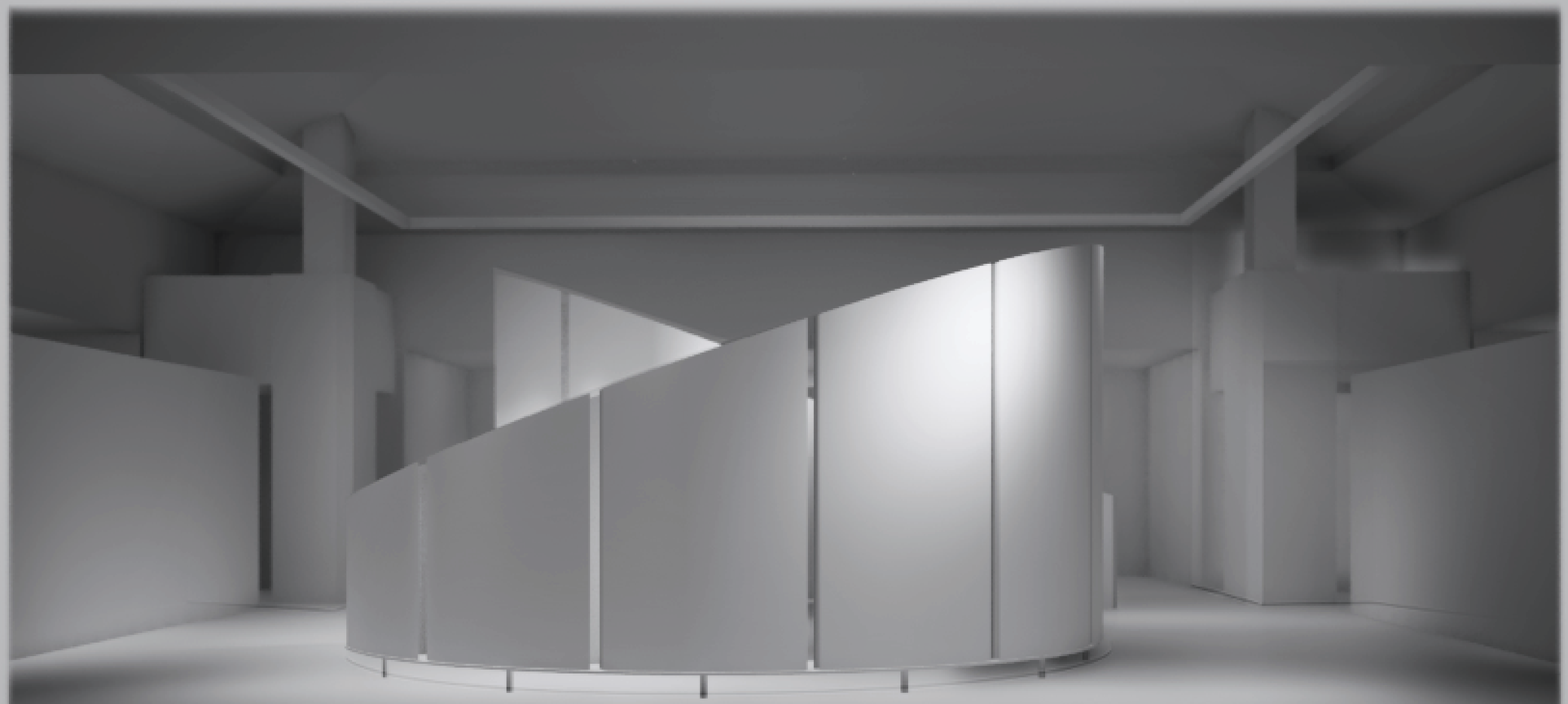


Perspectivas
Installation Compitition Entry

Salomon Alcantar

Encountering Design

In designing the Perspectivas installation, I aimed to maximize the viewer experience by crafting a dynamic space to showcase the 10-16 winning LIA projects within a $1500 budget. Instead of costly static frames, the projects are suspended with strings and pulleys, allowing for both a figural and literal sense of movement within a cloth-shrouded environment. The cloth exterior creates depth and shadow with light while simultaneously offering moments of discovery—it interactively folds in to reveal elements of the projects as viewers walk by. There within the folds are suspended acrylic sheets, etched with unique material of the projects within, a unique medium from which to view the material and a semi-translucent made window inside. Each project is displayed on its own panel, arranged along a proportional curved path that enhances the immersive feel of the space. The angular cuts of the space are not simply done for aesthetics, but rather are done in a way so that light can be shone in from the suspended spotlights above to highlight the displayed projects. Suspended by strings and pulleys, the project boards themselves gently oscillate up and down, adding a subtle and layered sense of motion which harmonizes with the proportional curve of the installation space. Viewers seeking a closer look can use a simple hand gesture to temporarily lower a project to eye level, where it will remain for closer inspection before seamlessly resuming its rhythmic movement. To ensure ease of transportation and setup, the installation's structure is designed to be both light and stable. It utilizes the minimum amount of lumber necessary to safely suspend the cloth, pulleys, and project displays. Suspending the space in cloth lightens the installation quite a bit and allows more shaping of space. Furthermore, each project display features a self-contained electronics module at the ground level containing motors, electric boards and sensors which create the interative and kinetic effects. This modular design not only protects the electronics during transport but also eliminates the need for complex rewiring during setup and breakdown, promoting efficiency and minimizing the risk of accidental damage.



Spatial
Layered
Interactive
Ephemeral
Perspectival
Human scale
Integrative

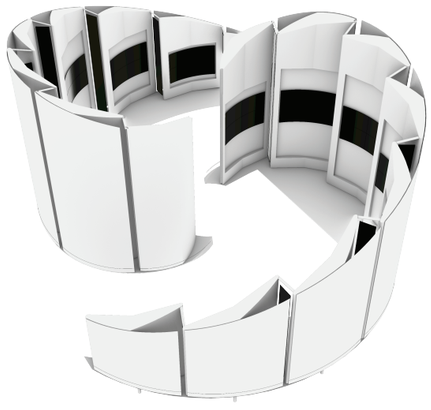


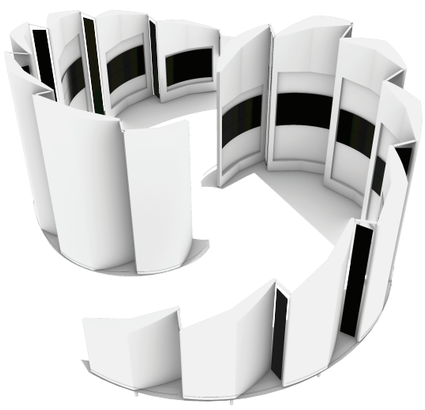
Project Displays

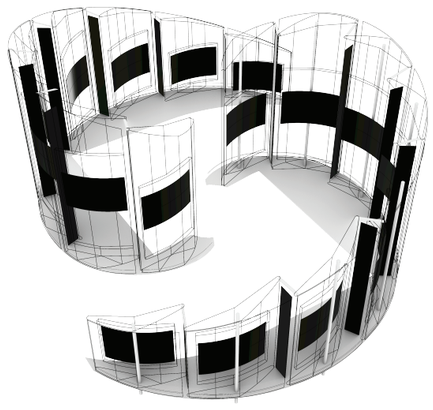
This installation displays project boards suspended by strings and pulleys, creating both kinetic, interactive and perspectival elements. For weight and stability within the installation's curved space, each board features a thin, curved weight attached to its bottom. The diagrams below illustrate the placement of these boards within the installation, which showcase etched and printed project material. Depending on the amount of winning project drawings made available, smaller boards can also be suspended from the main displays, creating additional depth and a more interesting display. This configuration, along with the placement of the vertical acrylic boards, creates a sense of discovery as viewers move through the installation, depending on the direction one walks through the space. Additionally, an interactive element enhances the vertical boards – a motor automatically retracts a section of the fabric shroud, revealing the acrylic etchings as viewers approach on the outside. This encourages people to explore offers an interactive experience with the installation an displayed works from an outside perspective as well as the inside.

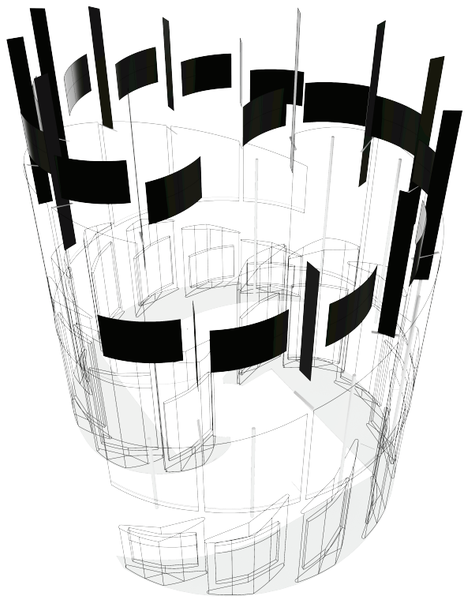








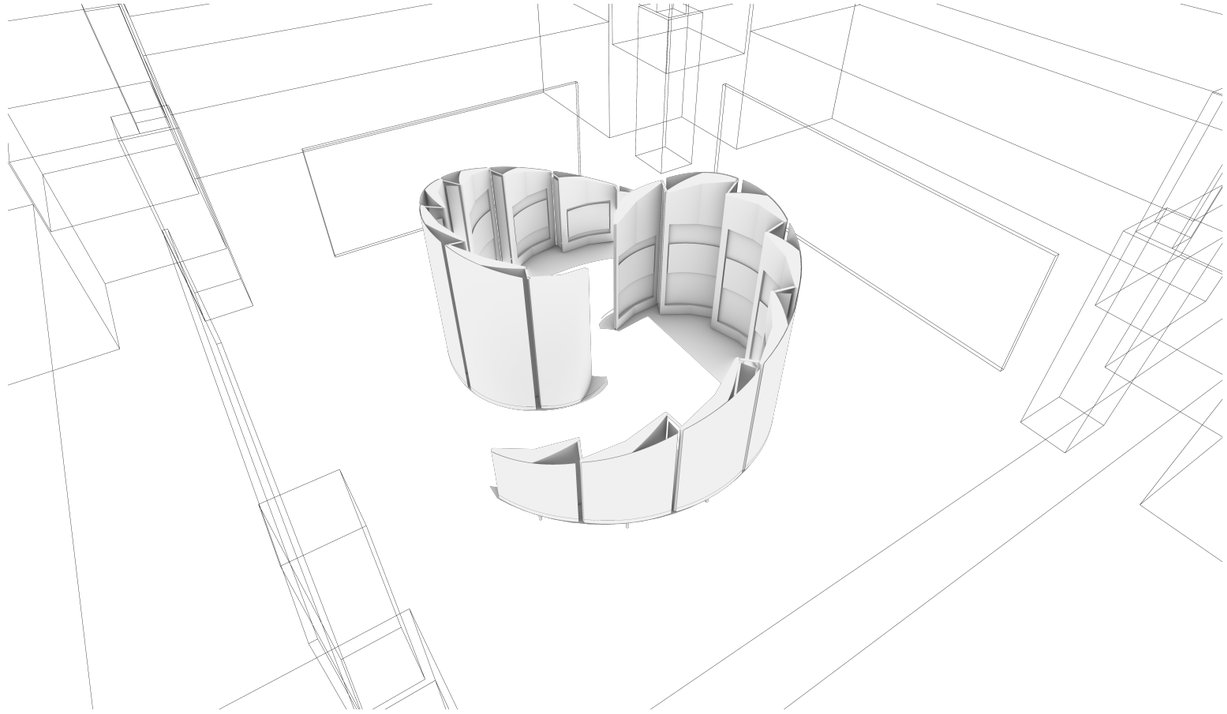




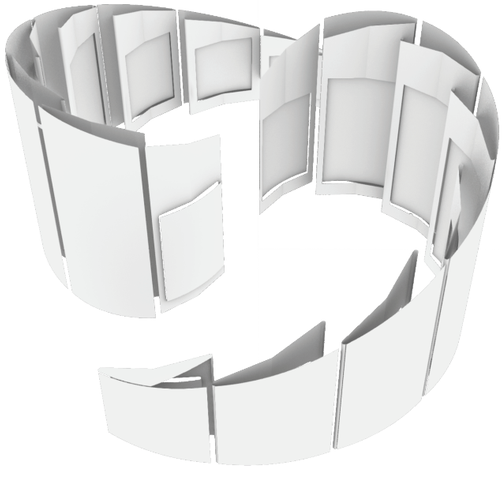
Materials and Structure

For this installation, primary materials include thick opaque fabric, 22/32” smooth-finish plywood, galvanized steel fence posts, and 1/16” acrylic sheets. Here's how each contributes to the design:

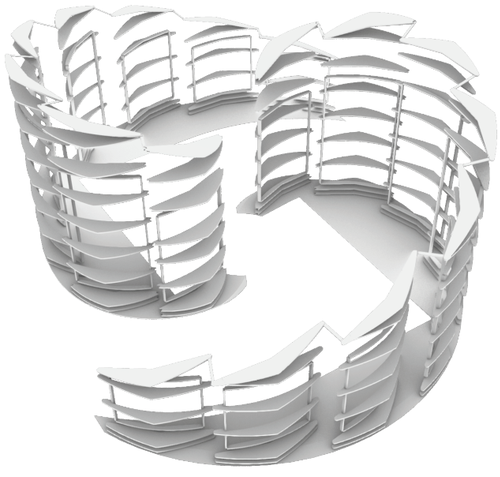
Fabric: The fabric encloses the structure, creating an intimate feel within the space while enhancing the play of light across its surface.
Plywood: This smooth-finish material shapes the curves of the installation and provides a base for mounting pulleys and other mechanisms. Smooth finish is used so that it can be elegantly exposed bare in certain areas
Steel Posts: Each display module gains structural support from galvanized steel fence posts. Additionally, shorter cut sections from the original 10’ poles will reinforce the panel bases.
Acrylic: Project drawings etched on the acrylic create an intriguing element of discovery within the installation, and give a change in medium in which to view the displayed projects



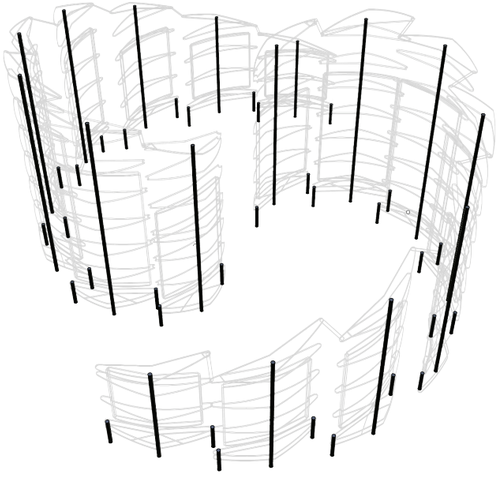
Fabric



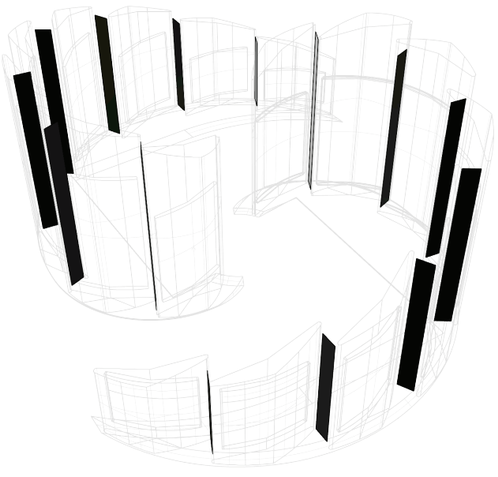
Plywood



Steel Posts

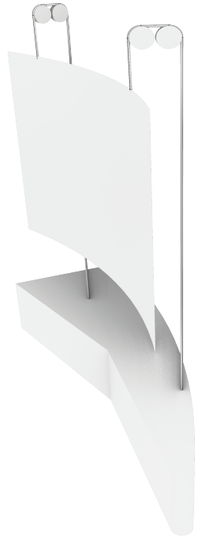


Acrylic



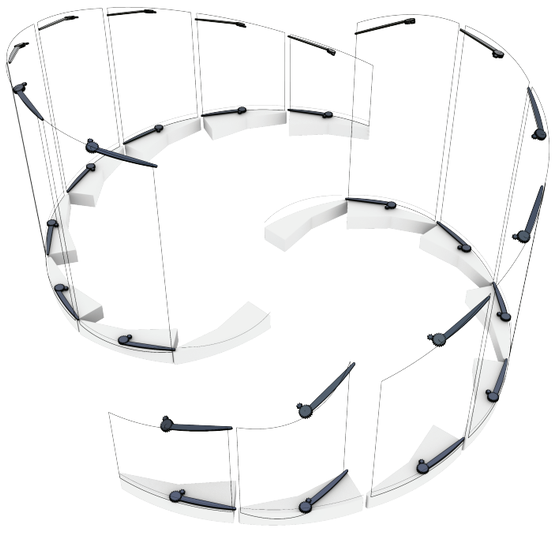
Integrative Technology

The interactive and kinetic elements in this installation rely on the use of simple mechanical design and electronic motors driven by arduino boards. In the budget, you will see an arduino mega listed, in addition to 15 arduino nano's. The Arduino's, in essence control the movement of the motorized elements and allow connection with sensors. In order for there to be unified movement through the entire installation, the arduino mega will be a central time keeper to keep all the other arduinos, and kinetic elements, moving in a unified manner. The arduino nanos are much cheaper, but are sufficient for running a couple of sensors and motorized elements for each respective panel. In order to avoid having to use larger, more expensive motors in this installation, simple mechanical principles will be implemented to allow for the kinetic elements to be implemented within the budget.

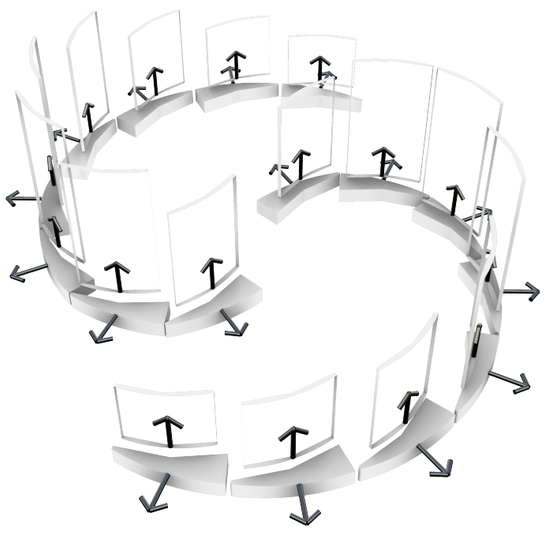




Acrylic Reveal System



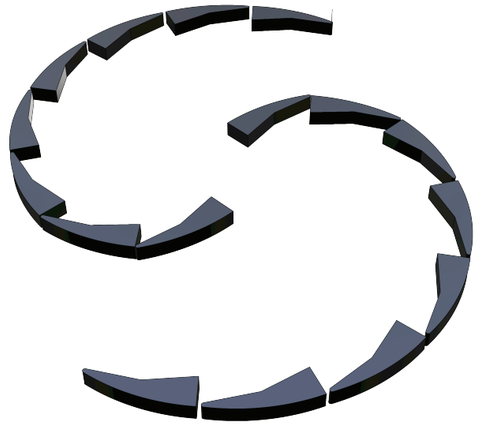
Sensor Placements



Poster Pulley System



Electronics, Motor and Gear Boxes



Budget

Costs here are accounting for the maximimum listed number of projects expected to be displayed. The range provided was 10-16 projects, and so the budget can be shifted more generously in different areas if there are less than 16 projects presented.

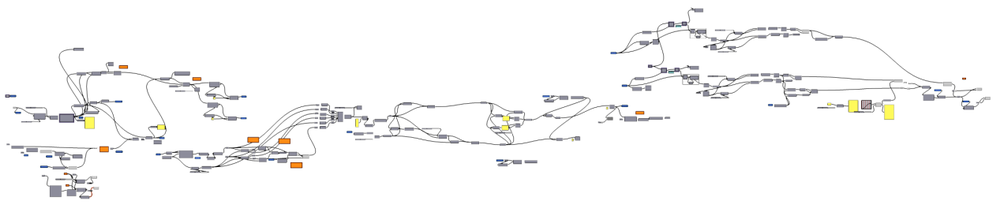
The materials in this list are either difficult to calculate without the details of the exact number of projects to be displayed, or they may be able to be provided by the school and staff. The fabric and 3d printed gears, for example, may not need to be pulled from the budget and overall cost. I already personally own many of the sensors we may need, and the wiring also should be a minor expense.

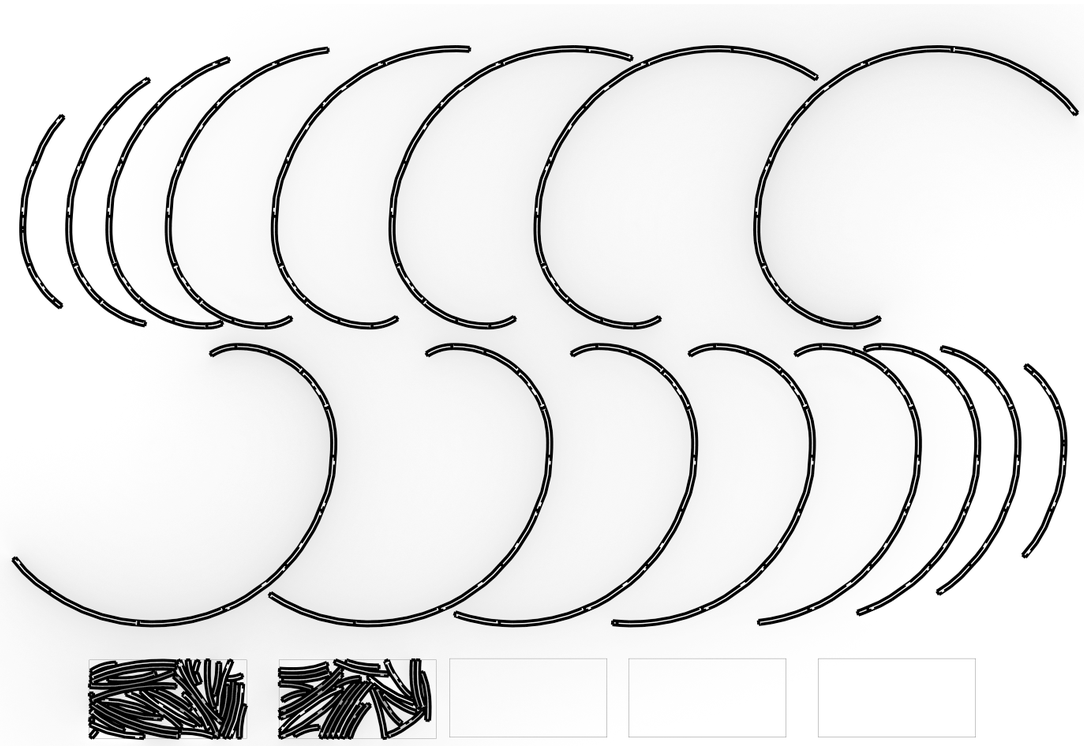
Additional Expenses - As needed

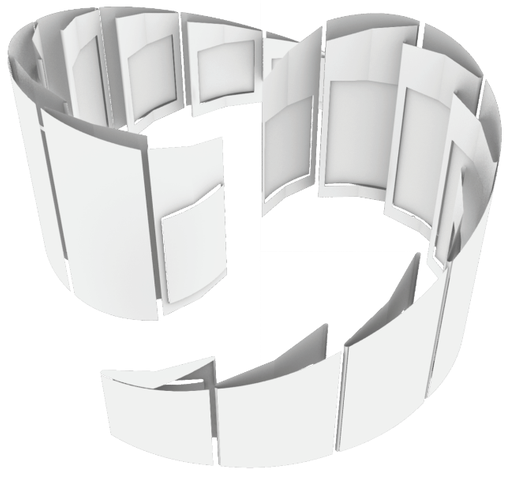
- Screws
- Bolts
- Power supply
- Fabric
- Wire/Line for Hanging boards
- Sensors
- wiring
- Misc. Hardware

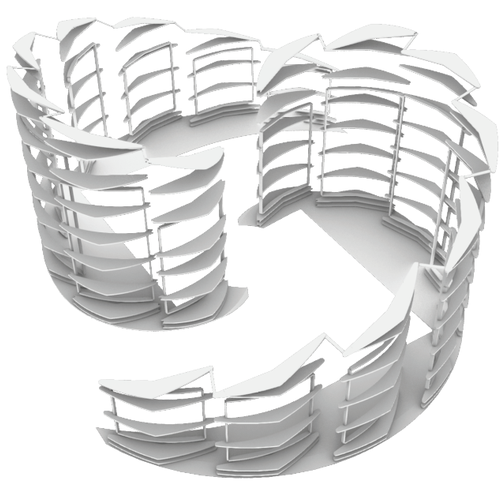
Fabrication and Deconstruction

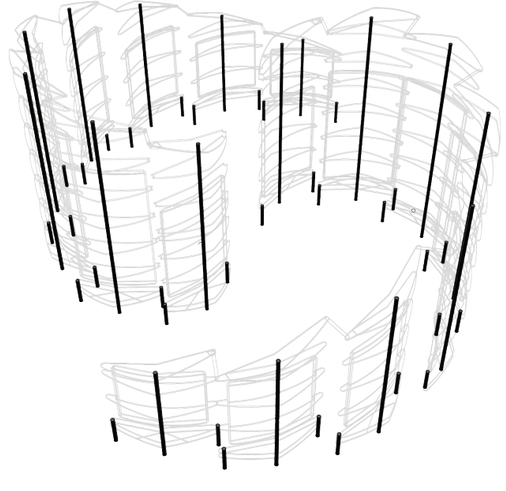
By the nature of the installation, many of the parts are already modular, and can be disassembled in parts as needed. Posters can be unhung and boards detached for easy of transportation. The boards are Prelabeled and organized with the use of grasshopper, to maximize the wood in a 4x8 plywood sheet, and so that they can re-assembled in order without confusion. Most of the electronics will be placed in the bottom footings for each given installation section, but some electronics and pulleys will remain attached to the respective boards where they go. During reinstallation in a new location, it should only be a running back the line hanging the posters, and plugging back in the installation boards.









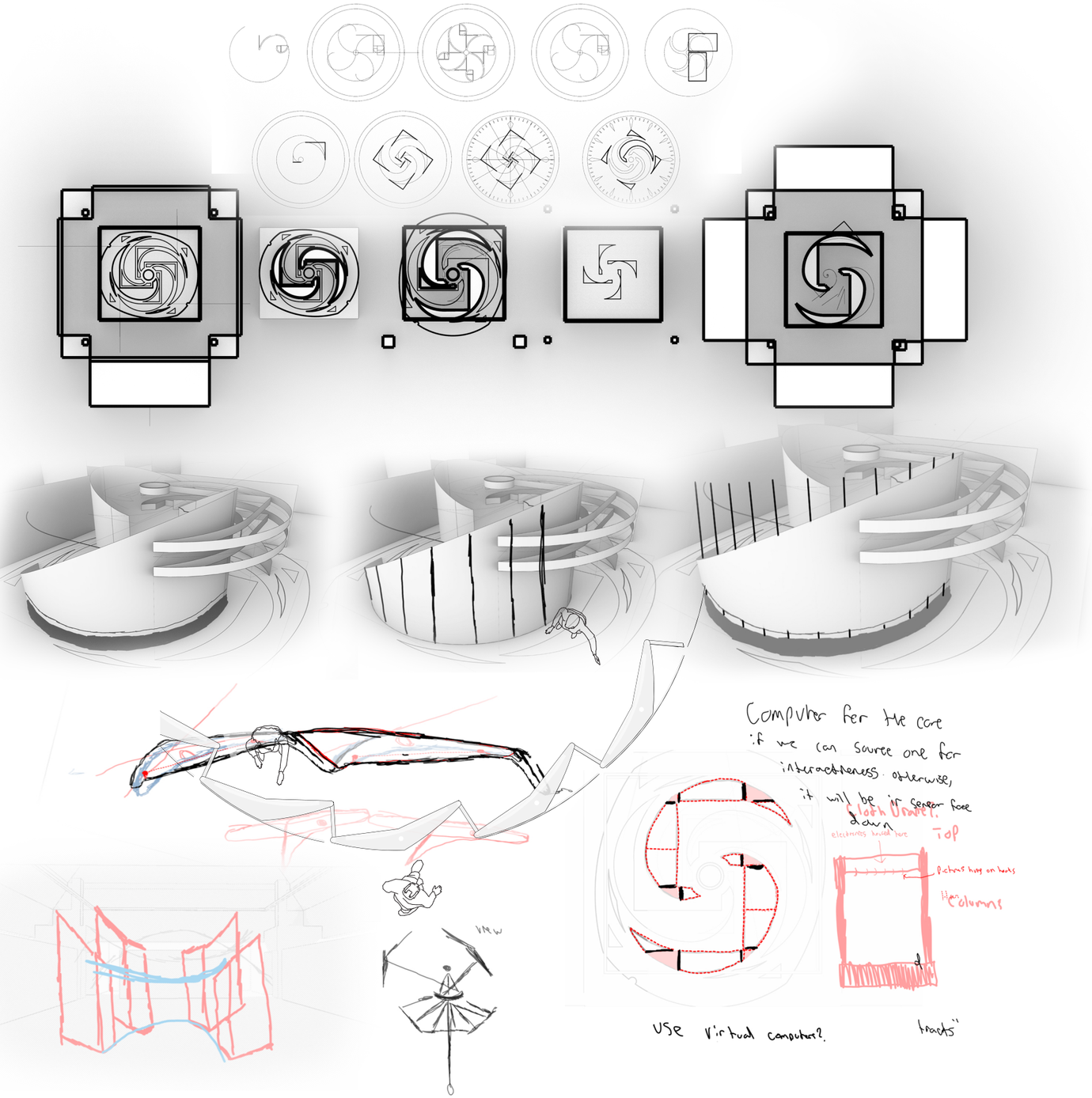


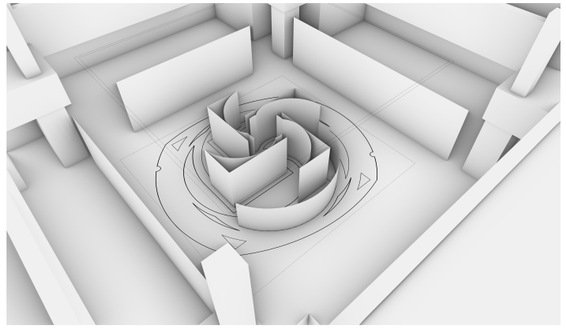
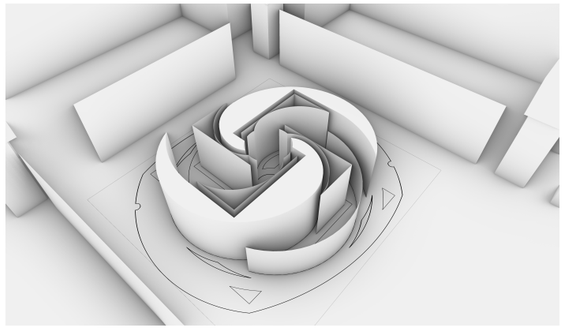
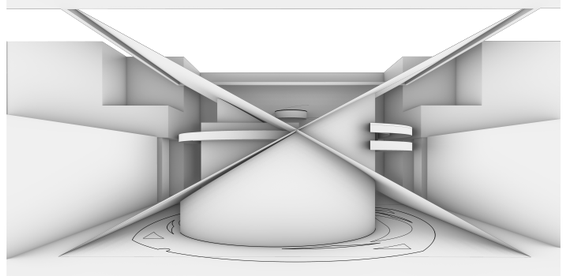
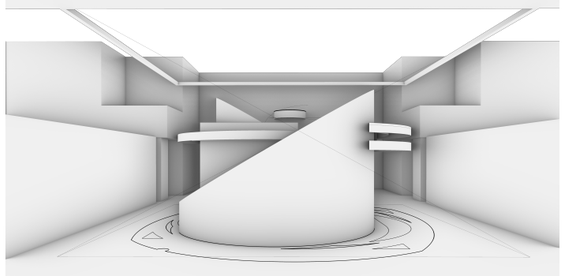
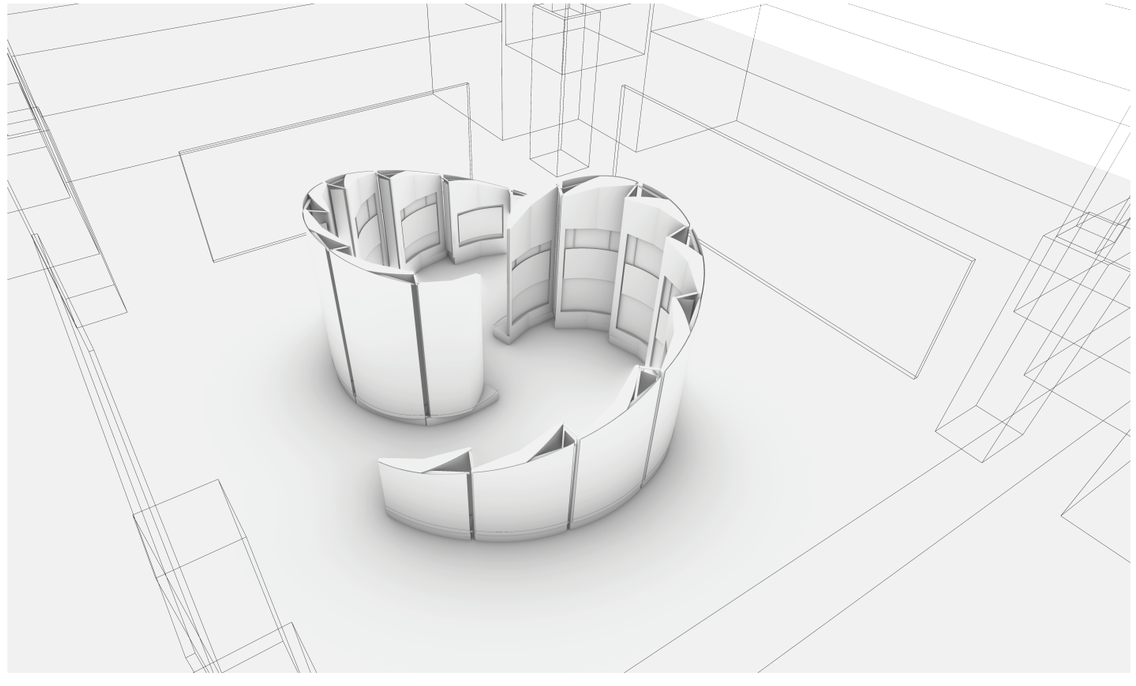
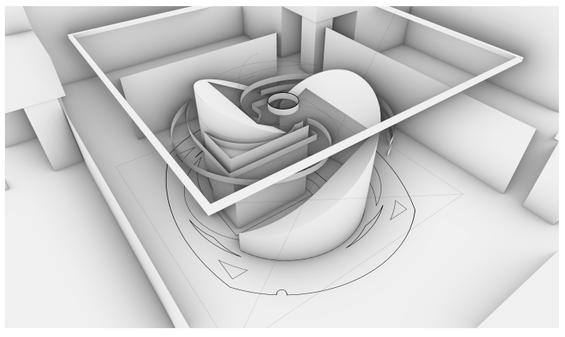
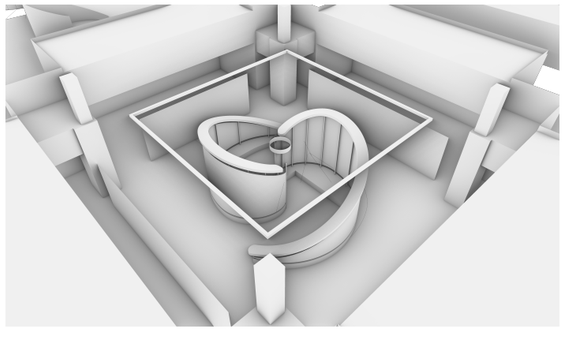
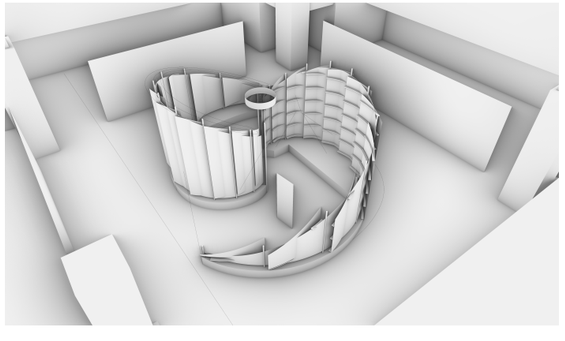
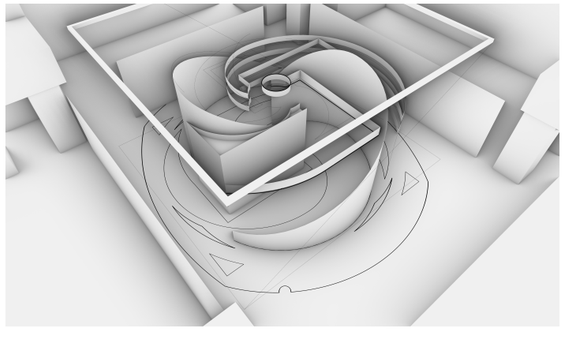


Design Process and sketches

The design process for this installation took a personal draw of inspiration from mechanical watches and time. Given that the primary space this installtion was tp be designed to fit in is the CAPPA Gallery, I thought it would be an interesting opportunity to see what kind of unique space can be designed to to benefit off a very formal and planar context such as the Gallery space. Again, for the context of this school and the Gallery, I thought it appropriate to play with formal proportion in early design concepting, and to do this, I built off my own design concept of a time piece, which encorporated golden proportion, transparent fields, time, and an infinite spiral inwards.

Given the early inspiration from mechanical watch design, I thought it also lended well to the concept of interactive space, as it could be used to inspire kinetic elements and movement. Through a process of sketching, modeling, and budget assessing, I arrived to my existing design concept for the sake of minimal material costs, in order to maxamize the kind of space that can be created. The final design makes the displayed projects the moments of discovery and interest as one explores the installation.



Key Expenses	Cost - With Tax
- 18 x Small Servos	$87.48
- 16 x Stepper Motor	$138.24
- 01 x Arduino Mega	$22.68
- 15 x Arduino Nano	$107.89
- 18 x 1-3/8” Fence Rail	$427.09
- 09 x 23/32” 4x8 Finished Plywood	$373.83
- 60 x M15 Pulley Block	$47.44
- 02 x 1/16” 4x8 Clear Acrylic	$100.00
	Total - $1304.63
	Remainder - $195.37

