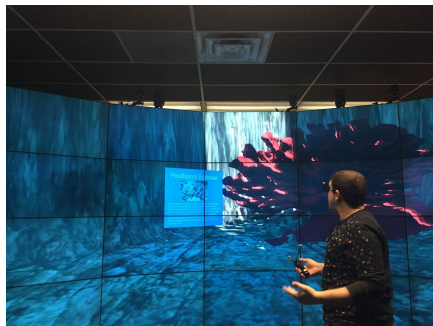


Coral in Color is a virtual underwater exploration through CAVE2. The virtual reality display tracks the user in real time to allow navigation through a maze of glowing coral reefs. As the user nears a coral, the color fades as it bleaches only regaining its vibrant color when the user steps further away. The interaction between user and coral represents the massive coral bleachings across the world due to ocean pollution and climate change caused by humans. Rising water temperatures has caused many of the earth's largest coral reefs to lose their color, this project hopes to give the user a sense of wonder for the vibrant color of corals and the various unique species by leading them through a maze of corals, but also make the user think about what happens when humans interact with the coral. Although pollution and climate change were not intentional, the consequences are being seen across the world and representing a more direct relationship can help to portray the costs of modern society. At the current rate of climate change and lack of action, we might live in a world where coral and humans cannot both exist, and many don't realize the complex relationship of their ecosystem that makes humans rely on coral reefs. The fishing industry depends on coral reefs because many fish spawn there and juvenile fish spend time there before making their way to the open sea. The Great Barrier Reef generates more than 1.5 billion dollars every year for the Australian economy, from fishing and tourism. Aside from the immediate environmental changes, there are economical concerns that people should be concerned about because there is an industry that is dependant.



The development of the process was done in a total of three key phases. The first phase was the development of the environment where all the corals are going to be placed. Questions came up such as whether or not we would like to make it underwater themed or not and regarding how do we come up with the underwater effects when we decided on it. The following phase dealt with what sort of interaction do we want to implement for this project. The team decided on adding some facts about specific corals we used and some general facts for corals in a broader sense. The last phase involved taking a step back and making the scene more abstract in a sense. The decision made was to avoid using detailed textures and to use different colors for each coral and have the colors transition from the main color we set such as red and have it move fade out to a white color. The white color is essential to represent that the corals are bleached and they have essentially died. We also decided once the user moves away from the coral, there is a chance that the coral would recover and gain back its original color.