Sound Art Practice:

Below the Surface

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I. Tech Rider

**Overview of Project:**

This project aims to observe and experience the interaction of sound in the open air and below water. By changing the distance between sound playing underwater and the distance of sound playing above water, we can further understand how the sound responds to the pressure of water versus the lack of this pressure above. By continuing to move around these distances of the driver with respect to the microphone pickup underwater and the same relationship above, we can move forward with a greater understanding of sound’s relationship with its surrounding environment.

**Materials Provided by Artist:**

- Aquatic transducer
- Aquatic piezo pickup
- Good above water microphone (one that is very directional; shotgun mic)
- Above water speaker (horn; compression driver)
- Rope / wire for running through pulley system
- Pulley for motor system

**Materials Provided by Exhibitor:**

- 25 yard body of water (swimming pool)

**Diagram for Project**
II. Curator Check-Ins

Check-in #1

During this phase of my project, it was important to meet with Professor Topel and our Teaching Assistance Josiah to make sure that I fleshed out all of the details for my project. During one of the check-ins, I met with Professor Topel to discuss how I would go about accomplishing this project from a physical set-up standpoint. We came to the conclusion that it would be smart to have two sturdy poles on either side to connect microphones and speakers to. It is, however, important that I have structures that are strong enough to sustain the weight of the ropes and wiring hanging across the pool. Additionally, the material that I will use is also equally important – will I use wood, metal, or plastic? Together, we decided that wooden structures shaped in the diagram below will work well:

![Diagram of wooden structures](image)

In addition to our conversation about how I will execute the piece, it was also important to talk about what I want to accomplish conceptually – what I want the piece to mean. To me, after giving it lots of thought, I decided that I want the piece to flow from something that has been fundamental in my life: swimming. As a water polo player, swimming is vital for staying in shape and maintaining a competitive edge, and sometimes you can do long swim sets for over thirty minutes straight. During these moments, you retreat into yourself – you become immersed in the sound of breathing in and out through the bubbles of the water. The sound of the water consumes you, and the sounds and noises above water vanish – in this moment, you are with yourself and your surroundings in the water and everything seems to slow down.
After I mentioned this idea to Professor Topel, he agreed that this piece has the potential to capture this understanding, so we both agreed to proceed with the project in this direction.

Check-In #2

After a little over a week, I met with Josiah and Professor Topel again. In this discussion, I voiced a concern I had over executing the project in full after setting it up in the long hallway outside of our classroom. I was successful in creating the entire pulley system and wooden structure set-up. I did, however, note that the project was convoluted and would require many individuals helping to make it work – a result that would be very hands on and might detract from the overall user experience and interactivity of the piece. In short, we all agreed that moving down a path to simplify would be smart, so long as it does not compromise my objective for the piece.

In doing so, Professor Topel and I came to a new set-up of the project that involved only one wooden structure, one pulley and speaker cable – much simpler in execution. Overall, the piece did not deviate much from my initial idea, only in that I would not have the same feedback loop that I had discussed in my initial plans. Instead, I would swim with a microphone (underwater piezo) attached to me and I would play breathing underwater – similar to the breathing that I hear as I swim long distances. In this way, I would play the recording into a speaker above water, giving the listeners a chance to hear what it really sounds like to be swimming underwater.

After having these conversations, I was excited to execute them in the pool. The last step was to reserve pool time with Michael – one of my peers in the class who also needed to work on his project in the pool. Together we found a time that worked and finalized our projects for the date.
Setting Up the Project

Wiring to connect the underwater piezo, 25-yard speaker cable, and audio input for the above water speaker.

The wooden stand to release the long speaker cable (white) along with two 70-pound sand bags to weight it down and prevent it from falling into the water.