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CART353

AEQUOR

Oceanic/sea data that create a visual poetic adventure through sound and light.

How the project will work

The user will be able to control an oceanic landscape that makes him interact and feel the change of our environment. He will make different hand movements in which the visuals and sound react to the detection of the hand and finger motions. The user will create his own visual adventure through a generated landscape. The landscape will be randomly generated from a sea data algorithm that will create a 3D generative art piece. The sound will most likely be ambient and drone music with sound effects that are simulating the viewer's senses. I will need to record sound and create my own looping soundscape. He will experience the bottom of the sea in which the user will be able to adventure and control the 3D landscape.

The audiovisual adventure will be generated and moving even if no one is interacting with the visuals and sound. The participant can grow, compress, deform and twist (more interactive motions to be created with different experimentations throughout the project) the landscape generated in front of him. It will make the user create his own oceanic landscape in which he can visualize and experience.

For the final output, the visual landscape will be projected on glass with speakers that synchronized sound with visuals. This type of presentation will increase the experience of the user because glass is transparent that will create an interesting simulated space.

The goal of this experience is to allow the user interact and stimulate his senses. As well, the visuals, sound and interaction will be mainly focused to immerse the user into deep sea. It will allow the person experience life under water.

Subject Research

One of the direst impacts of anthropogenic climate change is a rise in the global sea level caused by the melting of glaciers and land-based ice caps, as well as a smaller increase from expansion due to the higher temperature of the water itself. Unlike some other predicted effects of climate change, this impact has already been observed for some time. Indeed, not only is there evidence that sea levels are rising; there is also evidence both that the rate of sea level rise has been increasing in recent years and that it will continue to increase.

After reading this text on one of the websites through my research, I was interested in creating an interactive audiovisual experience for a user to control his experience with a landscape that is at the bottom of the sea. This project will make the user perceive the life that occurs in deep water.

<http://climate.org/sea-level-rise-risk-and-resilience-in-coastal-cities/>

<http://climate.nasa.gov/vital-signs/sea-level/>

<https://www.theguardian.com/environment/2015/jul/10/scientists-predict-huge-sea-level-rise-even-if-we-limit-climate-change>

https://en.wikipedia.org/wiki/Deep_sea

Inspiration

Ryoji Ikeda - <http://www.ryojiikeda.com/project/datamatics/>

-This artist is my first inspiration related to Data art. His aesthetic and approach to audio visual art is a way I have been interested on creating artworks related to this subject.

Maotik - <http://www.maotik.com>

-This artist is a performer(VJ) that created generative art with multiple visualizations of his concepts. His work inspires me on the visual aspect that I can generate a randomized 3D landscape just as he does in his real-time performances.

Joanie Lemerrier - <http://joanielemercier.com/landforms/> , <http://joanielemercier.com/lightscapes/>

How to experiment with a landscape: <https://www.youtube.com/watch?v=XTVBdWnsxk0>

-Landforms and Lightscapes are landscapes that I found with my research. I was, right away, inspired by the simplistic, but, as well, complex way of creating a landscape. Joanie Lemerrier's project will serve me as a guidance to my creative aspect of the visual composition of my 3D generated landscape.

<https://vimeo.com/70232542>

-In this video, Luan Chyi creates a generative landscape that I am inspired by.

http://www.creativeapplications.net/openframeworks/no_thing/

-NO_THING was created by Milla & Partners. They are an artistic studio that create interactive installations across the world. This project is an interactive installation in which makes the user control the visuals and create his own experience. There is multiple interesting interactions that I could inspire myself for the hand movements I would create for my project.

Memo Akten - <http://www.memo.tv/roots/>

-This project, made by Memo Akten, is an interesting aspect of how to incorporate interaction and generative art together. It will allow me to inspire and, as well, understand a way how to create generative art based on the interaction of the user and data.

Memo Akten - <http://www.memo.tv/waves-2014/> , <http://www.memo.tv/waves-2015/>

-This project, Waves by Memo Akten, inspired me on how to control the movement of the visual that will be created. Different aspects of motion could be created, such as, slow and fast motions, attractive and repulsive motions, and more. Basically, unlimited possibilities could be created through the experimentation and production of the visuals.

Adrien M & Claire B - <https://vimeo.com/71216887> , <http://www.am-cb.net>

-This artist duo created an interactive experimentation with the LEAP Motion and inspired me to use this type of technology for my own project. I intend to make something similar as my final output.

Code Sources

Nature of Code – Daniel Shiffman

-I will be able to simulate the movements of my landscape with this book.

3D Terrain – Daniel Shiffman

<https://www.youtube.com/watch?v=IKB1hWWedMk>

<https://www.youtube.com/watch?v=ELpZW62HGVs>

Minim Library

<http://code.compartmental.net/minim/>

Leap Motion Library

<https://www.leapmotion.com>

Project Scope

This project scope is my ideal brake down to arrive at my expected result. I am not sure if I will be able to accomplish everything (mostly related to the interaction intended) that I am planning in here, but I have multiple possibilities as final outputs.

Step 1: Create a randomized landscape that has generative motion effects. In this part, it is important to create a visually stimulating landscape with interesting movements in which the user could control the visuals later.

Ex: <https://vimeo.com/70232542>, <http://joanielemercier.com/landforms/>,
<https://www.youtube.com/watch?v=XTVBdWnsxk0>

Step 2: Integrate the Oceanic/Sea Data with the landscape. Replace the randomized/generative values of the landscape by the imported data. This step will dictate the movements/oscillations of the landscape related to the data. Constrain the data to a level where we can see the transformations of the landscape. Experiment with the data values to arrive at different motion effects.

Step 3: Create an interactive landscape with motions (grow, compress, deform, twist, and more) related to the mouse and/or keyboard. This step will allow me to interact with the landscape before importing and testing the LEAP Motion that will work with the user's hands. Experiment multiple interaction possible.

Step 4: Test the LEAP Motion and Integrate it with the visual landscape. Replace the mouse/keyboard interactions to the hand motions for the user. Experiment with different type of hand movements that could be interesting for the user.

Step 5: Integrate pre-recorded and edited sound that will generate one part of the randomized/generative motions of the landscape. The sound will be incorporated with the data already synchronized with the visuals. There will be two components (sound and data) that create the landscape. This piece will turn out to be an audiovisual art piece with multiple interactions that the user can control and feel the landscape.

Step 6: Create user interface that consists of a menu and instructions for the interaction. This type of interface will guide the user to a valuable experience with the project.

-Last step (step 5 - sound) can be placed anywhere in this project scope. I am focused on the landscape, data and interaction since those aspect interest me the most. The sound can be included anytime between these steps or it can replace the interaction (LEAP Motion) if I am not able to make it work, the way I intended to produce this project.

Final Output

The final version of my project would be an interactive projection on glass that the user will be able to control a sea landscape with their hands. The landscape will be constantly moving with generated sea data and sound, but the user will be able to grasp and interact with the transparent landscape.

Example of my intended presentation

Adrien M & Claire B

<https://vimeo.com/71216887>