



Thalassophobia

-An audio-visual installation exploring the fear of the deep sea.

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DIGITAL MEDIA STUDIO PROJECT



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Presence Group

Overview

PRESENCE IS THE PSYCHOLOGICAL EXPERIENCE OF FEELING ENVELOPED WITHIN A VIRTUAL ENVIRONMENT. EXPANDING ON THIS CONCEPT, OUR GROUP CRAFTS AN INTERACTIVE, IMMERSIVE INSTALLATION TO CREATE AN AUDIO-VISUAL VIRTUAL ENVIRONMENT.

Thalassophobia is an immersive audiovisual installation delving into the fear of the deep sea. This project aims to craft an immersive environment employing Max, sensors, and surround sound techniques to fully engage audiences in the depths of this fear.

Our project has a non-linear looping format, allowing participants to shape their journey through three distinct levels of fear. Each level presents a progressive stage of Thalassophobia through visuals and sounds, from confronting sea monsters to grappling with the fear of the unknown.

Participants actively engage with sensors and a level controller to navigate these levels, offering a dynamic and interactive experience. The journey starts with a general understanding of sea monsters. It progresses to explore physical and mental responses, abstract fears, and finally, a peaceful reflection on the depths of oceanic fears.

This flexible structure enables participants to choose their starting and ending points, enhancing personalization and creativity in their exploration of thalassophobia. Through immersive storytelling and dynamic audiovisual elements, Thalassophobia aims to evoke a range of emotions and sensations, inviting participants to engage deeply with their fears in a unique and interactive manner.

The Inspirations of Design

The concept of exploring thalassophobia draws inspiration from classic sea-based horror movies like *Jaws*, *Deep Blue Sea*, and *Open Water*. Our project consists of four distinct layers, each unfolding gradually through immersive visuals and a carefully crafted soundscape. As participants embark on this journey, they'll uncover various depths of Thalassophobia, intensifying the experience as they delve deeper.

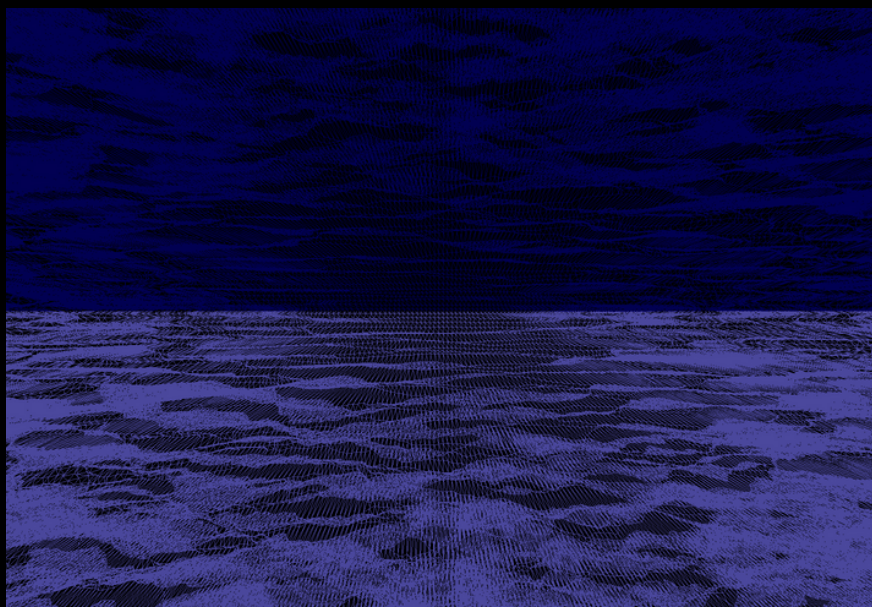
The visuals present experimental concept illustrations showcasing four layers of emotional expression generated using various modes within Draw Mode, primarily facilitated by Max Jitter. The illustrations depict distinct emotional states conveyed through different modes, offering insights into the nuanced ways emotions can be portrayed visually. Through these experimental designs, we explore the potential of integrating technology to enhance emotional expression and communication in digital art.

Visuals

Four Layers of Emotional Expression in Draw_Mode

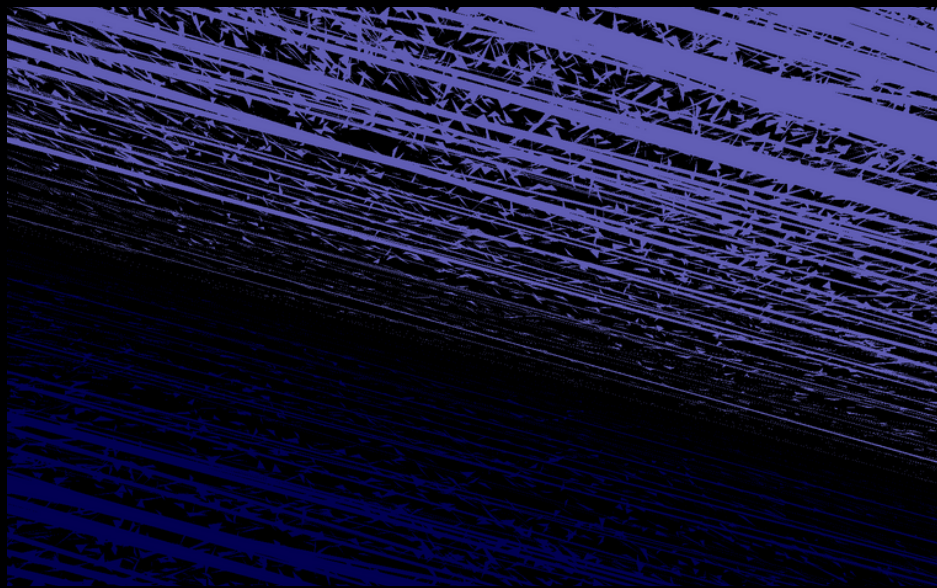
01

Sea Creature



To hear the sound of sea monsters approaching.

The perspective in this conceptual illustration bears a striking resemblance to an approaching sea monster, presented using the tri_grid mode in Max.



02

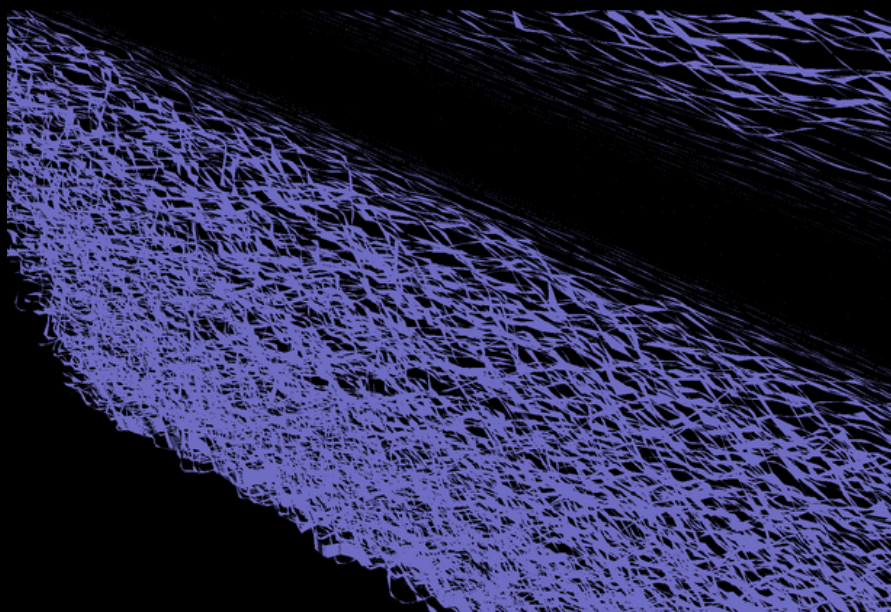
Chaotic

The sense of chaotic and confusion caused by fear of the ocean.

In this conceptual illustration, there are triangular fragments and thick, flickering lines, conveying a sense of chaos, disorder, and distress. This is presented using the triangles_adjacency mode in Max.

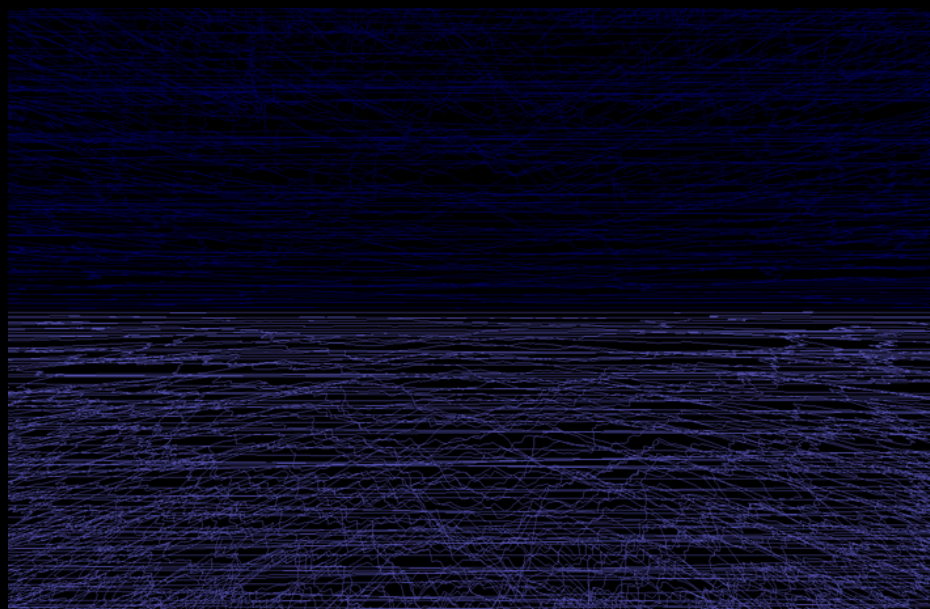
03

Unknown



The third is the fear of escaping into the unknown after chaos.

Building upon the chaos of the previous layer, this level introduces even more wave-like lines of uncertainty, engulfing everything in an endless sea of blue. This was formed using the triangles_strip_adjacency mode in Max.



04

Peace

The peace and calm is left to people's imagination.

During moments of calm, sparse lines are utilized, bringing everything back to the initial silence. Perhaps fear has consumed them, or perhaps they have been saved.

This was created using the line_strip mode in Max.



Sound Design

Drawing inspiration from both modern research and ancient myths, we have crafted sound effects that captures the essence of thalassophobia.

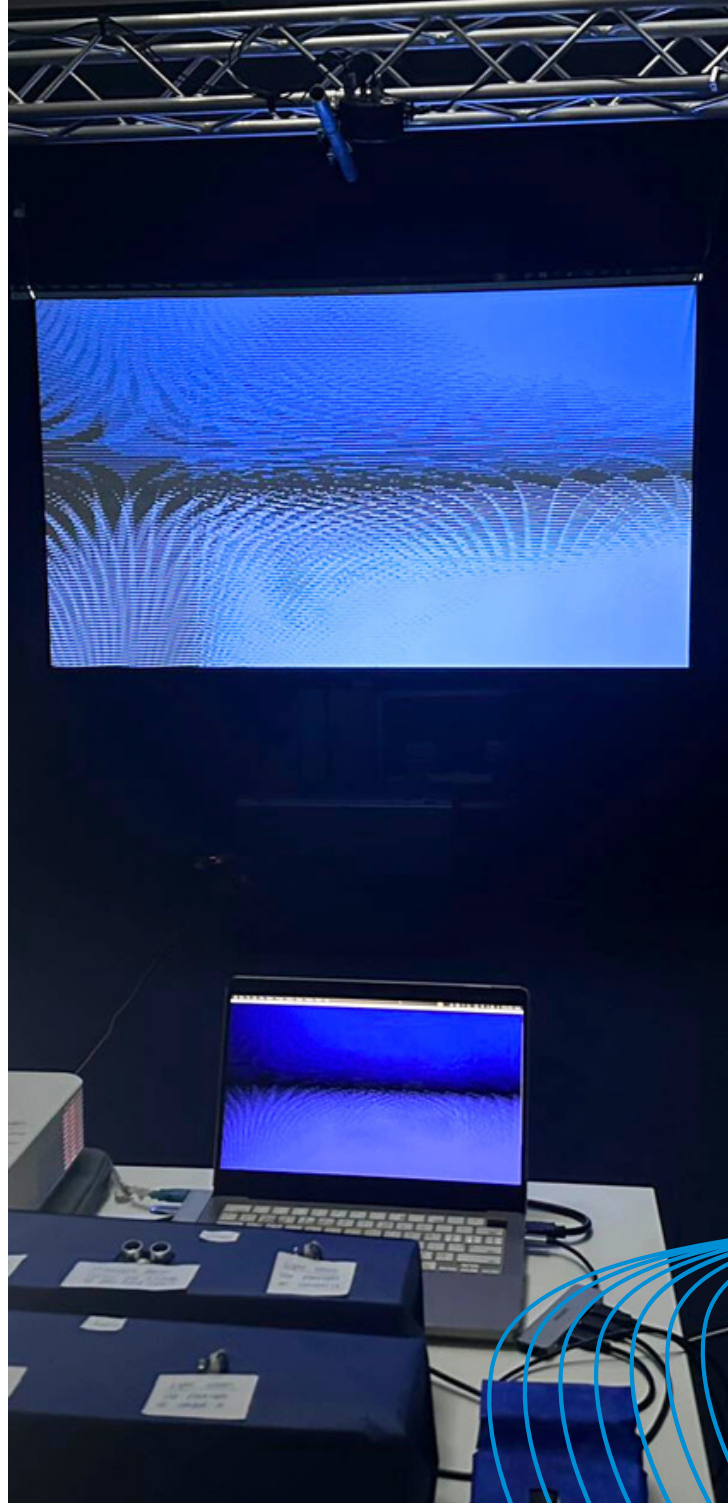
LAYER 1: SEA MONSTERS

The connection between thalassophobia and mythology is notable. Ancient and contemporary myths surrounding deep-sea monsters have left a lasting impact on the collective consciousness, influencing perceptions and fears linked to the ocean's depths and shaping individuals' experiences of thalassophobia.

This project took inspiration from various sea monsters from ancient myths to craft sound effects, shaping the fear of deep sea from a starting point. The sea monsters include, but not limited to, the Kraken, Siren, Hyra, Leviatan, and the Loch Ness Monster.

LAYER 2: CHAOS

The sounds in this layer are influenced by studies examining the physical and mental symptoms linked to thalassophobia. The common sensations are dizziness and faintness when people experience thalassophobia. This layer has whooshes and reverses sound effects to evoke audiences' chaotic feelings, conveying the experience of thalassophobia. Additionally, this layer introduces high-frequency sounds to mimic the effects of tinnitus, further contributing to the sense of disorientation and dizziness.




LAYER 3: UNKNOWN

This layer confronts the heart of thalassophobia: the fear of the great unknown. This project creates hollow soundscapes and reverberations, inviting participants to explore the depths of their fears and confront the mysteries hidden within.

LAYER 4: CALMNESS

In this layer, an immersive soundscape filled with soft, relaxed, organic sounds is crafted. Audiences can picture themselves surrounded by the gentle rustle of wind. The soothing tones of chimes, and the echoing tranquillity of a cave with water sounds, are used to create this sense of calmness.



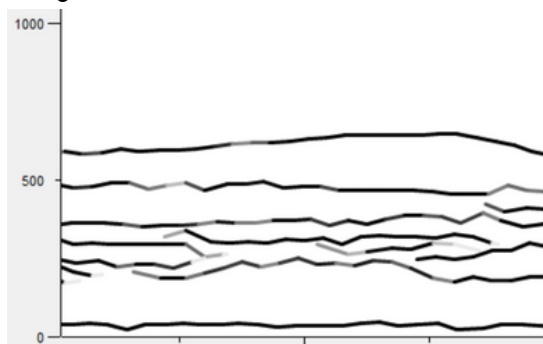
Music Composition

EACH OF THE FOUR SECTIONS EACH HAS A DIFFERENT MUSICAL APPROACH. THESE ALL HAVE DISTINCT AESTHETIC IMPLICATIONS AS TO MATCH EACH THEME.

Layer 1: the sea creatures.

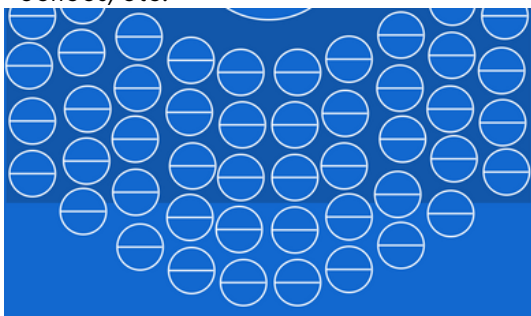
This section chords are influenced by the French composer Gerard Grisey's harmonic approach. The chords based on the acoustic qualities of both the sea creature sound effects and whalesong.

This i bring out the inner harmonies of the sea creatures, both real and imagined.



Layer 2: chaos.

Short, chopped sections of a free improvisation with the repeater orchestra using a laptop mic. This created unpredictable sounds with chaotic feedback, as there are many layers of chaos involved. This includes improvisation, feedback, random echoes, etc.



Layer 4: calmness

Similar to layer 1, however, using more consonant harmony found in the acoustics. This creates a diatonic wash more representative of the calmness of the sea.

Layer 3: unknown.

Uses dense clusters containing pitches outwith the 12-tone equal temperament. These abstract sounds are ones that most people don't hear in their daily musical lives. This unfamiliarity attempts to evokes an unknown quality.

The unified ideas.

Each of these sounds are centered around the note D, creating an 'implied drone' throughout the instillation. These sounds are also unified by their integration with the sound design. Distinction between 'sound effect' and 'musical element' is blurred, forming a unified sound atmosphere.

Interaction Setting

The theme of this project is the presence of thalassophobia, and the interactive elements in the project is a vital part in forming this theme. On this basis, the form of interaction that we aimed to achieve is one where users can feel the changes in both sound and visuals based on the interaction between the body and the sensors. Sound changes in the four-sided speakers and the visuals change in the projected patterns.

HARDWARE

- Arduino Uno
- Grove Sensors
- MIDI Controller

1. Ultrasonic sensor



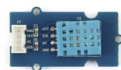
Controlling the generated value based on the distance between the object and it. (Controlled by moving hands closer or further away from it)

2. Light sensor



Changing the generated value based on the different brightness received. (Controlled by the use of a flashlight/phone torch)

3. Temperature&Humidity sensor



Generating received temperature and humidity values. (Controlled by blowing air, or covering with hands)

4. MIDI Controller



As a button for switching layers. (Press button)



SOFTWARE



• Arduino

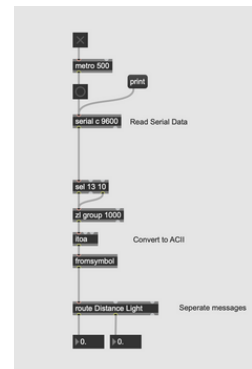
Processing the information received by the sensors connected to the Uno.

• Max

Receiving the data in the Arduino and connecting it to the Max patch for the audio and visual parts.

```

1 // Arduino Uno 381
2
3 #include "Ultrasonic.h"
4
5 Ultrasonic ultrasonic(8);
6
7 const int pinLight2 = A1;
8
9 void setup() {
10 // Use the serial monitor to display readings.
11 Serial.begin(9600);
12 }
13
14 void loop() {
15 // Read distance.
16 float rangeOfCentimeters = ultrasonic.MeasureInCentimeters();
17
18 // Read light.
19 float sensorValue2 = analogRead(pinLight2);
20
21 // Send data to serial monitor for display.
22 Serial.println("SoundLight " + String(sensorValue2));
23 Serial.println("SoundDistance " + String(rangeOfCentimeters));
24
25 // Allow other tasks to execute.
26 yield();
27 }
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INTERACTING

Our installation uses 2 ultrasonic sensors, 2 light sensors, 1 temperature&humidity sensor and 1 MIDI Controller.

• Control parameter correspondence

- ultrasonic 1: X-axis of audio panner
- light 1: Y-axis of audio panner
- ultrasonic 2: Pattern types
- light 2: Pattern complexity
- temperature: Master sound level
- humidity: Audio filters
- MIDI controller: Layers

Venue and Setup

AESTHETIC

To capture the essence of the deep sea, paper in dark blue is used to decorate the equipment, mirroring the ocean's mysterious depths. The instructions on the designed boxes next to each sensor is there to guide participants through the project.

EQUIPMENT

The audio-visual installation utilises surround sound techniques. The used equipment includes:

- 4 Genelec 1030a speakers
- 1 Faderfox DS3
- 1 HD NEC V302H projector
- 1 Fireface UCX
- 1 projection screen
- 5 sensors

VENUE

The project was carefully arranged in the Atrium to ensure an engaging and safe experience. Ample space allows for audience movement, with chairs strategically placed to avoid obstructing projections or cables. Defined pathways guide spectators through the installation, enhancing immersion. Although natural light from a window posed a challenge, there were plans to use a large black cloth to create a fully darkened, deep-sea-like atmosphere.



Digital Media Studio Project

