

Supernova

The Project and Partnership

For my final project, I collaborated with Haley Tatalovich, who has made some very visually appealing projects in the past. We wanted to create something that was obviously nice to look at as well as something that was multifaceted and had depth. I settled on the name “Supernova” as the sculpture at its peak represents an image similar to that of a dying star, exploding brilliantly and leaving behind a husk.

We came to the consensus of “upgrading” my first project, a digital sculpture that reacts to sound. However, this time we wanted to have something that reacted more viciously, for lack of a better term, and something that played with scale. To solve the latter problem, we chose to have this piece projected onto a wall.

The Sculpture

The sculpture consists of many rings, and reflects the loudness of the room it’s in. It does this by starting as nothing—no sound makes for no sculpture. At the notice of amplitude, two tiny ghostly-white rings will emerge, as well as a few others that are more pastel blue, depending of course on how loud it is. A tiny box sporadically moves around the center of the structure, and this too is spurred into being by the presence of noise. This box was inspired by the notion of creating a break in

the flow of your artwork, generating a new flow in its stead. This box gets lost when the structure is firing off, but gives the viewer something to settle on when it’s quiet.

The ghostly rings remain after the sound dies down, and represent the loudest it’s been. Once a certain threshold has been passed, the rings will be a sizeable diameter of 30 units, of which are determined by the amplitude reading times 1000 and floored into an even number. At this point, a red nucleus is born into the center of the rings. The rings now spawn as “speaker rings,” which project gradually smaller rings that mimic the coils of a speaker. These coils are blue as well, up until the next threshold of 50 units is reached, at which point the coils become red like the center. The nucleus then also creates a small series of rings in its core.

Regardless of the sound, in a variable sovereign of the amplitude recording, the entire sculpture always moves to the left and backwards along the z-axis, away from the viewer.

Haley and I met in a coffee shop during a Sunday afternoon and forged almost all the code within the hour. Our first iteration didn’t have the ghost rings to represent the sculpture in the absence of sound, and they were always white speaker rings. Upon playing with it further, we colored it and added the red center ball. In the final iteration, we added the different tiers of highest sound recorded as well as the movement and altered the rotation values for the Y-axis, so it spins a little faster than the Z and X.

The Limitations and Dropped Features

There were a few things we wanted to add that didn't quite make it. Mobile device compatibility was one we nixed because it didn't end up complying with our final vision of grandiose scale. The biggest missed addition was on Haley's behalf.

We noticed how much more of the sculpture you get to see when it drifted away far enough, so Haley and I mused on the idea of adding something like her second project of the semester: the orbiting cylinders. She wanted to contribute this, such that when the structure began to drift away you could see more structures revolving around the supernova-esque center. However, her project was done in Processing, and she had issues getting it to communicate with p5, or at least getting it to convert into the same language. With the deadline of the project approaching and frustration levels running high, we scrapped that idea.

The project requires a projector and microphone for the full experience. Without these, it's still able to be viewed well enough. Our vision requires the project be immersive and that the viewer may take away something from it all.

The Application and Purpose

The piece lends itself to interpretation and it may be different for everyone. Personally, I enjoy how the sculpture is literally born from sound and then grows up into an

enormous, visually captivating structure that you get to see more of as it floats away.

I anticipate viewers to explore how loud they can be to see how large the nova can get, kind of like a strength test for their voice.

The Future

If we were to revisit this project, we'd definitely consider adding some of the dropped features, and possibly exploring other input options. Our initial idea was to have this projected with three different projectors, such that the piece took up an entire room and that the nova would move between the screens instead of being projected thrice. This would be another consideration.

As a concept, I may enjoy exploring it further with different types of sketches and possibly applying amplitude levels to something in art or animation. The piece itself is artistic to be sure, but imagine having your voice paint a picture or cause a character to act. That would be a potential path to venture for me.

Conclusion

"Supernova" is an improved study of how a sculpture can react to its outside environment. It is literally born out of the very thing it senses. Without sound, it dies and leaves behind a ghost of itself. This project is the brainchild of Haley Tatalovich and I's combined coding and decision-making expertise.