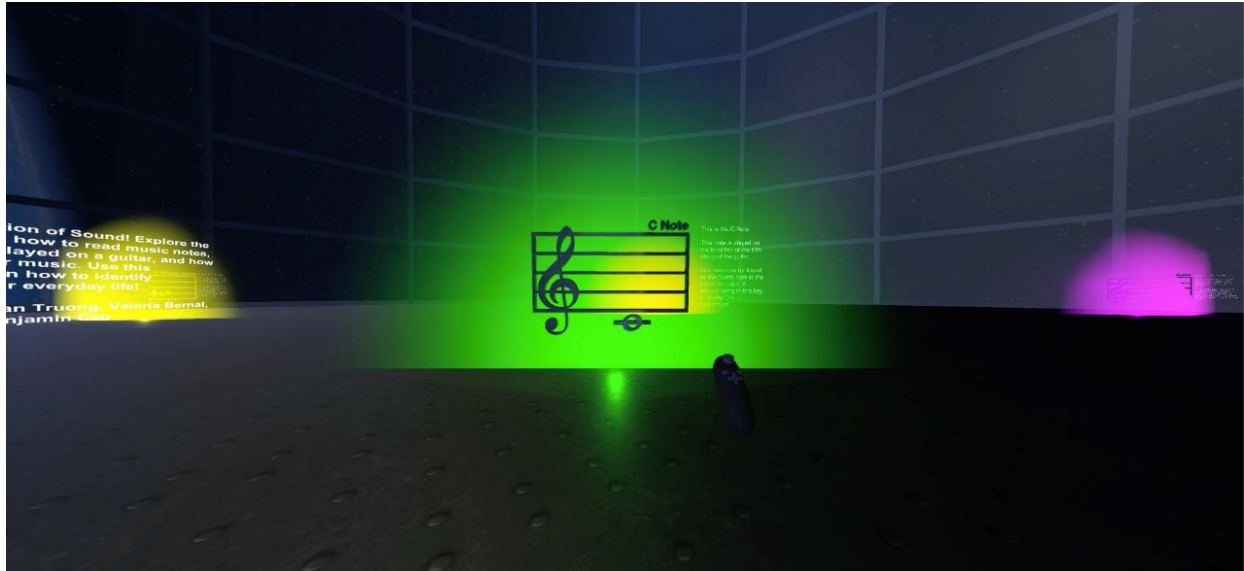


SOUNDSCAPE



Soundscape is an interactive environment designed for use as a sensory playground for sound. The project is optimized for use with the CAVE2, a three-dimensional viewing space consisting of multiple high-definition LCD screens. The project transports an individual into a low-light virtual reality arena accompanied by a background view of outer space. The light in the arena is low except for bursts of color that highlight specific notes at a time. This allows the user to deeply immerse themselves in the sounds themselves, detracting focus from overstimulating colors and features that could otherwise be distracting. In the arena, the user is surrounded by multiple three-dimensional notes all with their own color and accompanying sound. All notes turn to face the user as they walk around the arena.



Soundscape gives individuals the opportunity to explore music notes in a playground-like setting: seeing the notes as they would appear on sheet paper, touching the notes and hearing the accompanying sound, and following multi-colored lights that dynamically transport in between notes. An article posted by The Economist stated that researchers at the University of Auckland performed research to determine whether an augmented-reality experience designed for to teach notes could improve the learning experience for beginner piano students, which resulted in unanimous positive feedback. Marty Schwartz, a guitarist, discussed the explosion of Guitar Hero, noting that the success of the game can be attributed to the ability to interact with notes and sound. This indicates that there is value in the exploration of music and sound through immersive technologies.

Valeria Bernal created the objects and sound clips associated with the notes, along with the captions that appeared next to each note. Darmawan Truong created the environment and arena overlooking outer space. Both Valeria and Darmawan created a script allowing a sound to play upon a user's collision with the note, and a change in color to the note. Lubna created scripts that allowed the sounds to repeat in a loop upon interaction and fade in and out upon approach, which was not used in the final version of the project. Benjamin Cao created the scripts that enabled the CAVE2 controller to work effectively and allowed the colored spheres to travel from note to note, along with the added functionality of the notes turning to face the user regardless of user position.