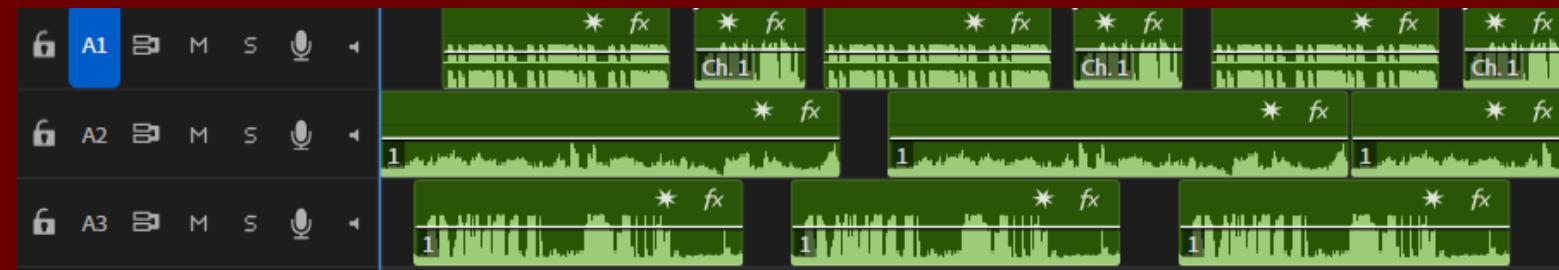
Explosion Audio



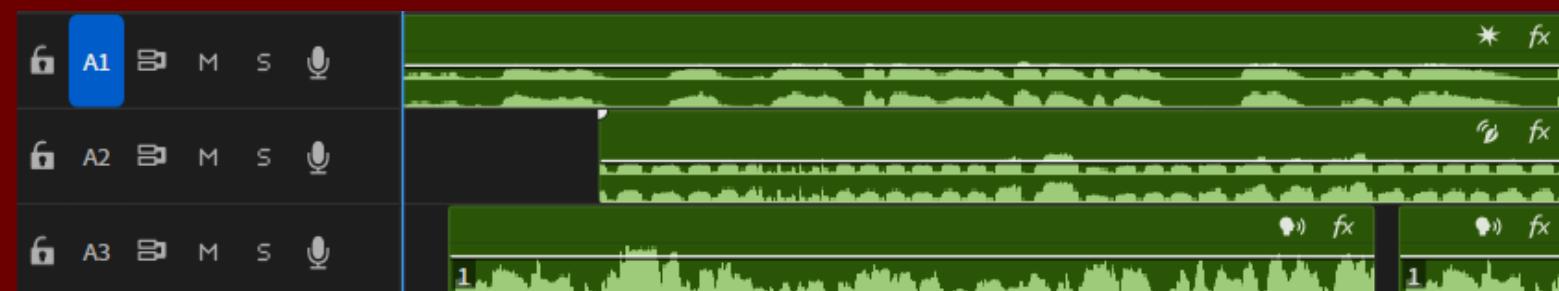
The audio files I used are...

- War Zone Ambience
- Small Bomb (Mids)
- Big Bomb (Lows)

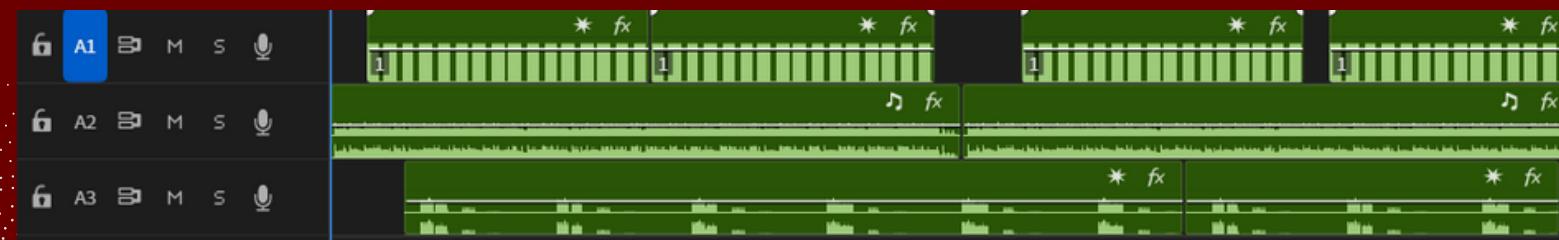
Scratching Audio



Baby Crying Audio



Alarm Audio



The audio files I used are...

- High Pitch Squeaking
- Low Pitch nails on chalkbaord
- Rhythmic Squeaking

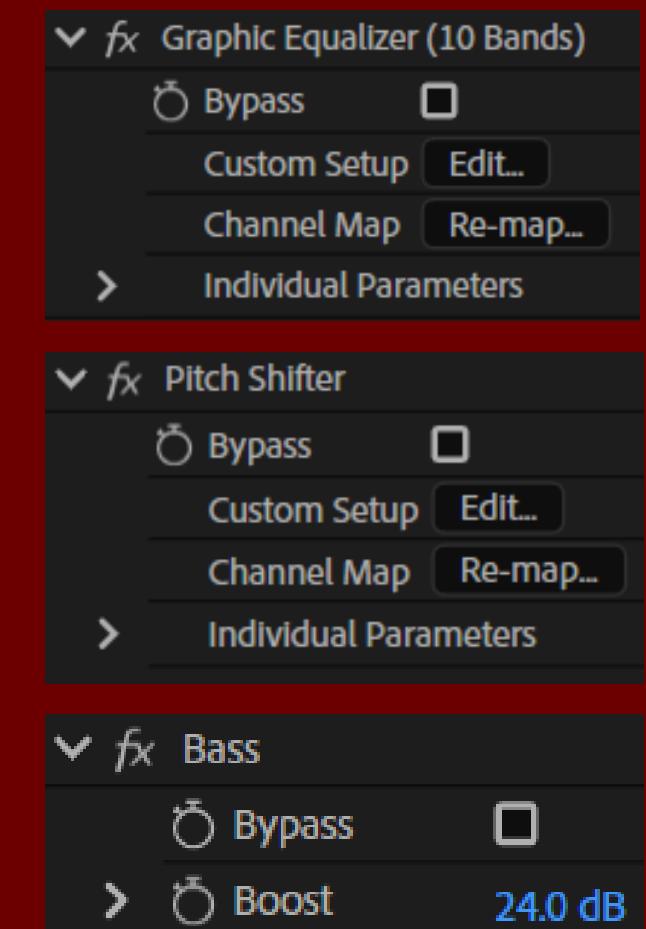
Furthermore, I added some sound effects in Premiere Pro to enhance audio quality!

The audio files I used are...

- Baby Crying
- Toddler Screaming
- Baby coughing violently

The audio files I used are...

- IOS By the sea ringtone
- IOS Radar ringtone
- Blaring Alarm

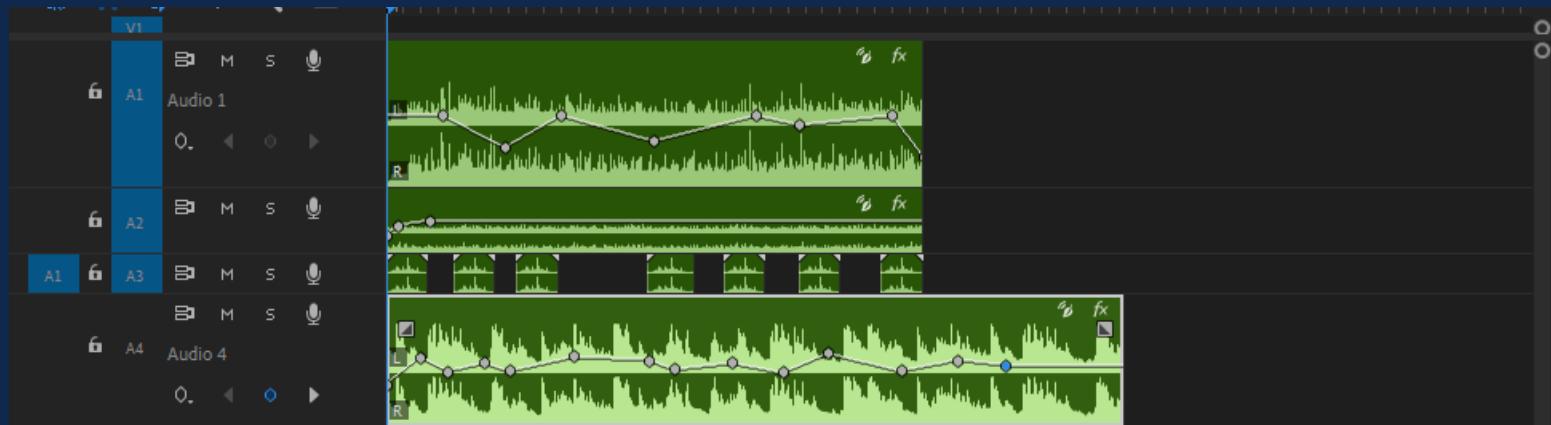


AUDIO COMPOSITION

Pleasant Audios

I used multiple audio files and layered them to create a more dynamic sound. I also tried to ensure that there is a clear “high”, “mid” and “low” in the audio, so that I could later extract them in Touchdesigner to combine with the visuals.

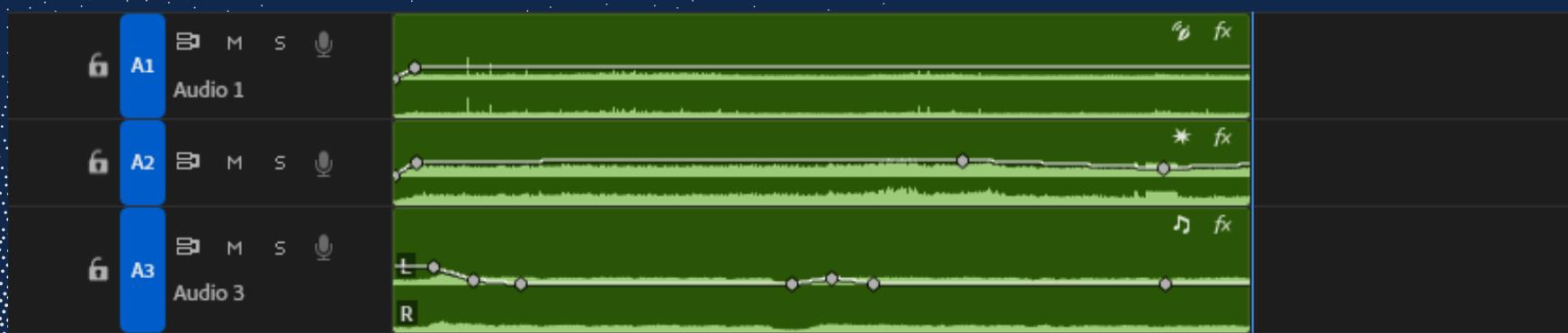
Intense rain Audio



The audio files I used are...

- 2 types of rain
- Continuous thunder
- Single thunder by multiplied many times

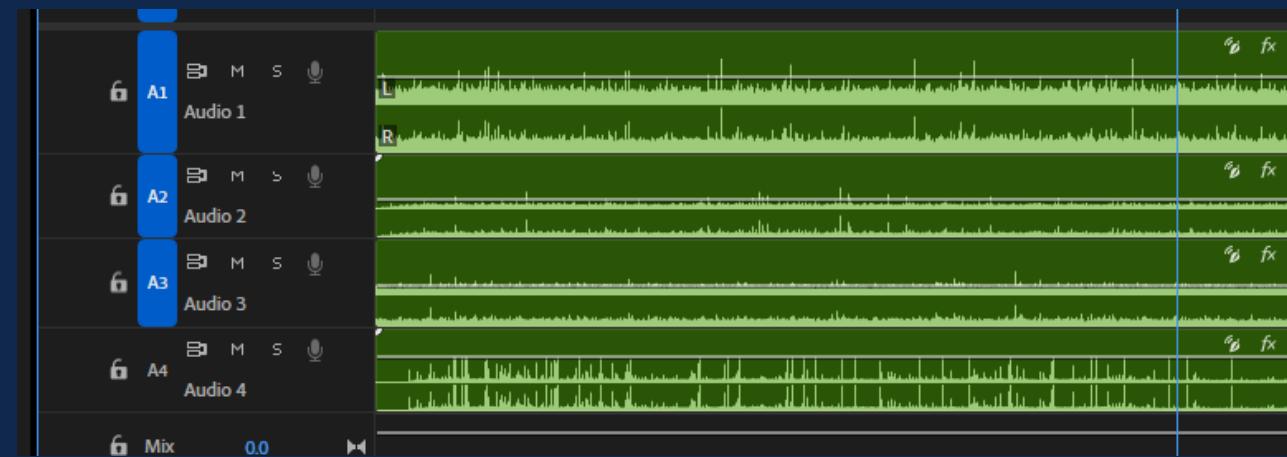
Forest Audio



The audio files I used are...

- Forest ambiences
- Bird chirping
- Soft melody for a magical touch

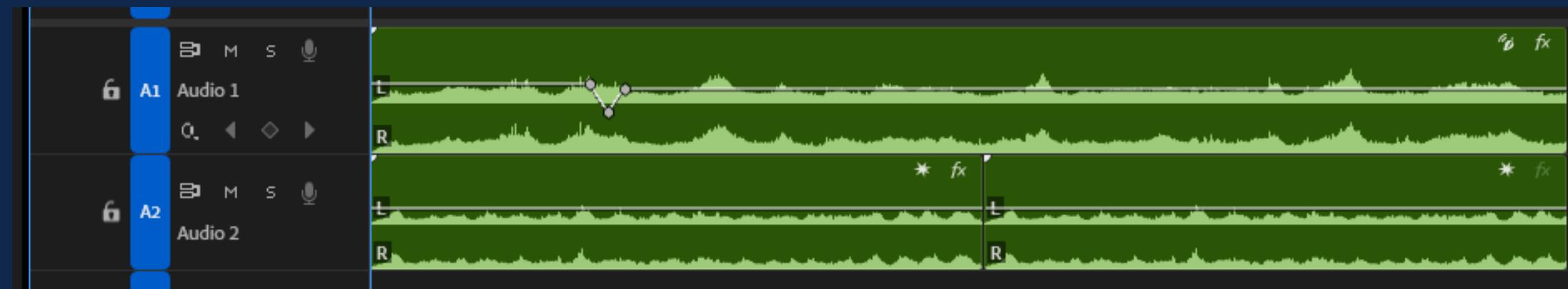
Fire Audio



The audio files I used are...

- Nature ambience
- 2 types of fireplace sounds
- Fire cracking audio

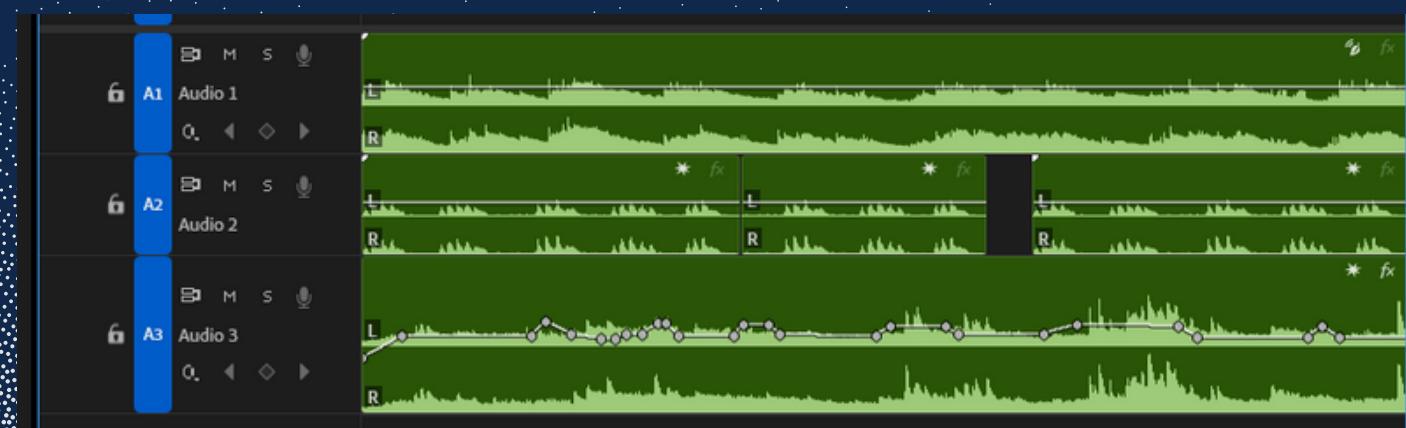
Waves Audio



The audio files I used are...

- Far ocean ambience
- Near sea sounds

Forest Audio

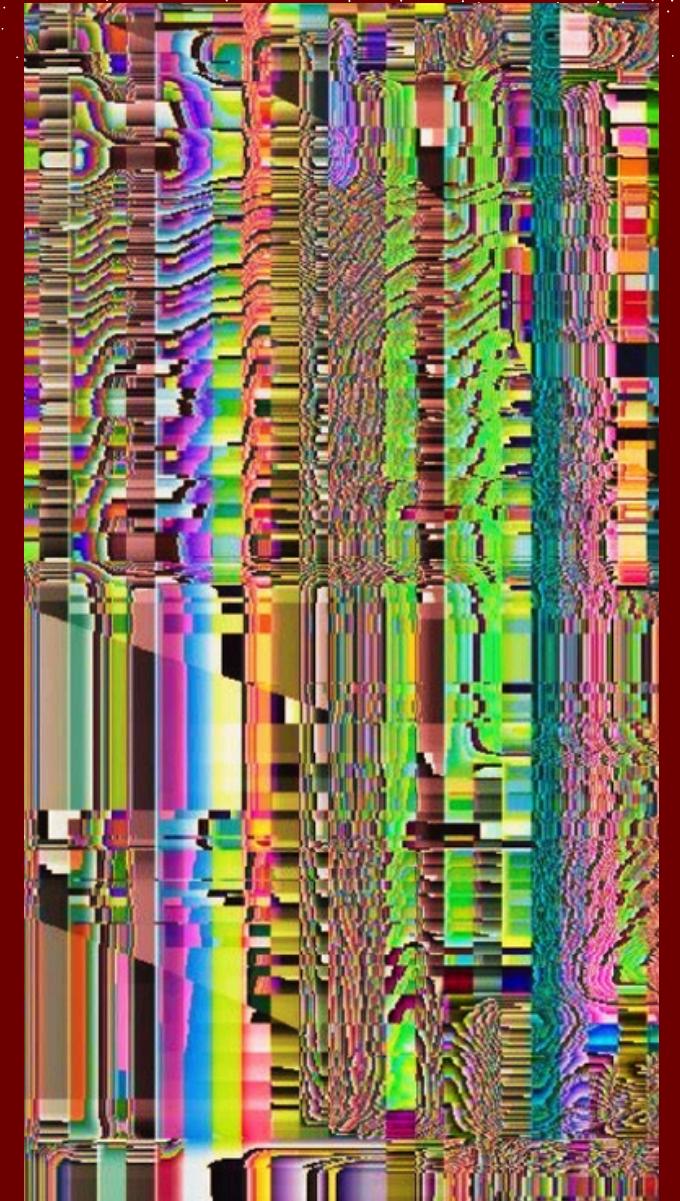
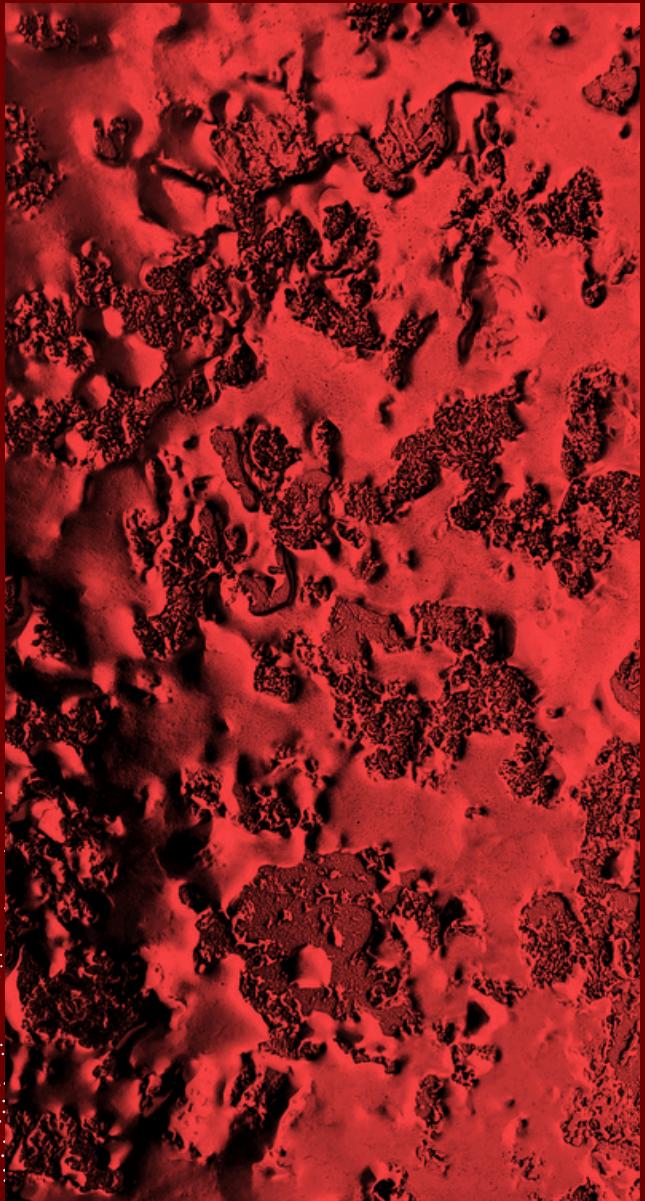


The audio files I used are...

- Bamboo wind chime
- metal wind chine
- Bird chirping

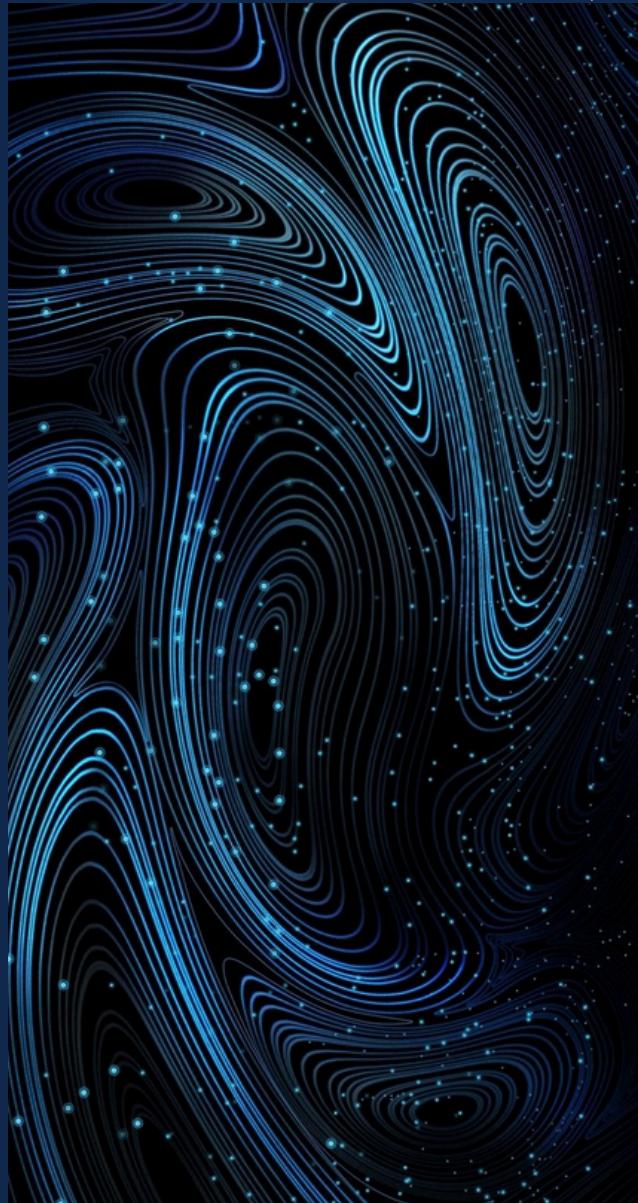
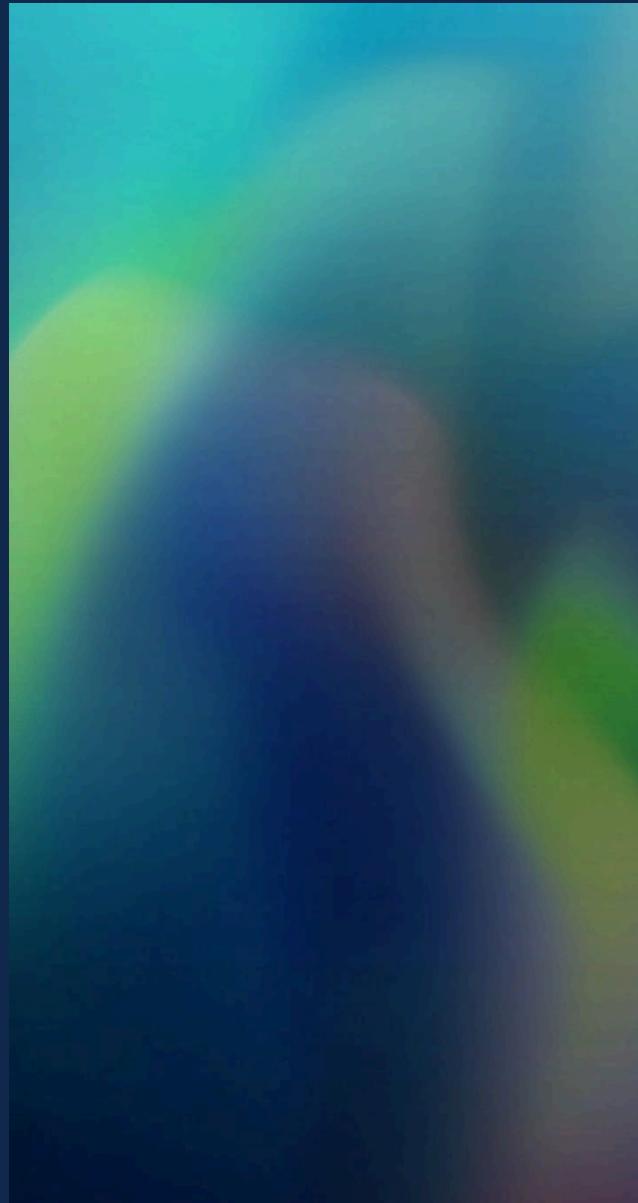
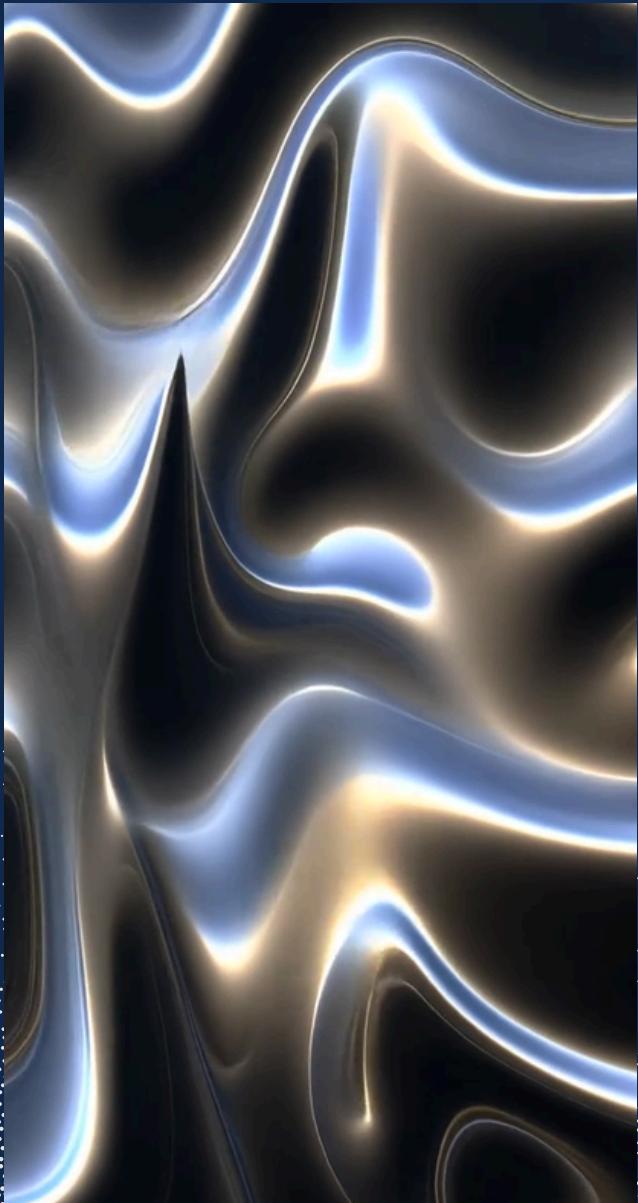
MOODBOARD

Jarring, Dark, Warm tones of Red, Orange, Yellow and Green | Liquid Metal, Glitch Effect



MOODBOARD

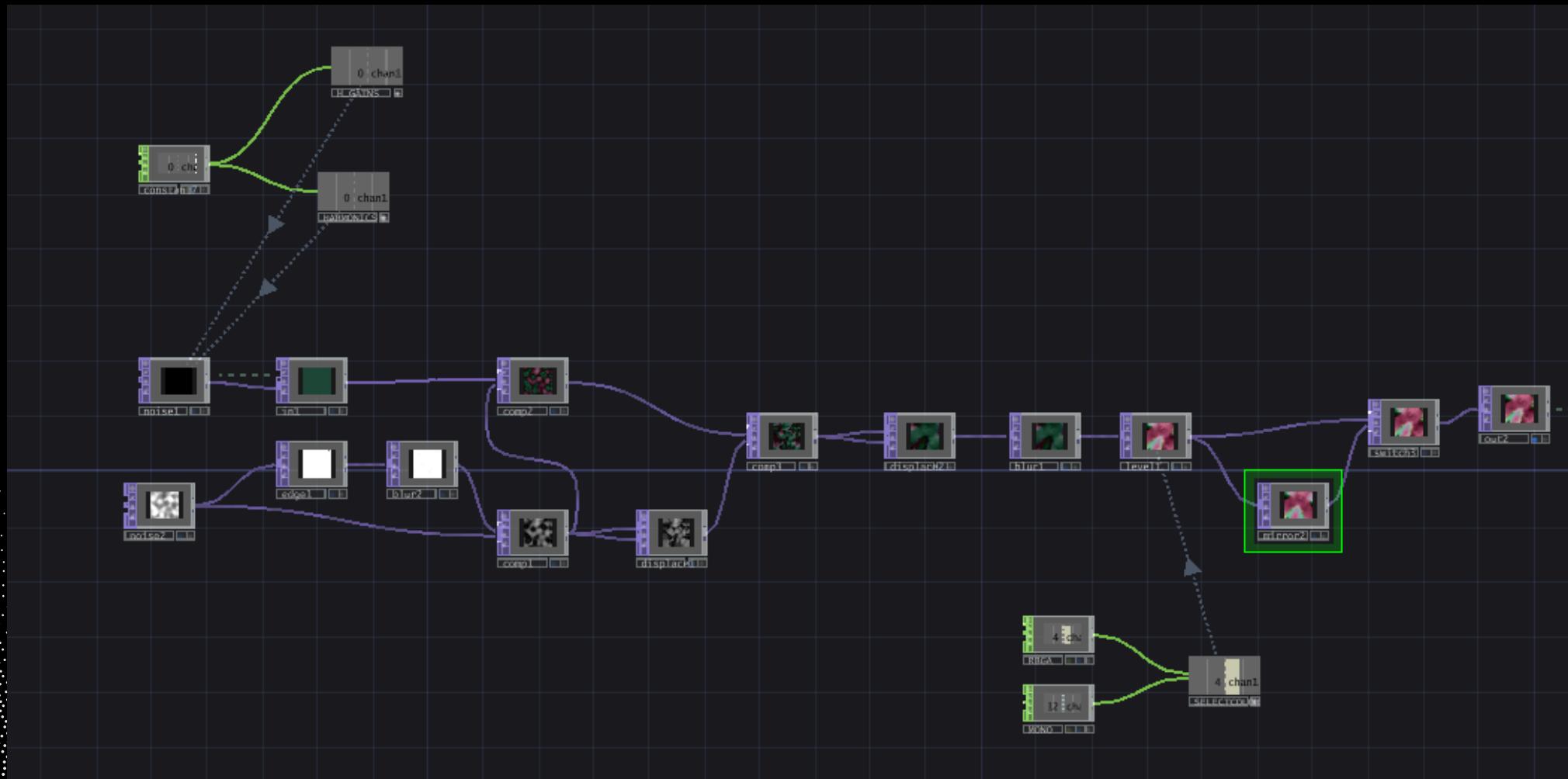
Calming, Smooth, cool tones of Green, Blue, Purple | Liquid Metal, Outline Effect



MAKING OF VISUALS ---

Liquid Metal Component

We chose to create a custom component that simulates the appearance of liquid metal, as we felt that it was the perfect medium and amalgamation of both technology and nature. This tied in to the narrative of our project as we wanted to display the conflicting yet symbiotic relationship of both entities. Here is how the component works.

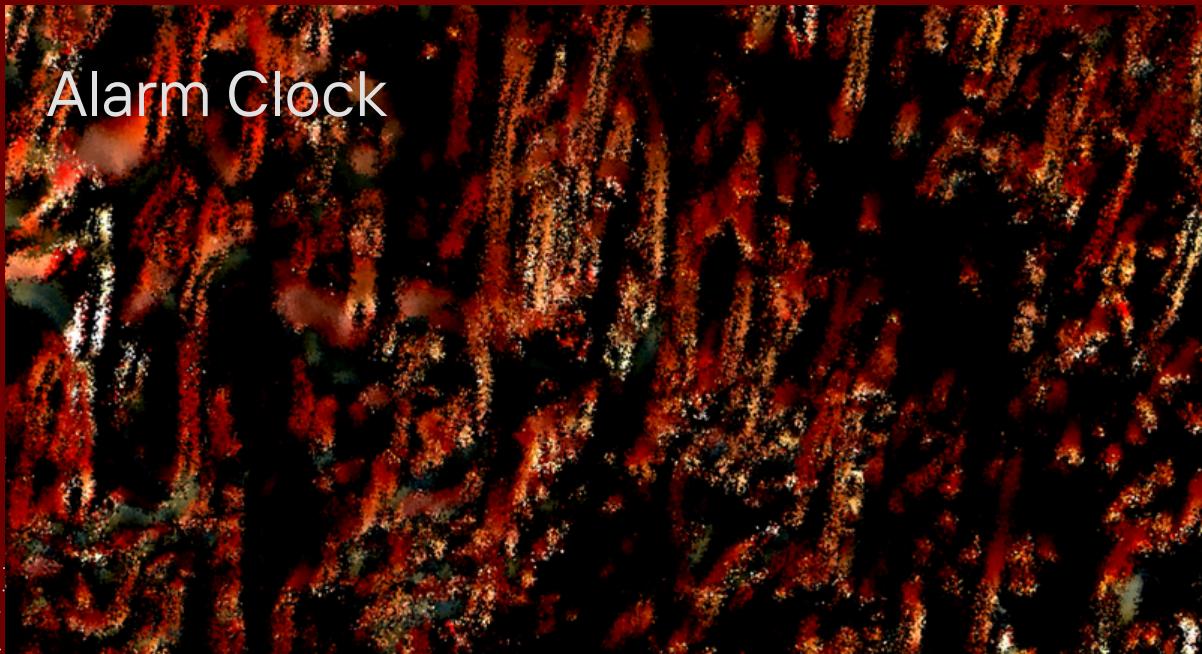


The Liquid Metal component is made out of multiple layers

MAKING OF VISUALS

Unpleasant - Alarm Clock and Scratching

As we are able to manipulate the component to the extremes, we were able to transform the smooth liquid metal into something more jarring and chaotic. I decided to use the liquid metal for both the Alarm Clock and Scratching visuals as it complimented the audios well. Additionally, we synced the audio "highs", "mids" and "lows" as chop references to make the visual audio reactive.



Alarm Clock



Scratching

In order to encapsulate the annoying and multiplying nature (when you snooze), of the alarm audio, I manipulated the metal liquid to have many inflections, as well as to vibrate with the audio.

For the scratching visual, I made the liquid metal more streamline and sharp to mimic the appearance of scratches and cracks. I also reduced the amount of inflections to create more contrast with the alarm clock visual.

MAKING OF VISUALS

Unpleasant - Explosion, Baby Crying and Construction

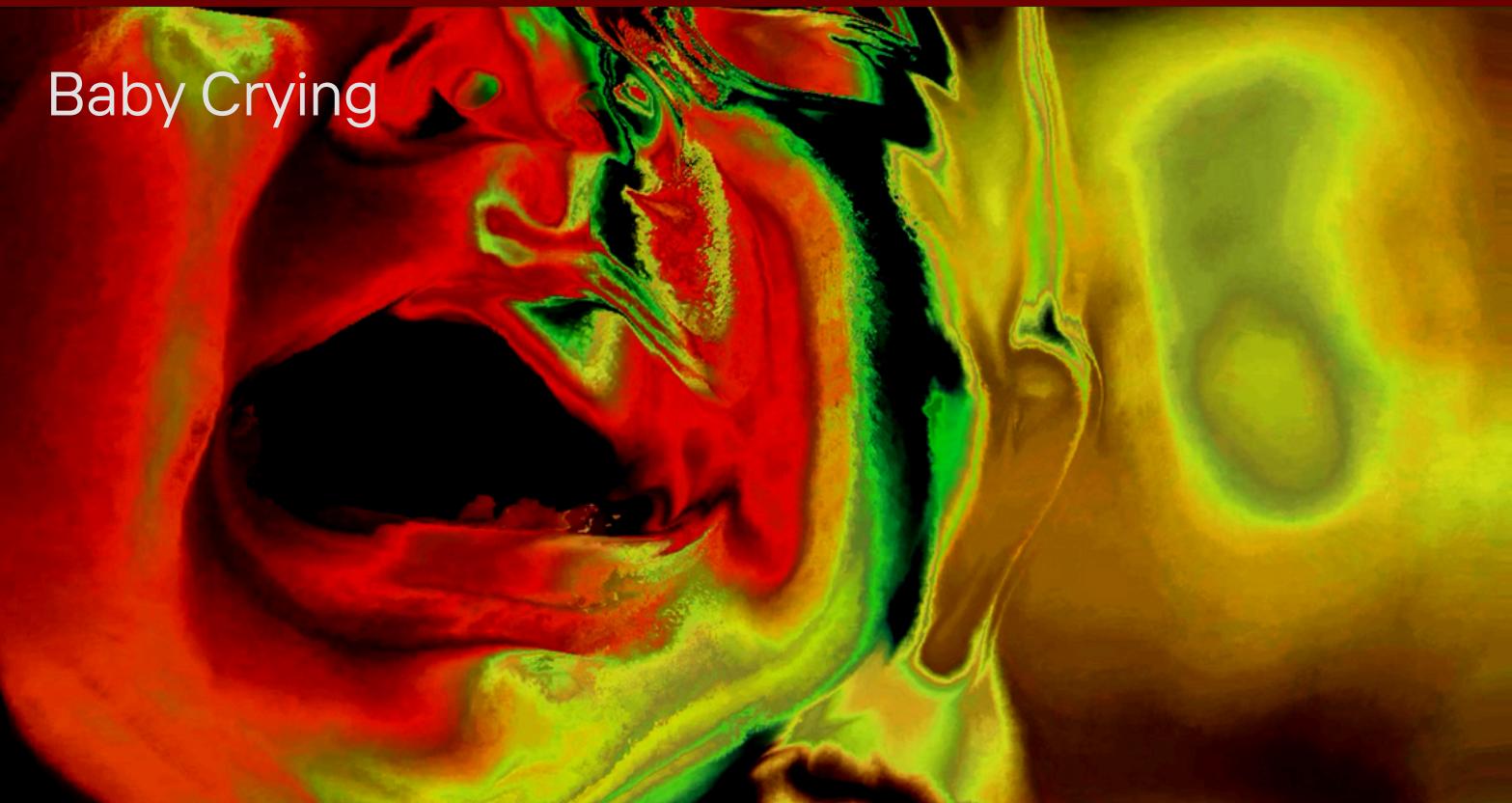
For the other three unpleasant visuals, we decided to use the liquid metal as a filter instead. By using stock videos/AI generated clips, and running through them the liquid metal filter, we were able to distort the footage into something chaotic and abstract. The visuals are also audio reactive and references the "high", "mid" and "lows" of the audio.



The clips used are...

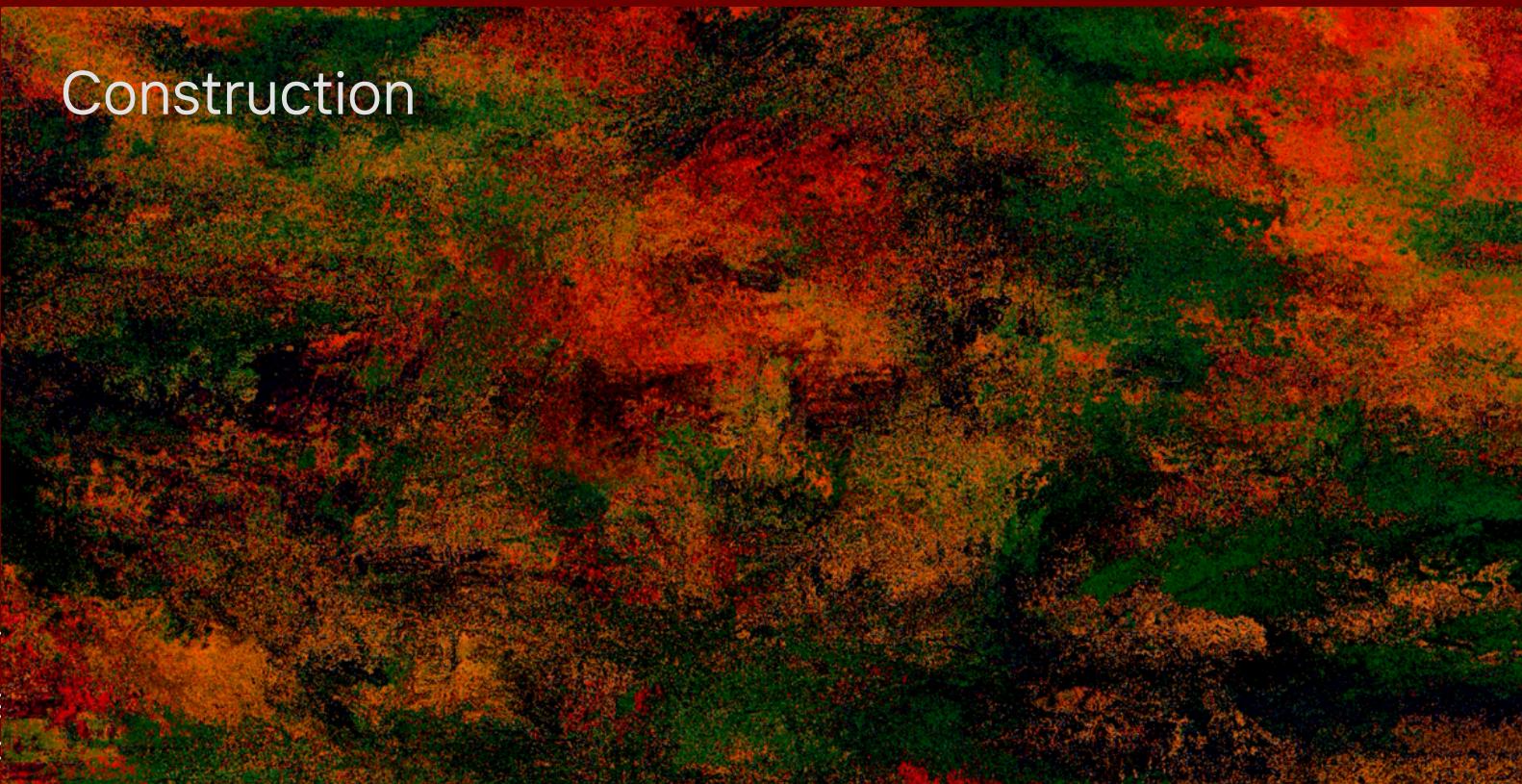
- A city getting nuked
- An explosion
- Fire rising in the air





The clips used are...

- An MRI scan of a baby in the womb
- A closeup of baby crying
- A toddler throwing a tantrum



The clips used are...

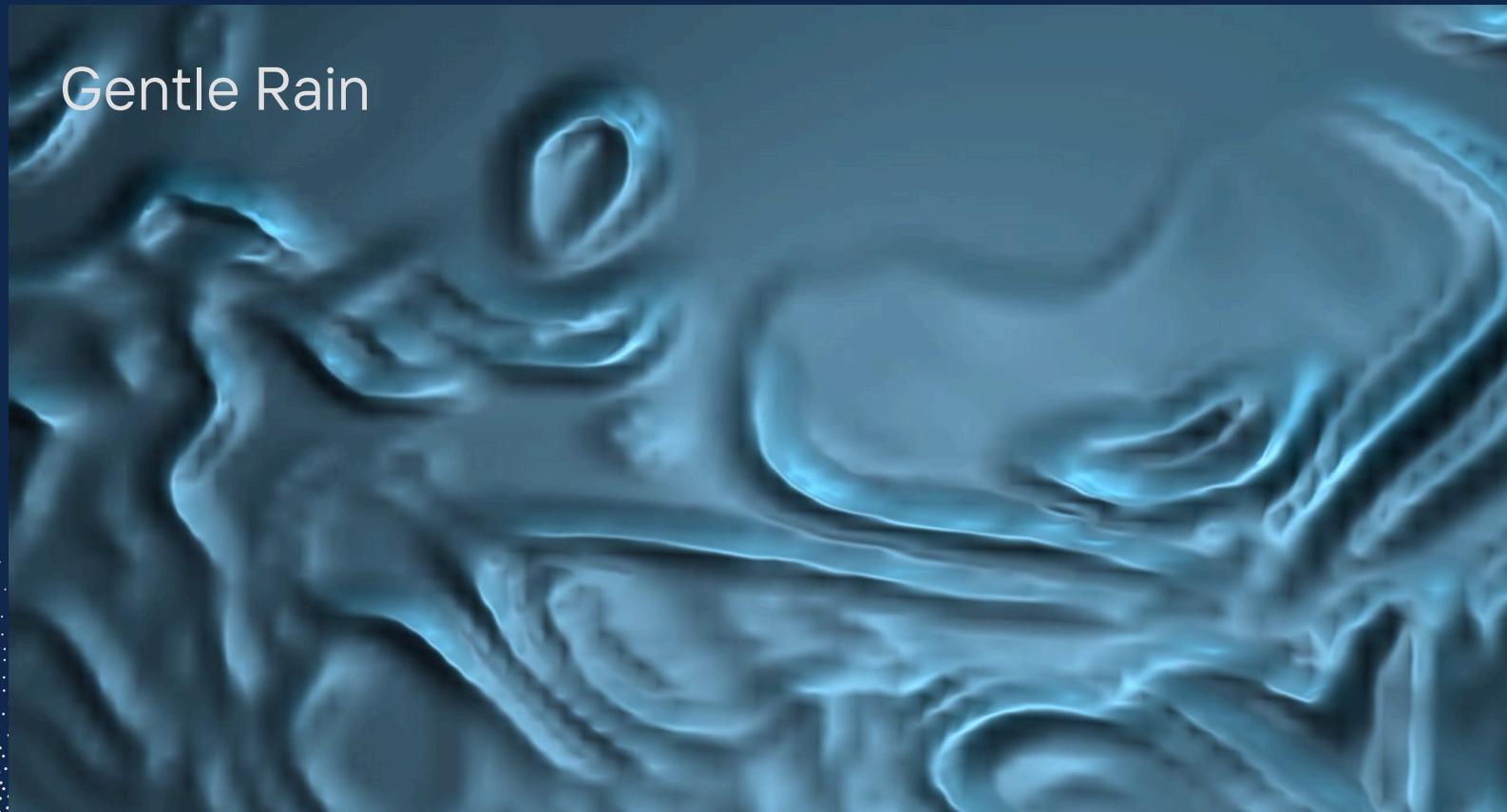
- A construction site
- A hammer in motion
- A power drill



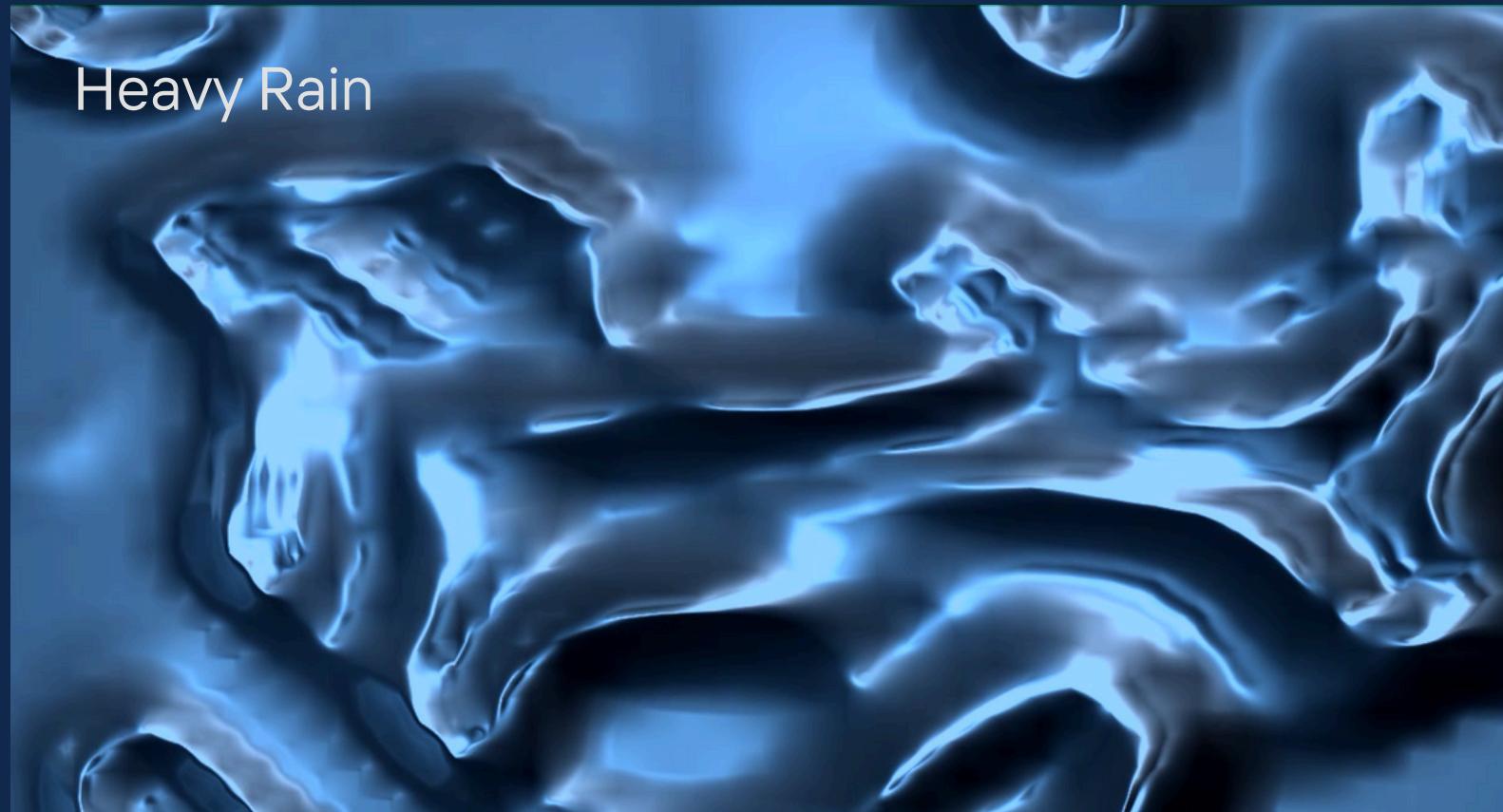
MAKING OF VISUALS

Pleasant - Gentle Rain and Heavy Rain

In order to create the visual of dripping water on a smooth fabric, we made the liquid metal component less shiny and added a blue tint. As the opening visual, there are two variations of the rain. The first one is more subdued and lighter in color, while the second one is slightly darker with a blur effect to signify a distortion when users press the button.



Gentle Rain

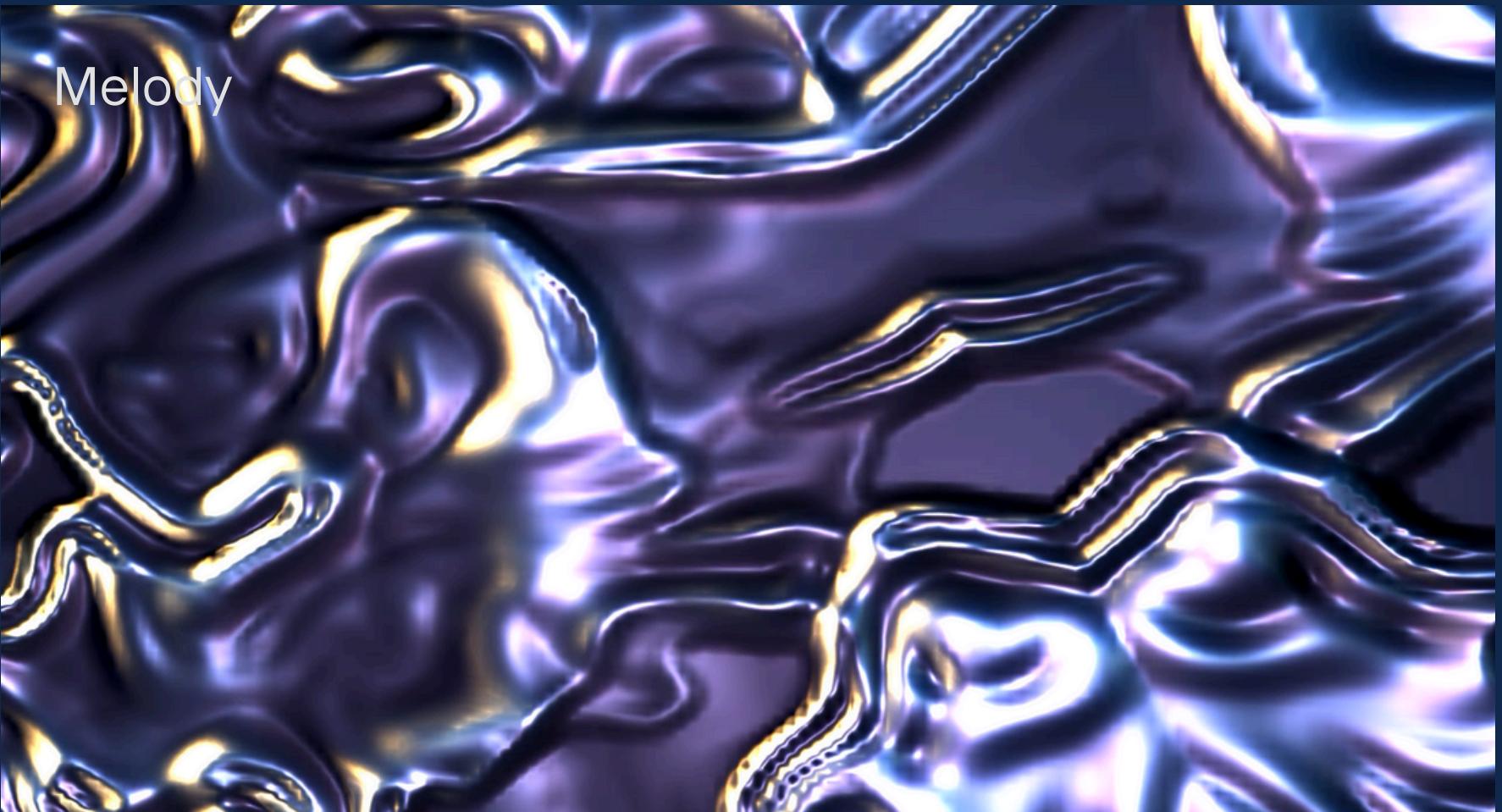


Heavy Rain

MAKING OF VISUALS

Pleasant - Melody

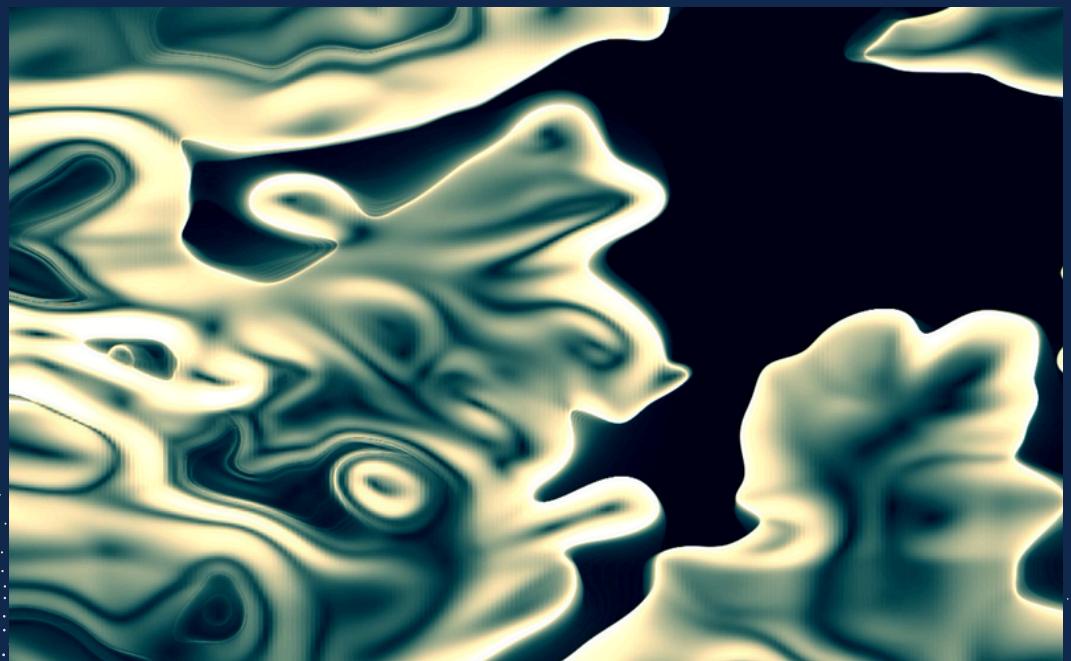
Similar to the Rain visuals, the Melody visual utilizes the same liquid metal component but with a metallic shine. This correlates to the audio whereby a wind chime can be heard. Additionally, to create more contrast, a periwinkle tint is added, giving it a soft magical appearance.



MAKING OF VISUALS

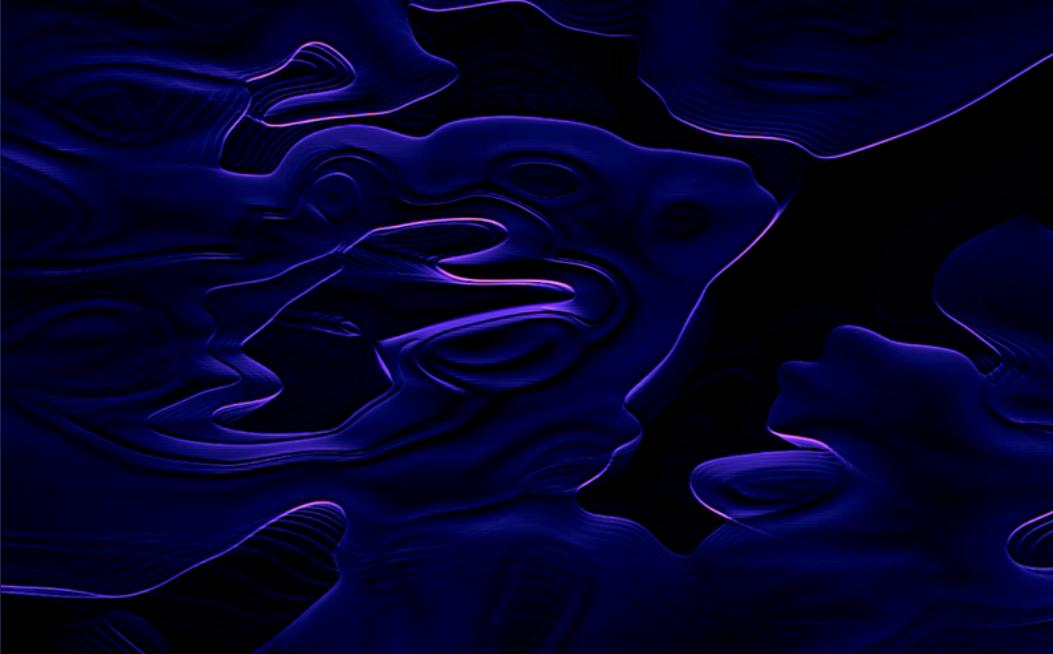
Pleasant - Forest, Waves and Fireplace

To make the liquid metal component less harsh, we decided to extract the outline and edges of the shapes produced by the liquid metal component. This made the visual feel more natural, which complimented the audios of the Forest, Waves and Fireplace



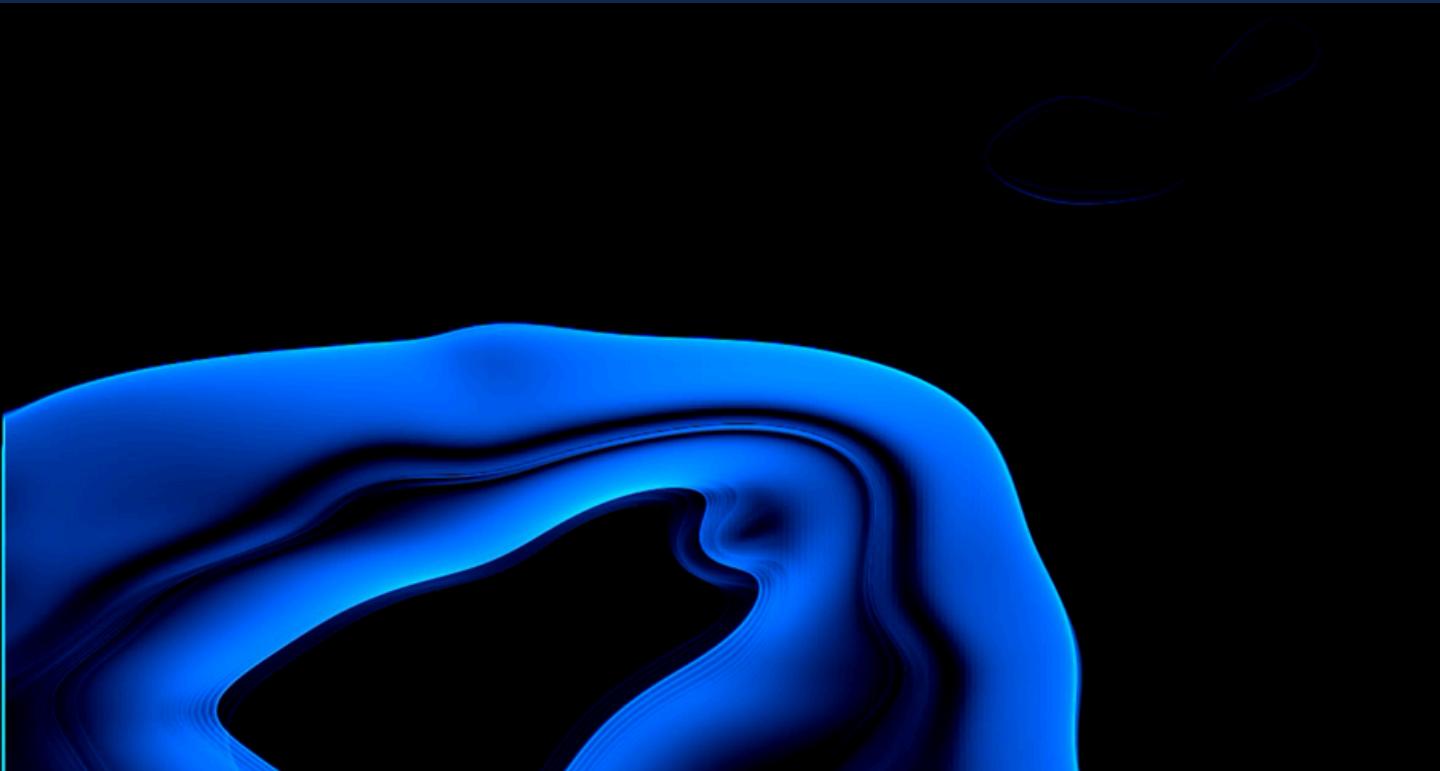
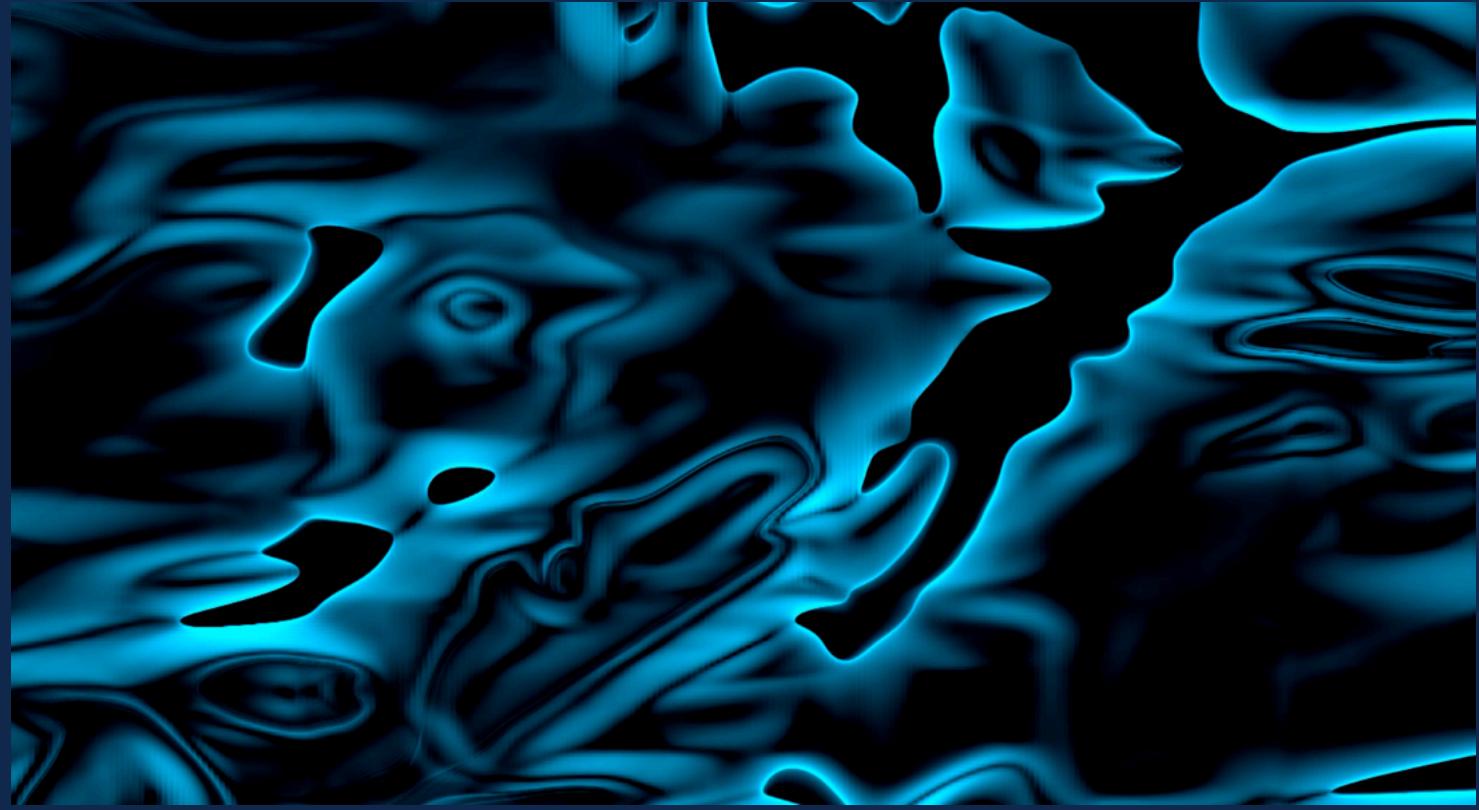
Forest Visual

Green tint
solarize and
bloom effect to
simulate
sunlight/ray



Fireplace Visual

Purple Tint
Solarize to enhance the
glow and color
contrast dark
background to emulate
fire in the night.



Waves Visual

Blue Tint
Colour changes with
audio, the louder the audio
the darker the color

To simulate the viewers
going deeper into the
water

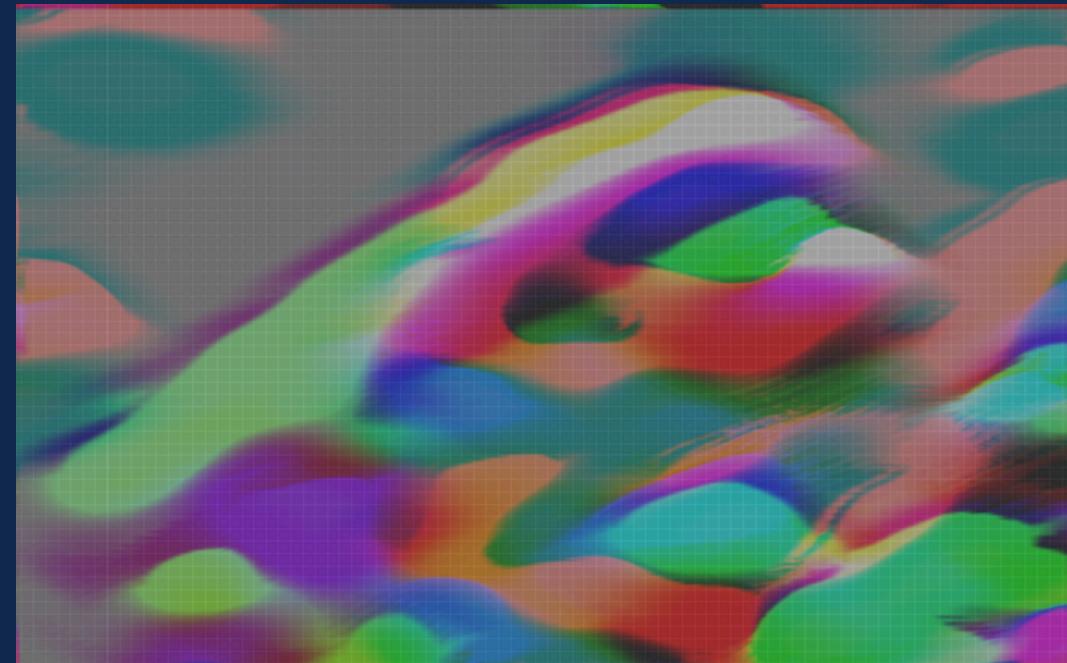
MAKING OF VISUALS

The rejected visuals as they do not match well with the other visuals



**Initial
Forest Visual**

I was inspired by
a rose garden but
the visual is too
colourful

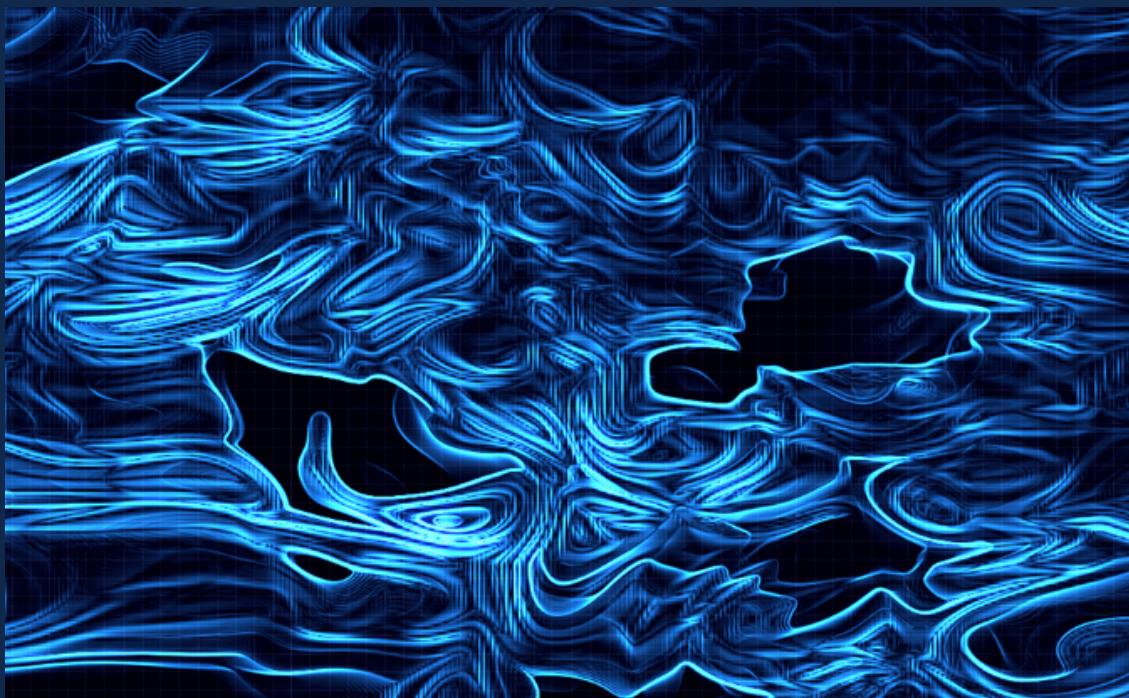


**Initial
Fireplace Visual**

I was inspired by the
lens flare when we are
taking picture of the
sun but its way too
colourful

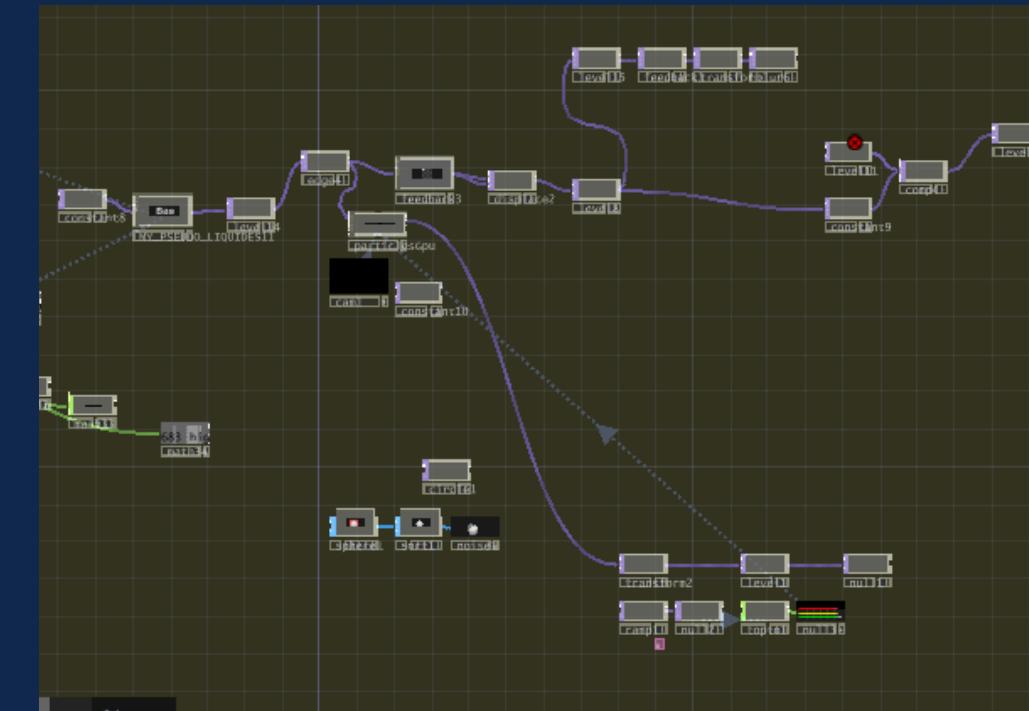
MAKING OF VISUALS

The rejected visuals as they do not match well with the other visuals



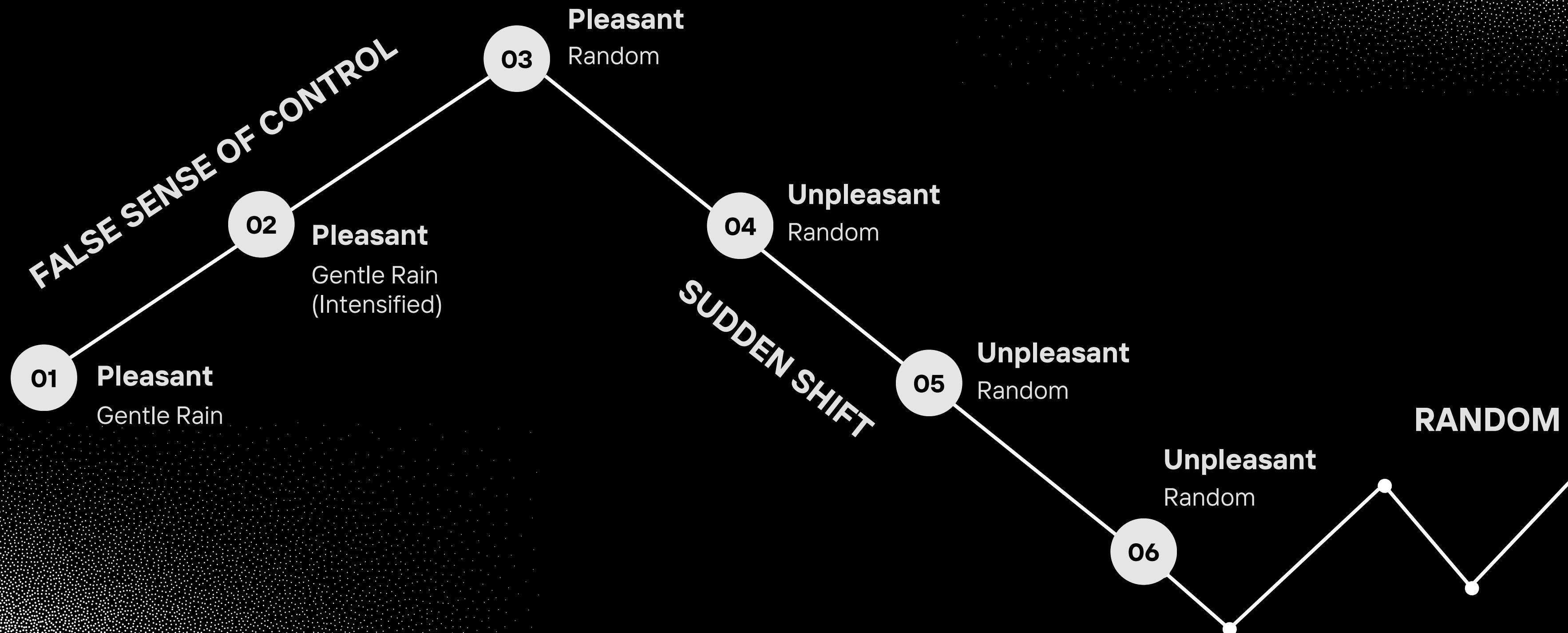
Initial Waves Visual

I was inspired by
the ocean waves
but the line are
too harsh
compared to the
others



Heres my fail attempt
at trying to make
particle effect for some
of the visuals

USER JOURNEY MAP



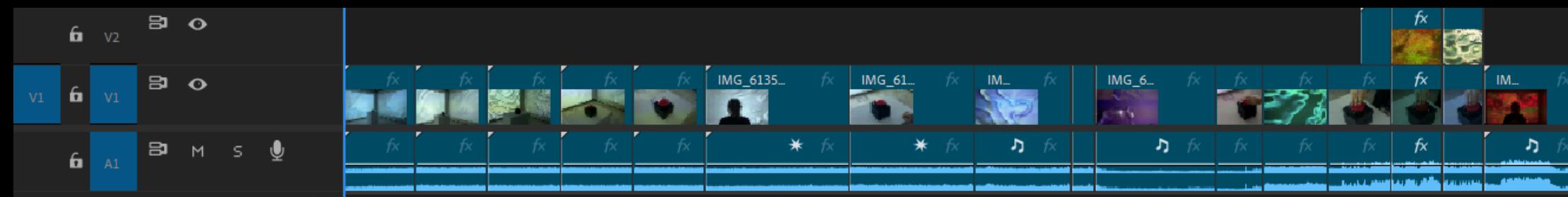
VIDEO

Filming and Editing Process

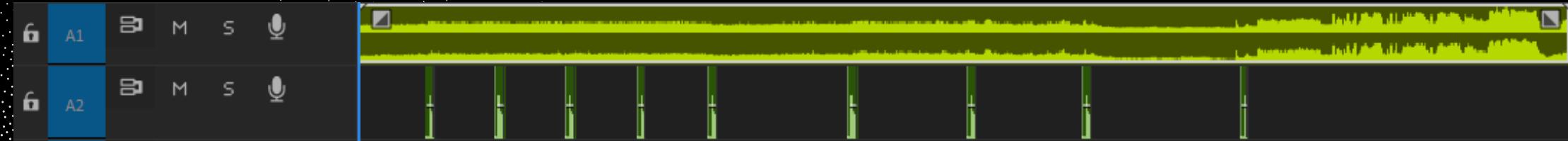
For the video, we decided to keep things simple. After some consideration, we decided it would be better to build suspense by not showing viewers all the effects of the button. Only at the end did we include a short sneak peek.



To create the black bars at the top and bottom of screen, creating a more cinematic look.



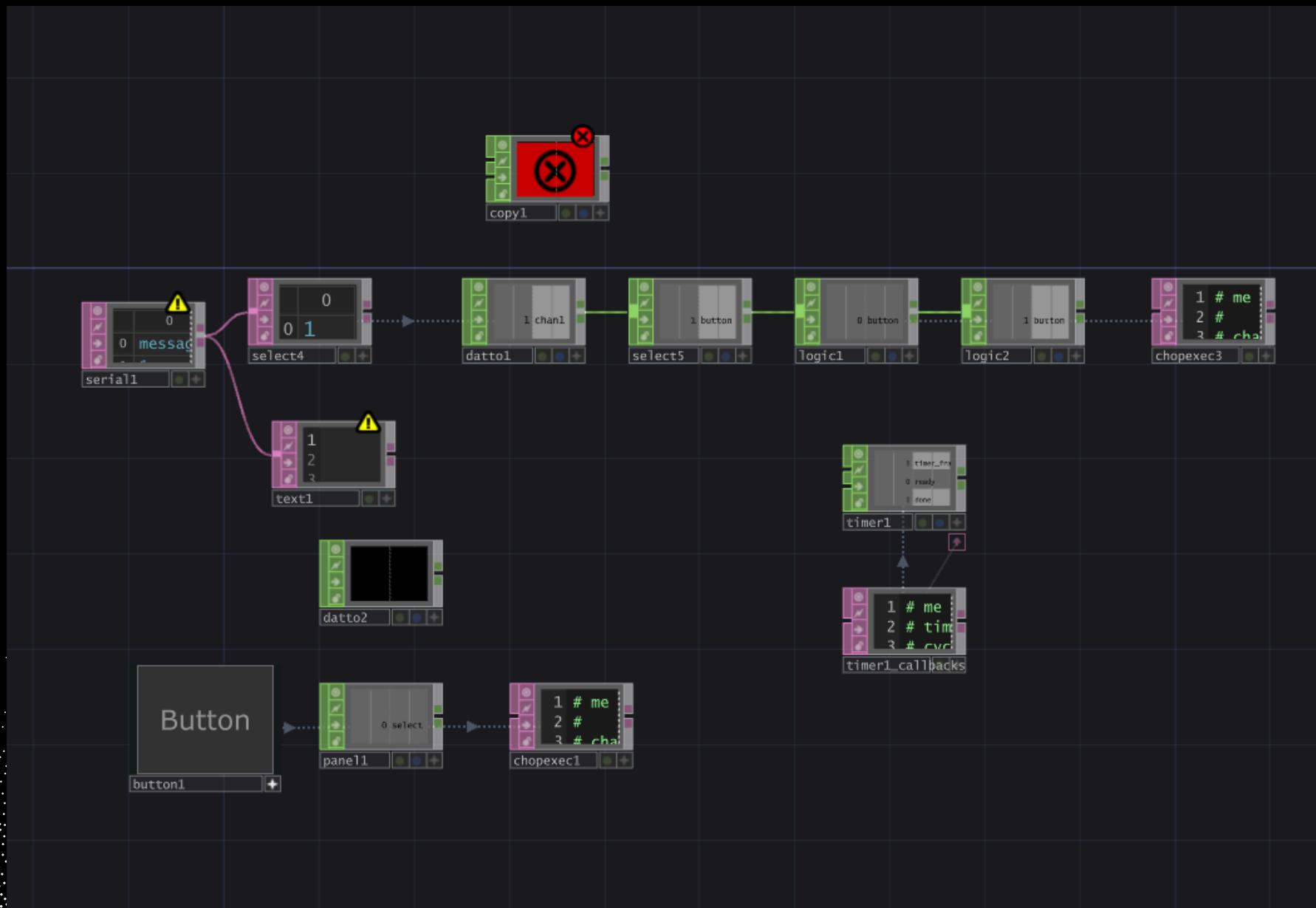
Mostly close up shots of the button, the act of pressing it and some of the visuals.



We did not touch the original audio, only added a clicking sound effect in between cuts.

Button System

Coding the Button Process

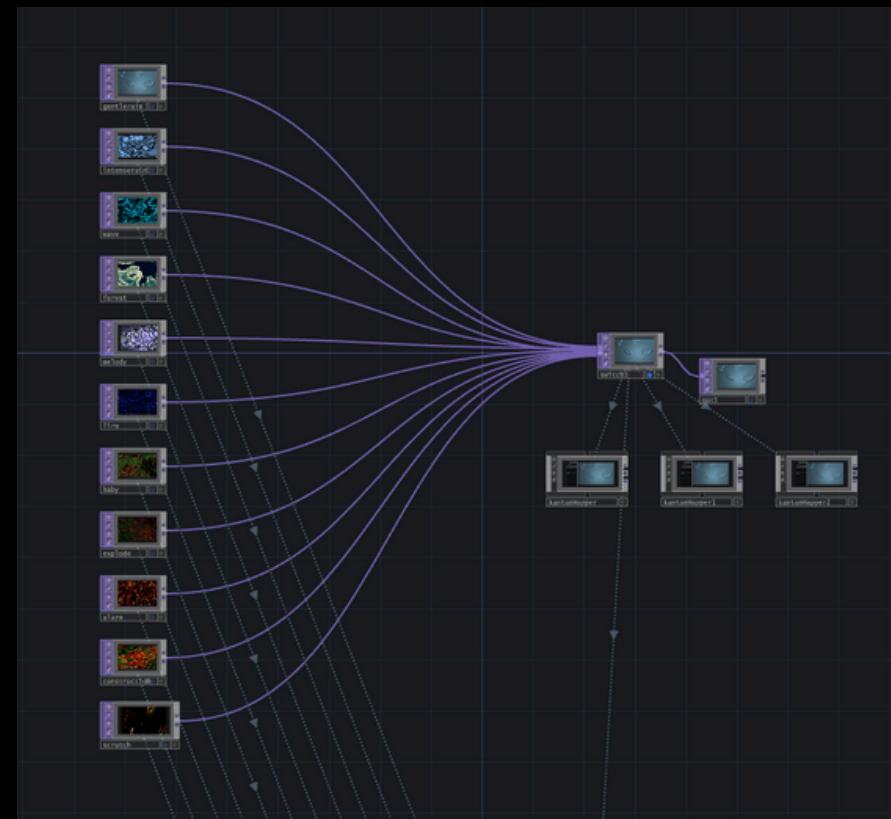
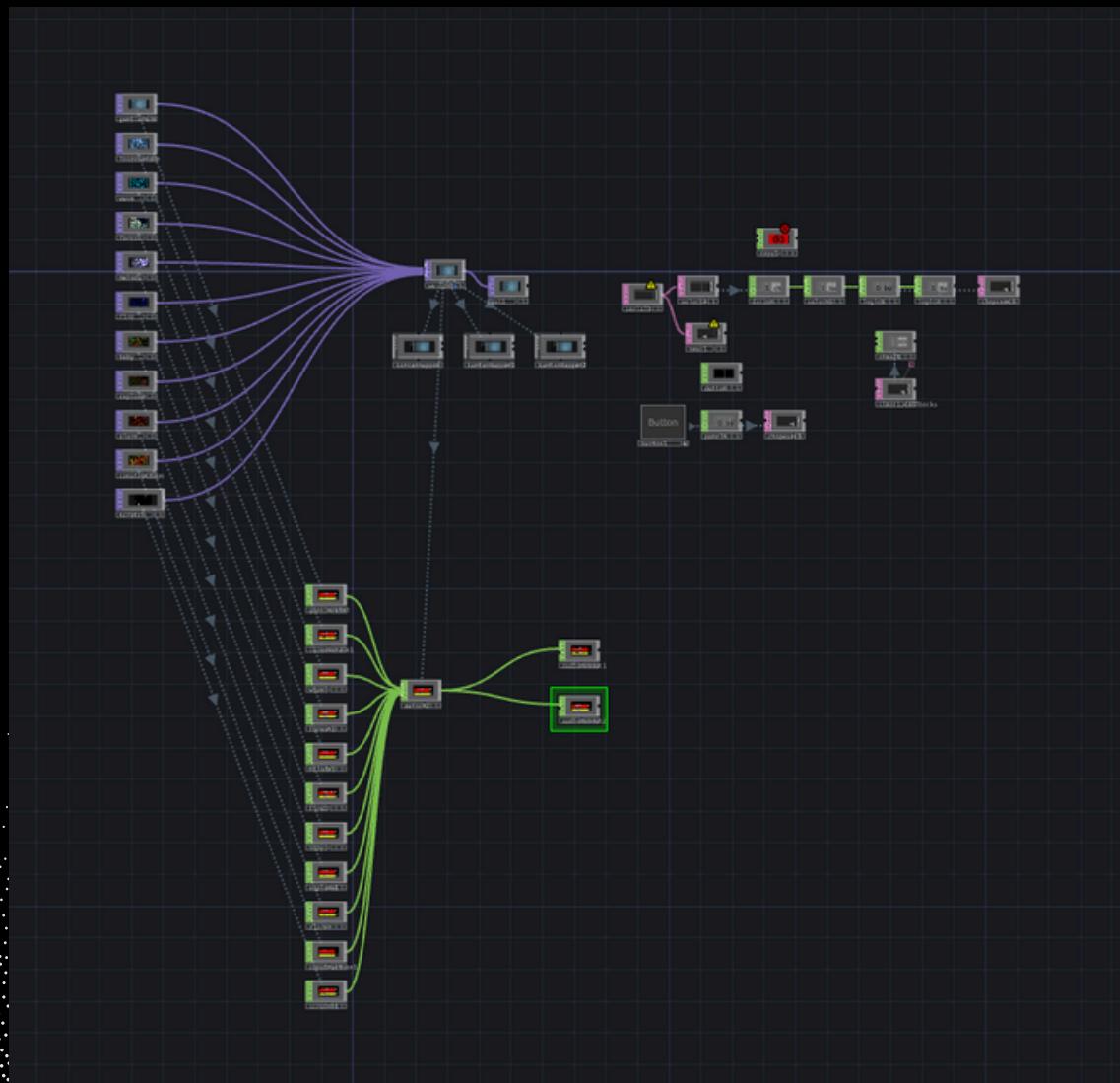


For the button, we had to set up 2 code to make it work. The first will be the sequences of how the visuals will be played and second is the timer for visuals return back to original stage after no one touches it for 3 seconds

Final Network

Filming and Editing Process

To set all the visuals and audio together, we exported the video form of it and imported all of them back into touch designer as a video and attach them all into a switch before applying a kantan mapping to project it.

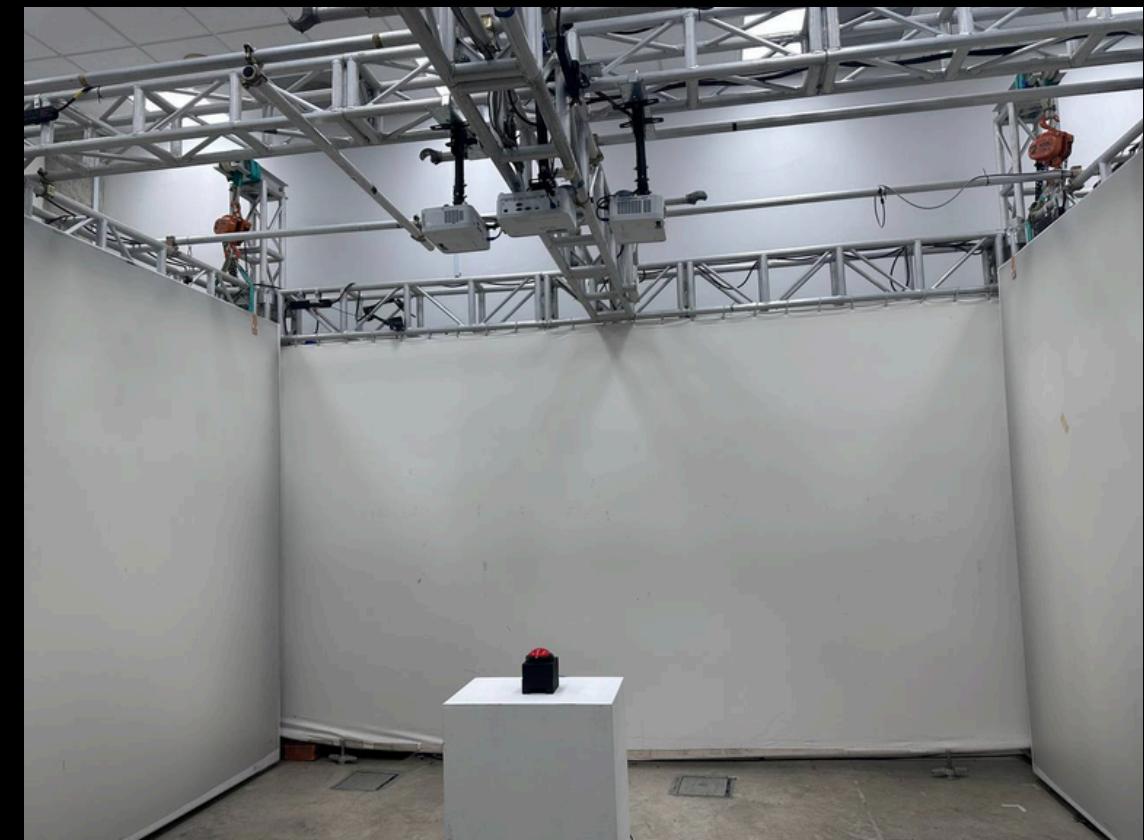
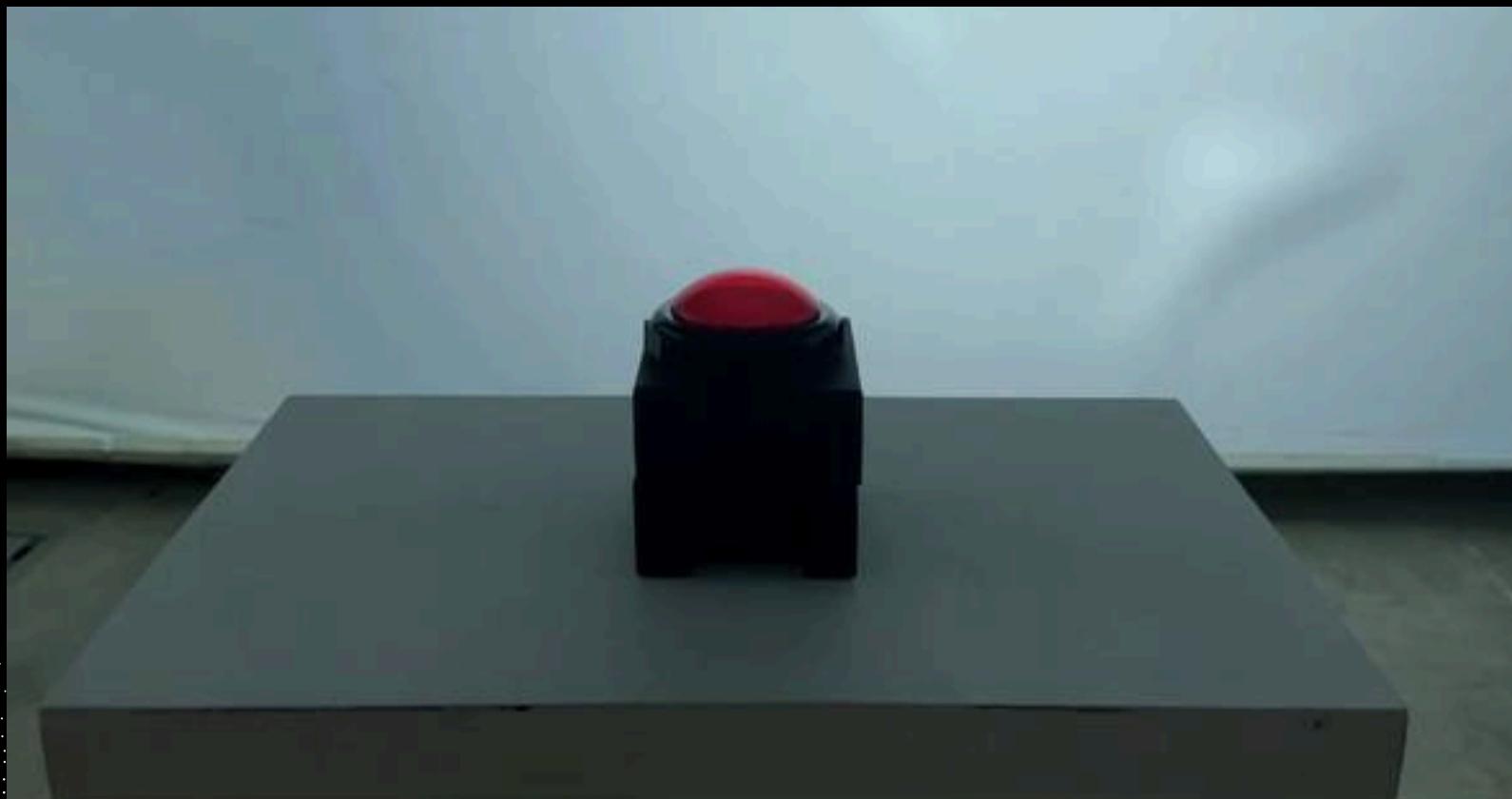


We faced some difficulties when combining the visuals as the audio does not switch with the audio. Kian peng recommended us to split the visual and audio then link the visual switch to the audio one.

PHYSICAL SPACE

Setting up in the Thrust Room

The location we used to display our work is the Truss Room. We chose it as the projectors/audio system allowed us immerse users fully.



We created a black box to hold the button, as well as conceal the Arduino and wires.

We needed a very long wire to connect the button to the PC.

Lastly, we displayed our Touchdesigner visuals on the 3 screens.

USER EXPERIENCE

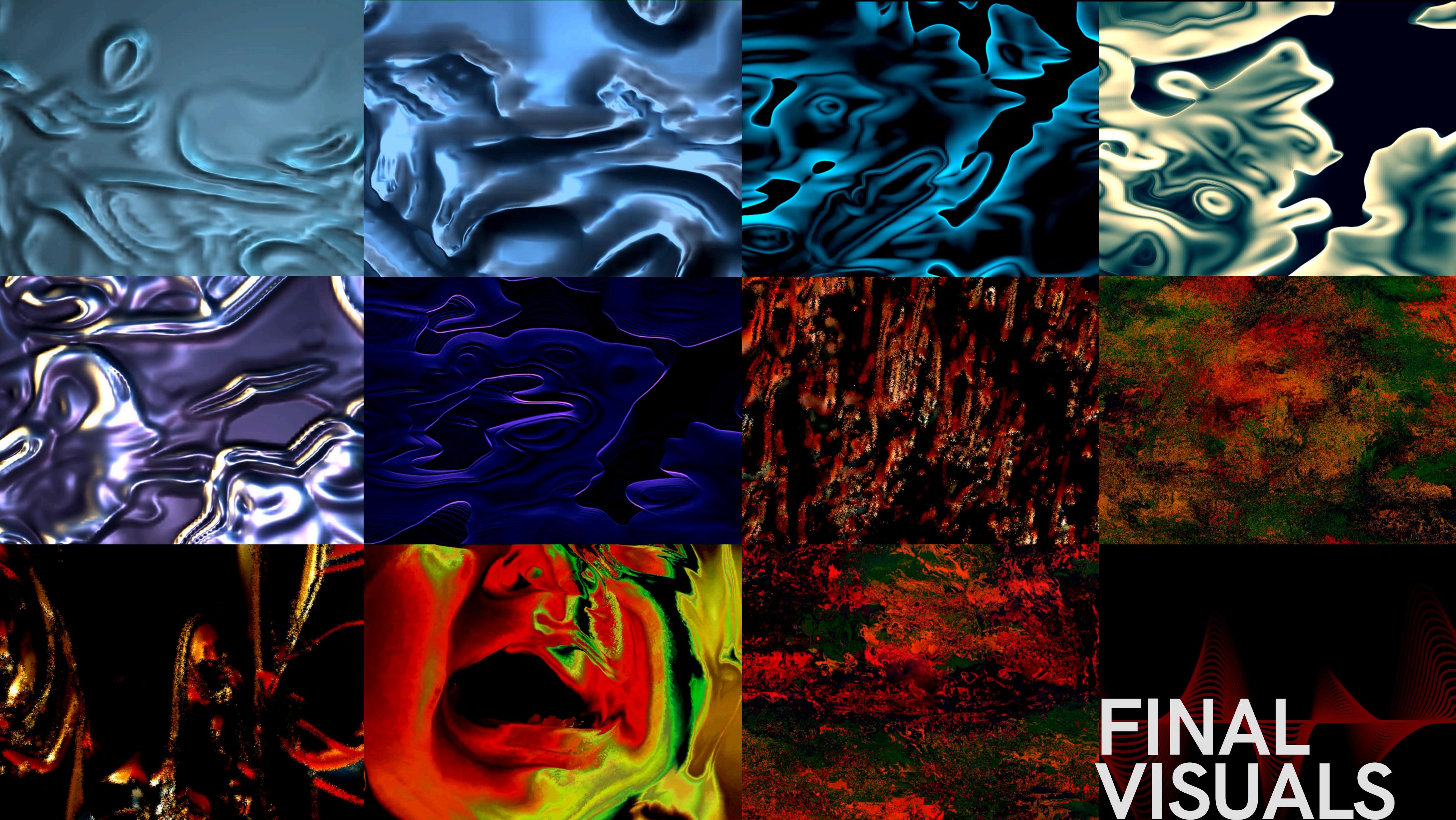
Interactive, Immersive and Psychological

Users can actively interact with the installation through the action of pressing the button.

They will be immersed through sensory elements such as audios and visuals using projection.

The user will also experience psychological distress/relief as they seek ways to stop it.



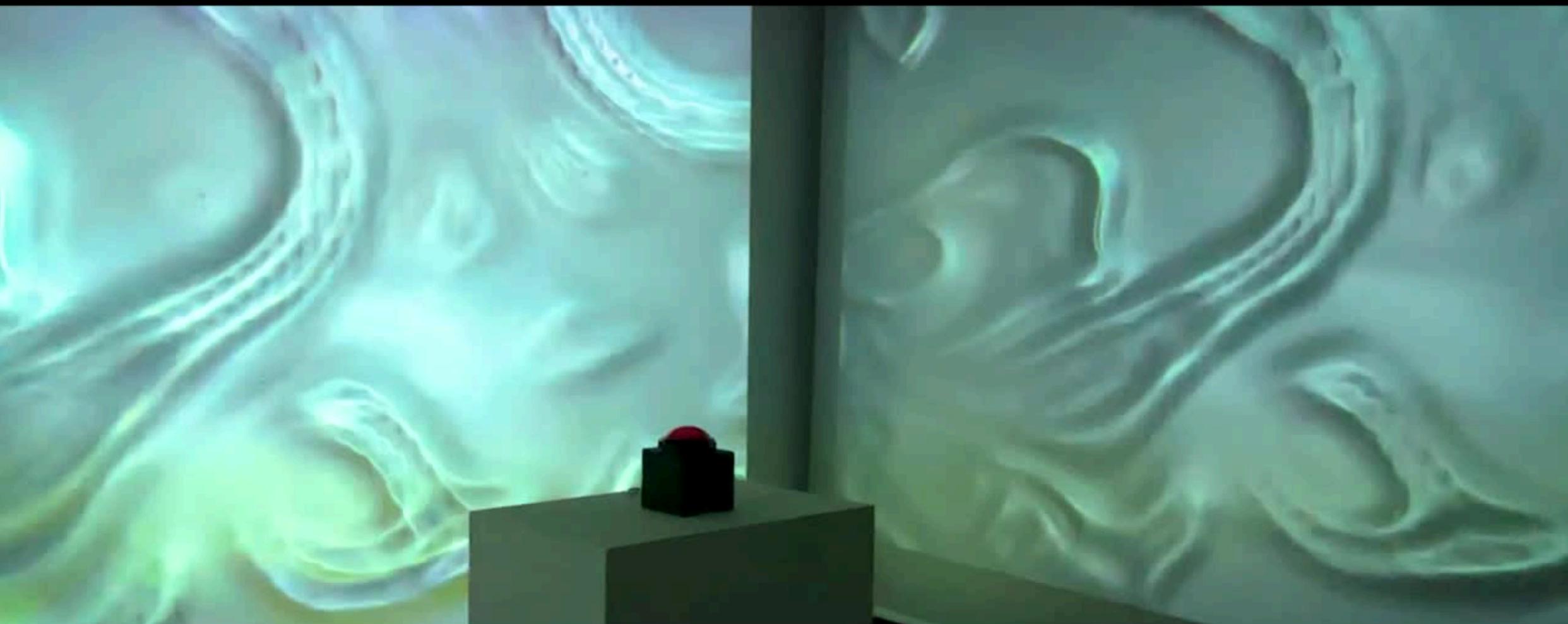


FINAL
VISUALS

FINAL VISUALS



FINAL VIDEO



TAKEAWAYS



In conclusion, we enjoyed doing this project and have learnt a lot through the entire process. It was our first time using Touchdesigner so we encountered many obstacles, but with the guidance from our lecturer Kian Peng, we managed to produce a project we are proud of. We hope to continue pushing our creative boundaries and use touchdesigner in more innovative ways.

THE END

THANK YOU FOR YOUR READING!