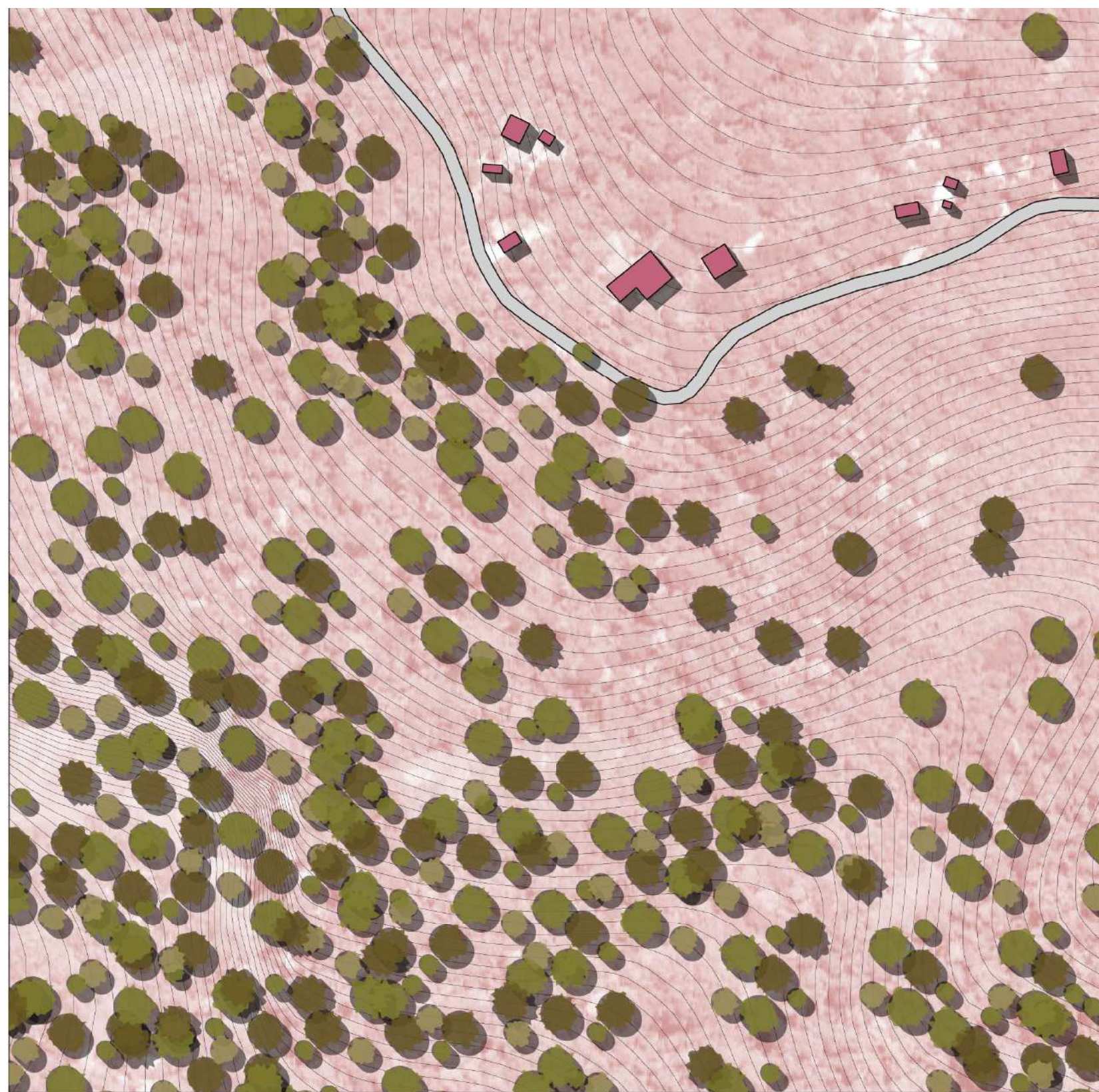




MAYAR BADI

Design Media I Portfolio

2025-2026

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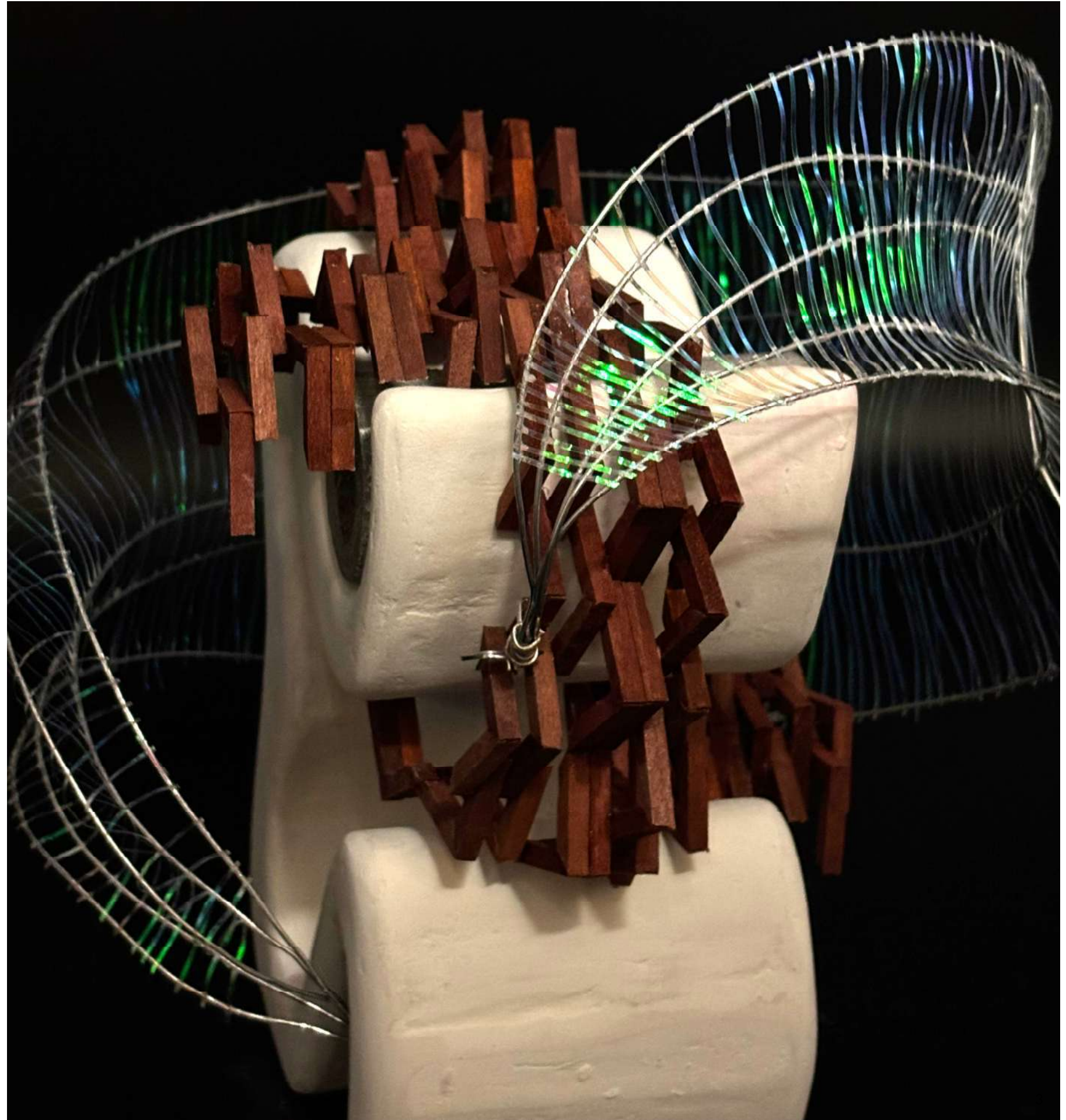
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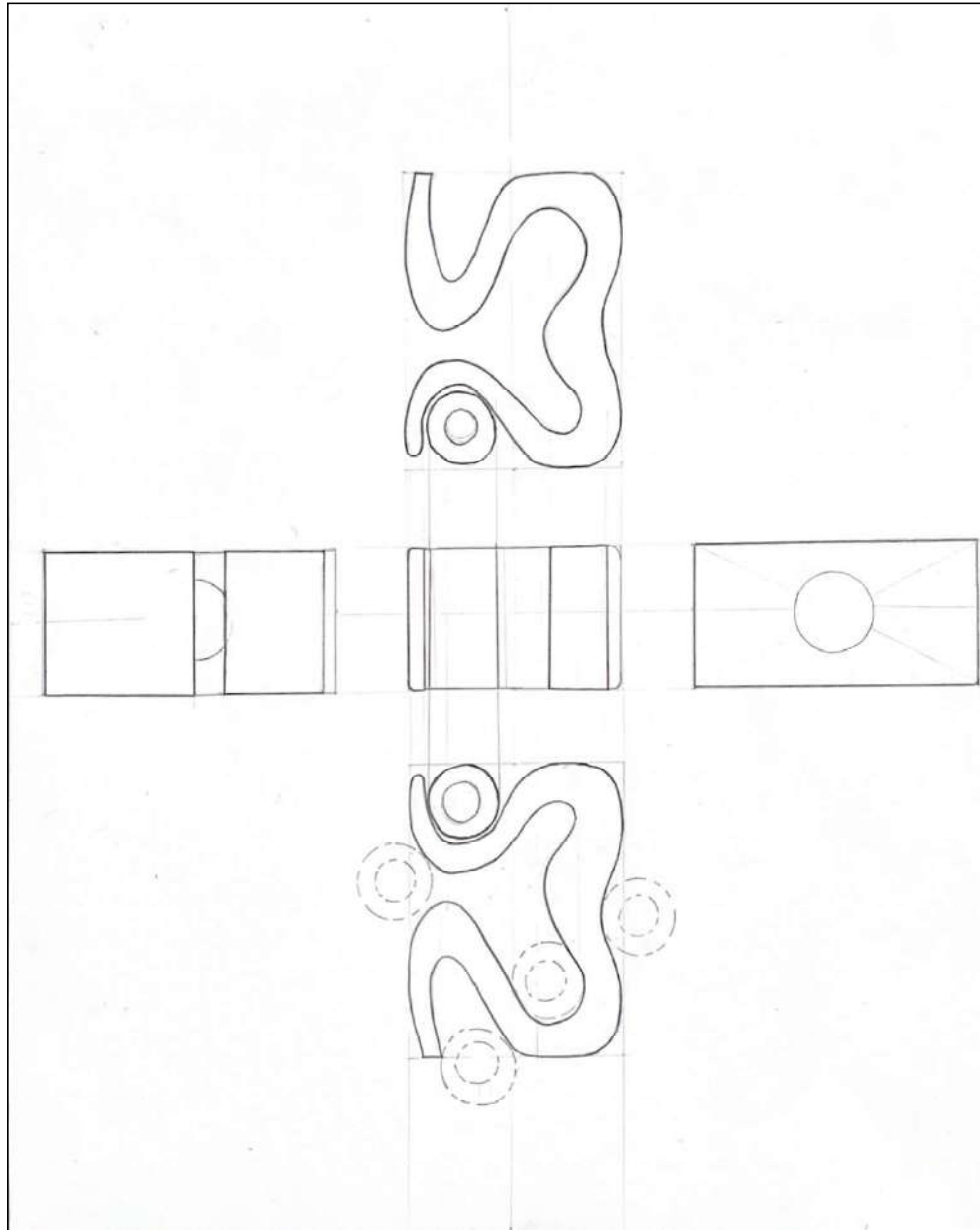
Fall 2025
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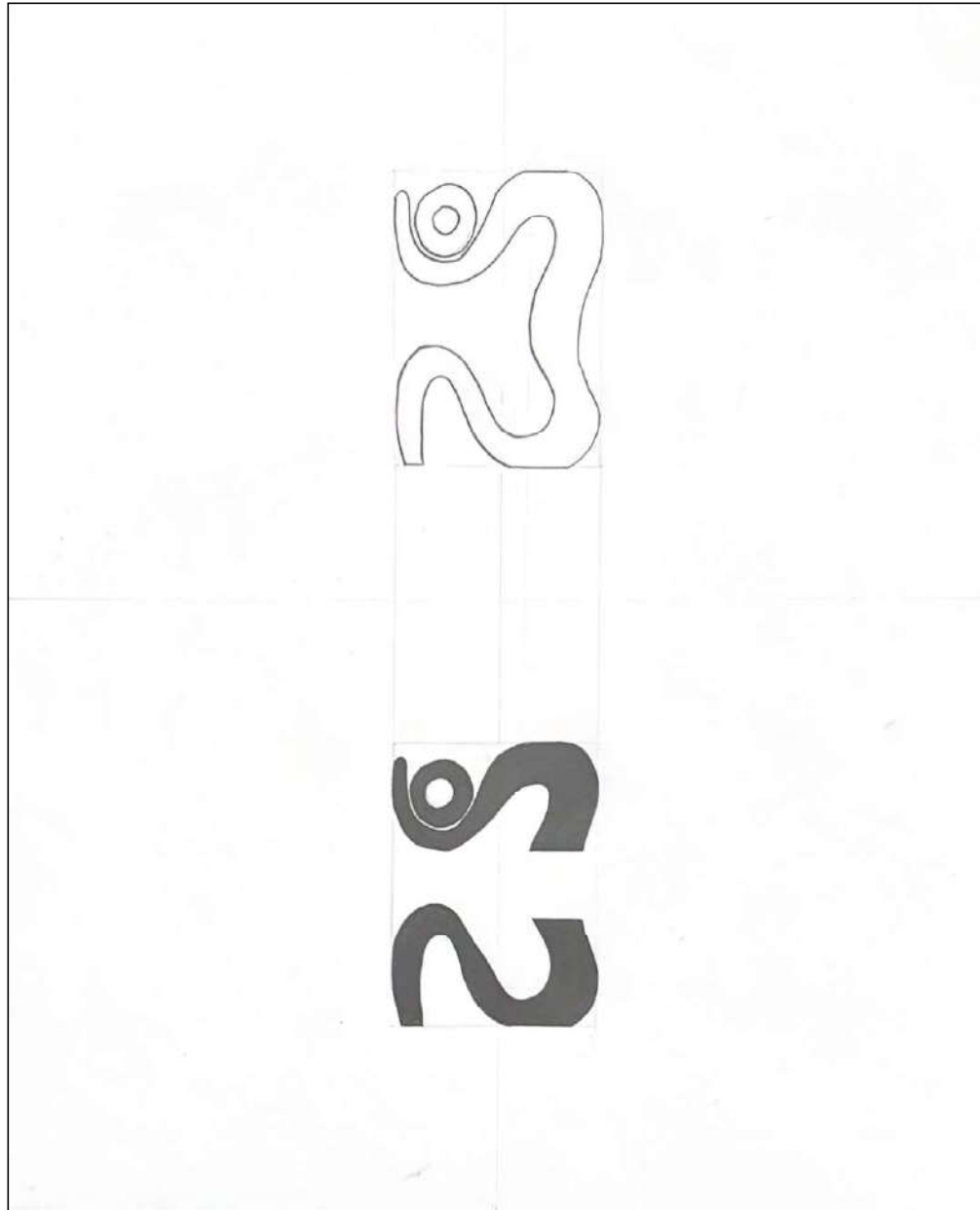
Project 1: Mass Forms

In the current project, I decided to investigate the connection between the solid and the void by means of a casting technique. Instead of focusing on the massiveness of the shape, I took the adjective 'flexible' as the key element for investigation: How can the solid look as if it bends and curves? The result was achieved in the creation of the shape with continuous movement, the void spaces were not meant to be gaps in the solid structure but the consequences of its movement and changeability. Moreover, the shape's ability to flexibly orientate in space was another characteristic which had been reflected in the creation of this shape, it can take several orientations in space and rest easily on different sides without the presence of the correct one. The internal lights illuminated the void spaces creating a completely new quality of this shape. This design was created under the influence of just one word which showed how much can be conveyed even in abstract forms.

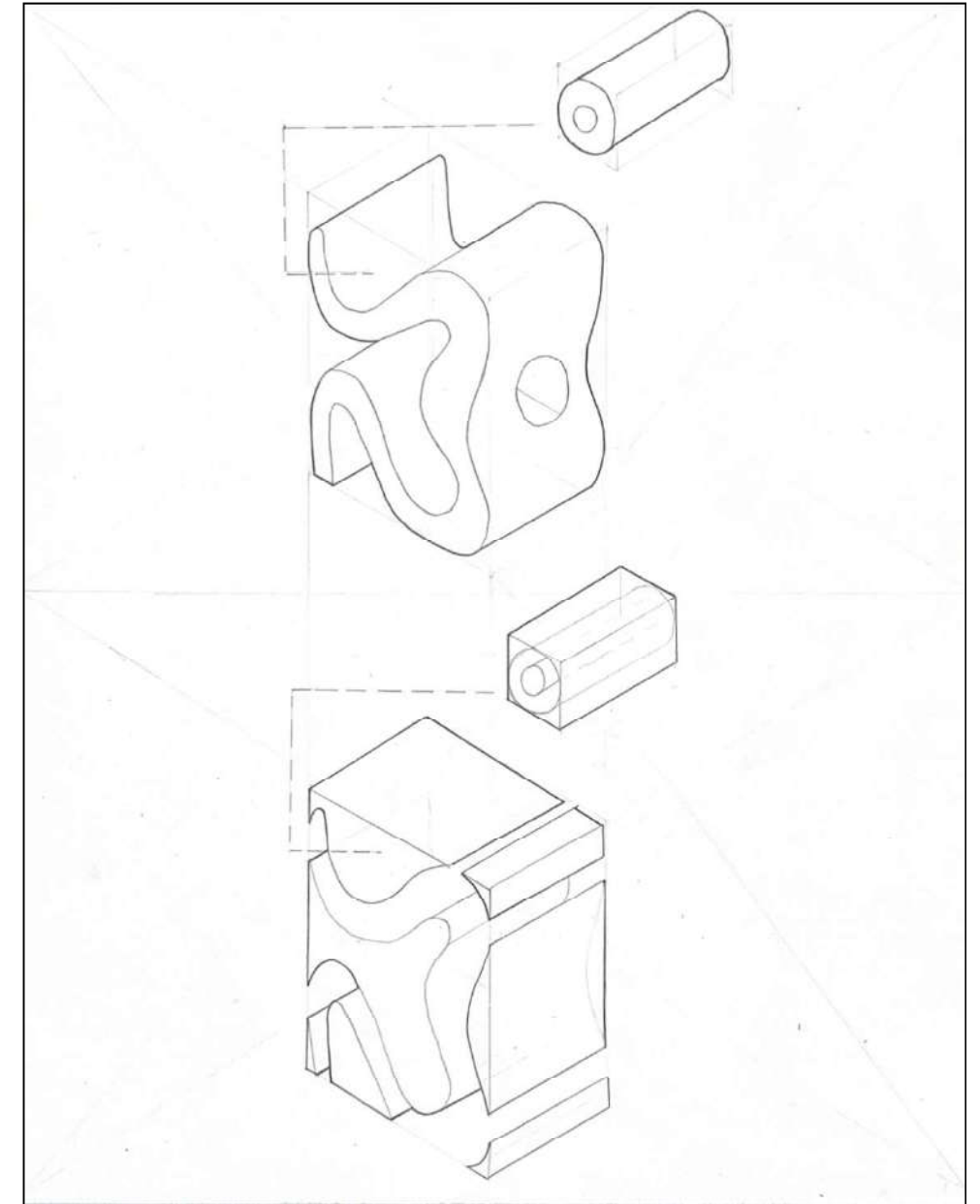




ORTHOGRAPHIC



SECTION



ISOMETRIC

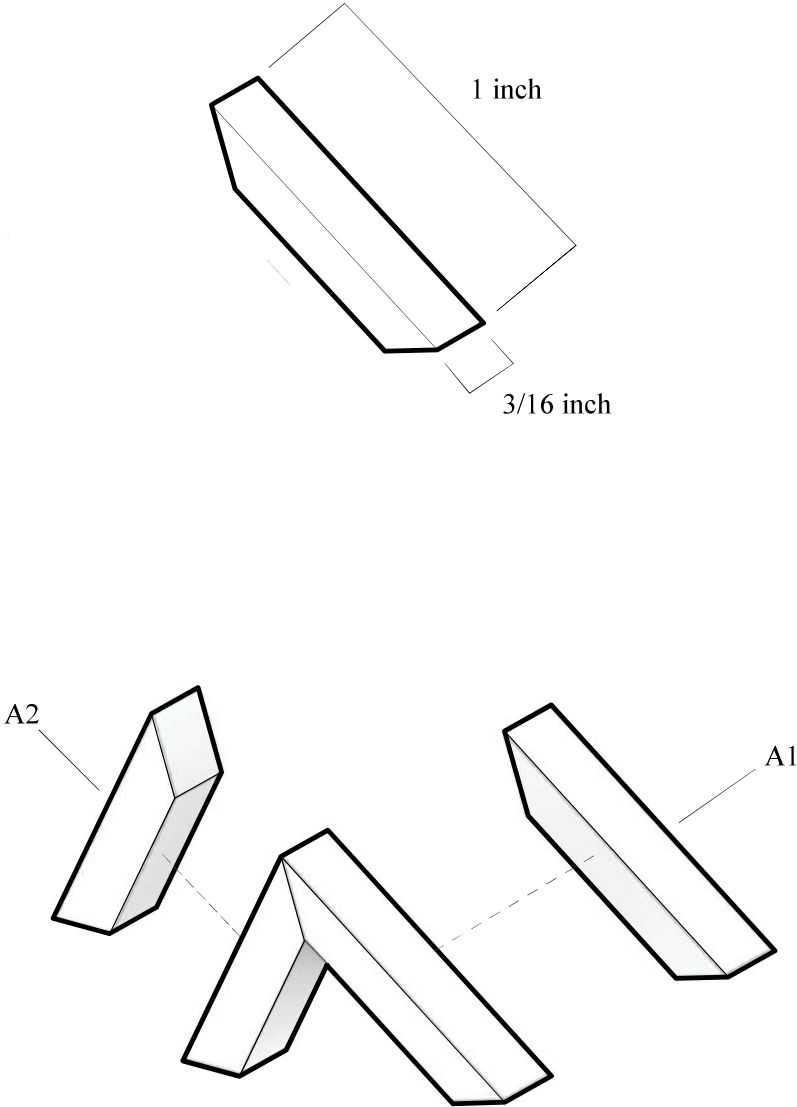


Project 2: Part-to-Whole

Following my previous piece, this project featured both an innovative material and concept. Working with 220 wooden cubes measuring $3/16'' \times 3/16'' \times 1''$ in size, I sought to study the accumulation process in which one element repeatedly comes together to create a strong impression of solidity. The angular shape and hard edge of the cut wood elements resulted in a jagged structure reminiscent of an explosion, which starkly contrasts the smoothly curved plaster form in Project 01. This juxtaposition was intended as a design feature; the assembled wooden construction serves as a boundary around and emphasizes the exact points where the flexible cast form may be positioned and oriented. The rigidity of the module system creates a dialogue with the form of the clay piece and highlights its flexibility, which is the key aspect to be captured through the design. It is important to note that designing various module compositions, including intersection, extension, placement next to each other, or back-to-back, played a critical role in this work.

Parts and Module

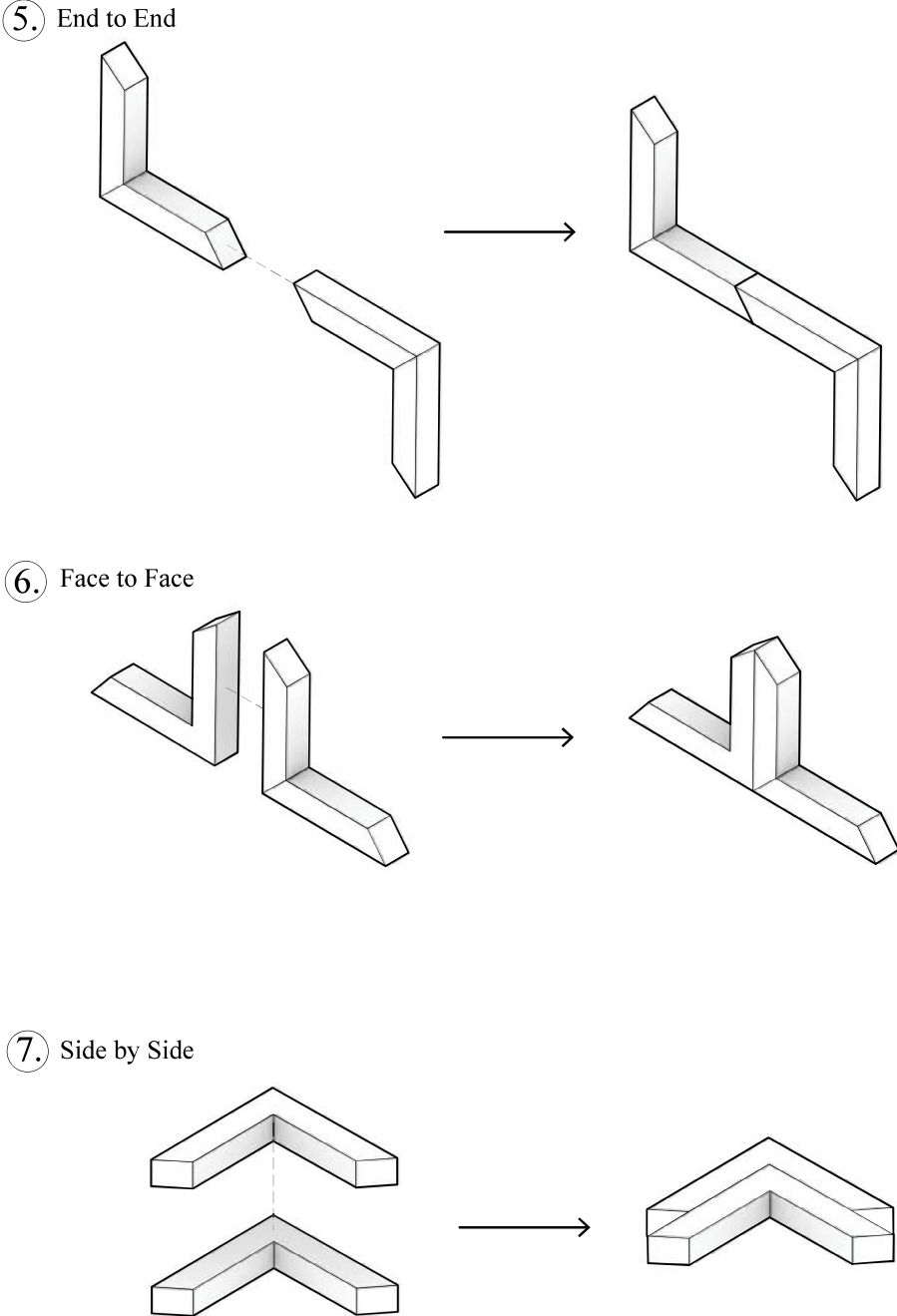
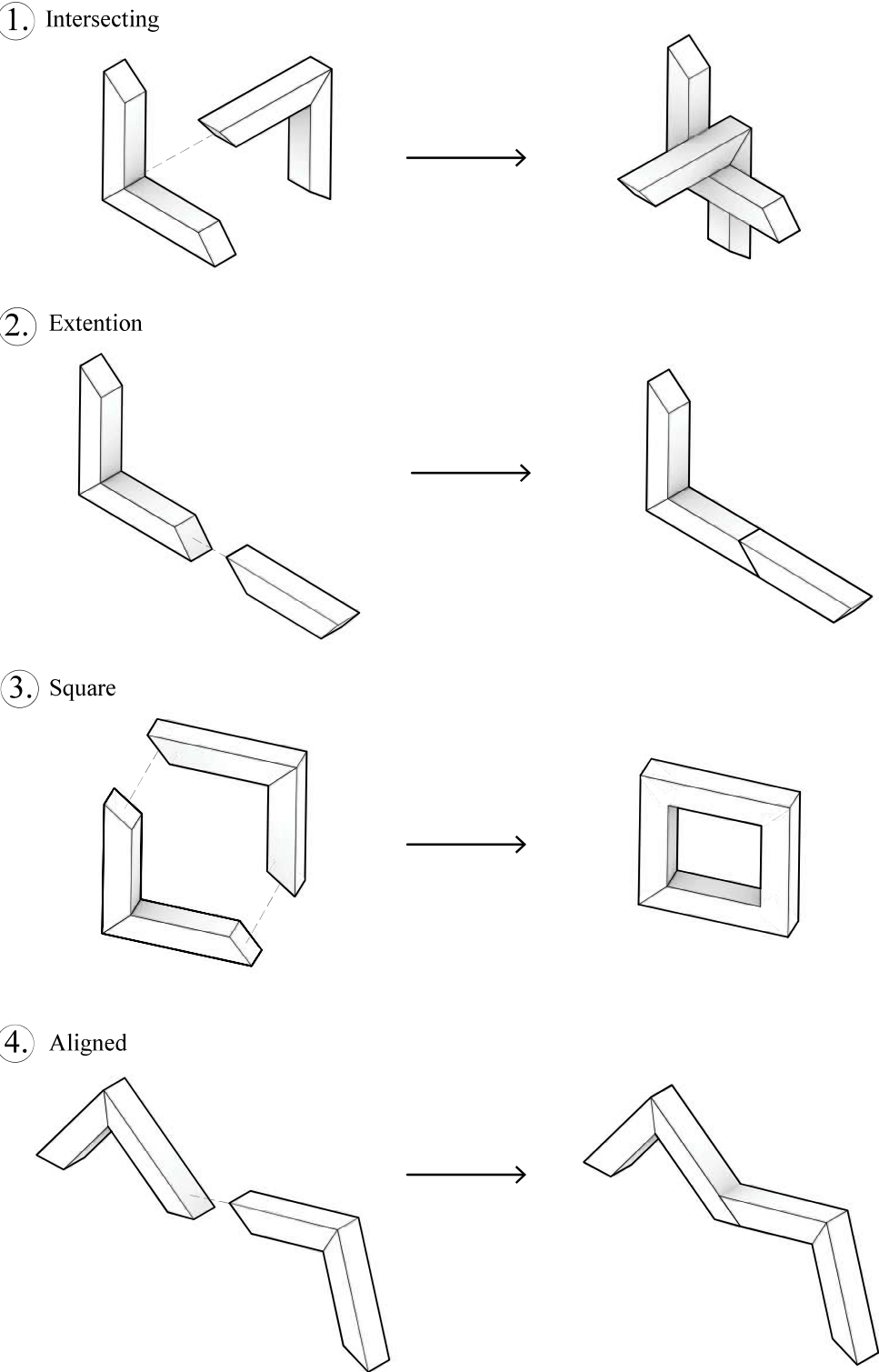
Scale 2:1



A. 3/16" x 3/16" x 1" (x220)

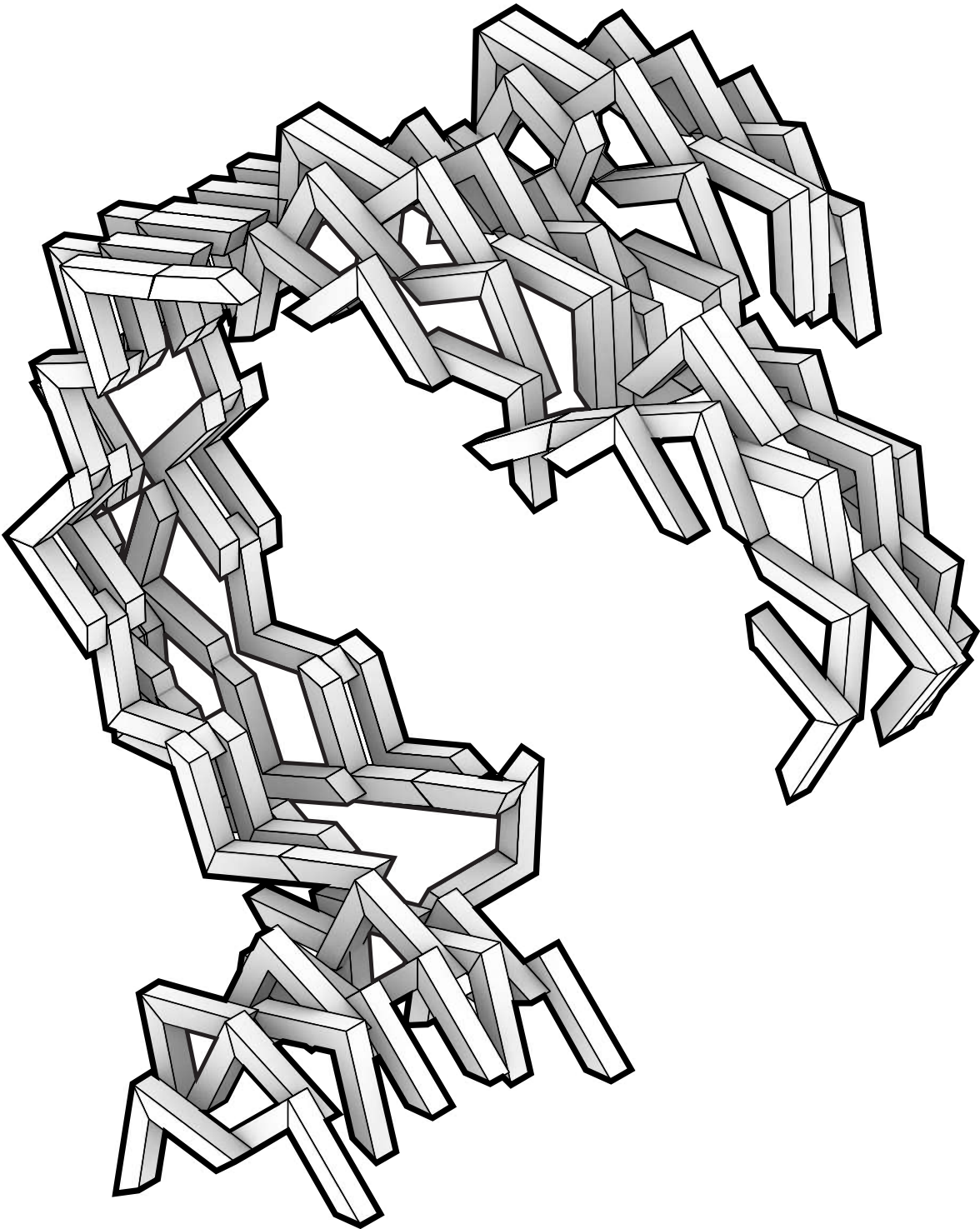
Module Configuration

Scale 1:1



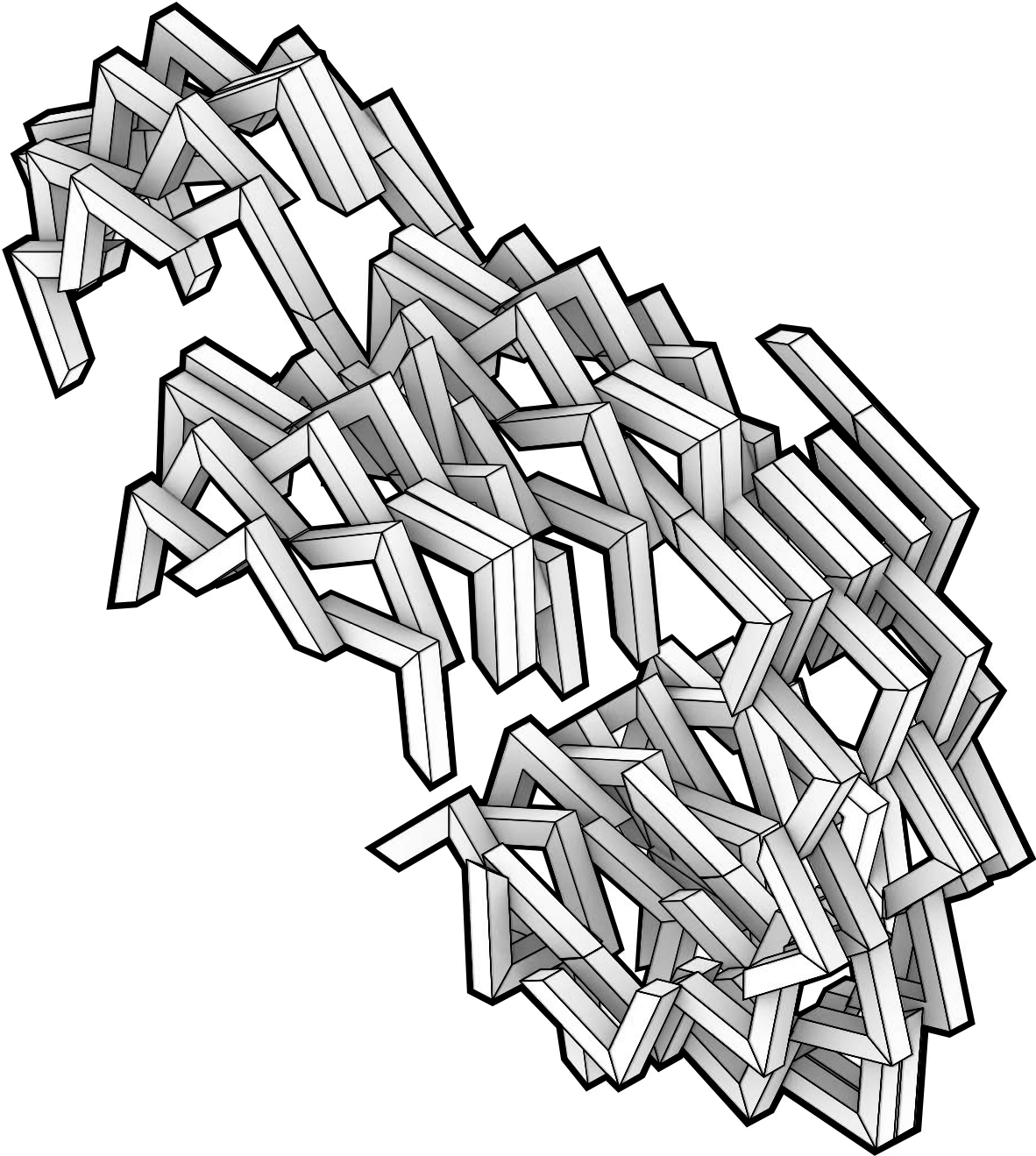
Front

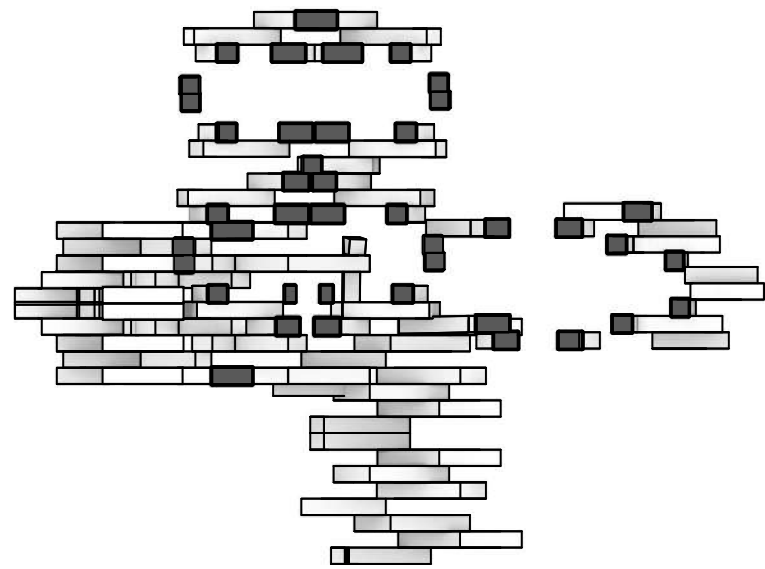
Scale 1:1



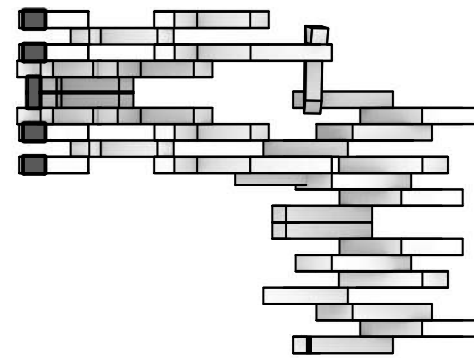
Back

Scale 1:1

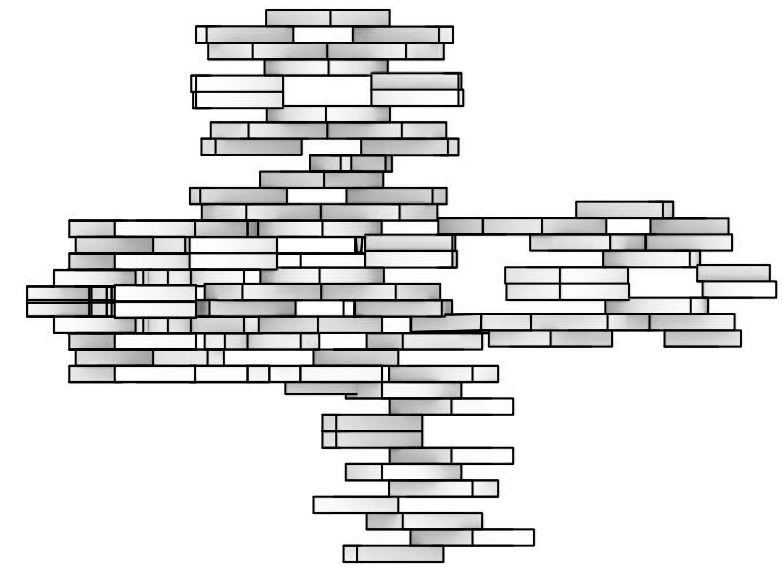




Plan Section A @ 6"



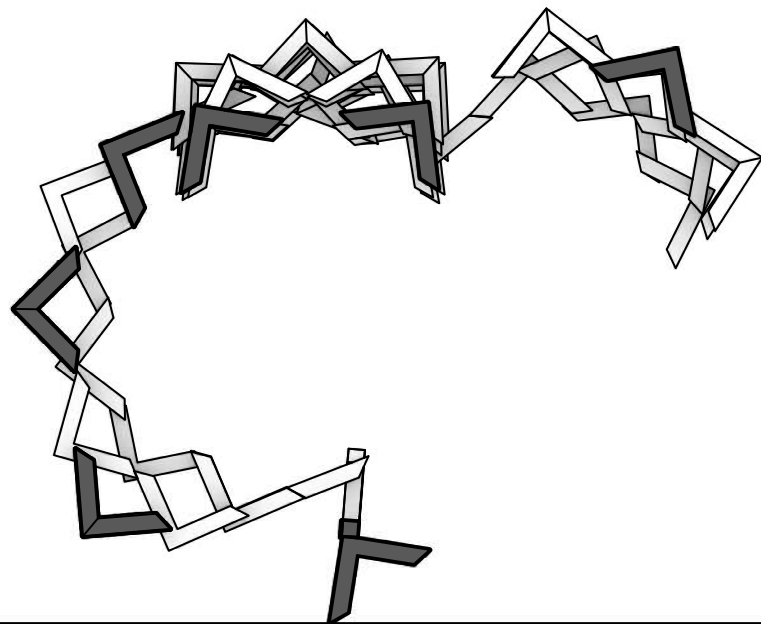
Plan Section B @ 3"



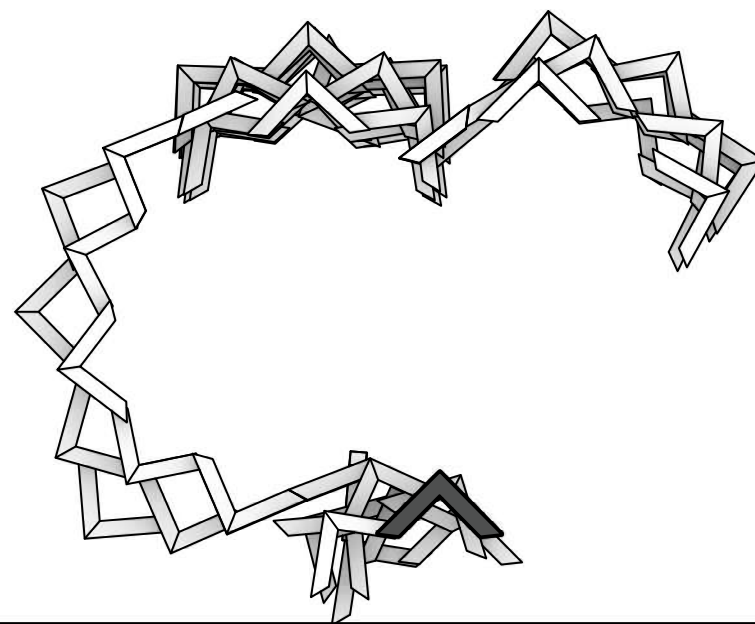
Plan

C @ 3"

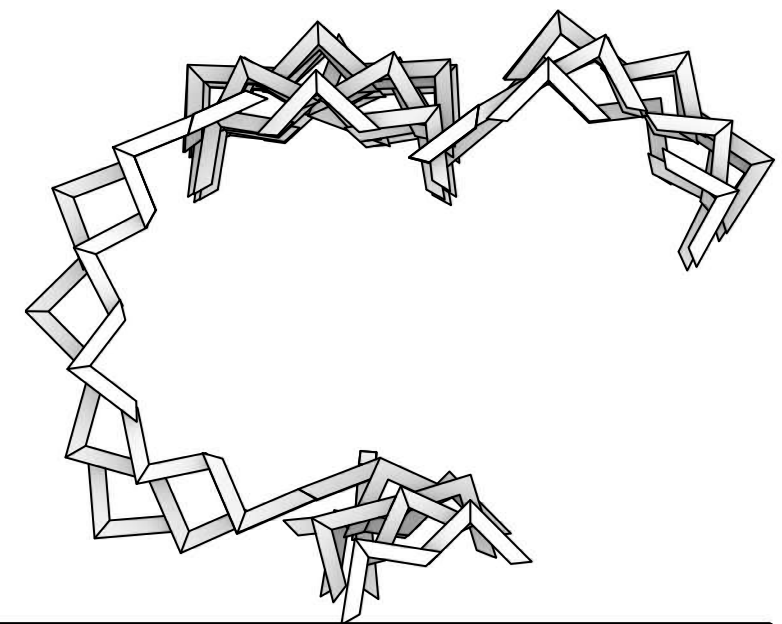
D @ 1"



Elevation Section C @ 3"



Elevation Section D @ 1"



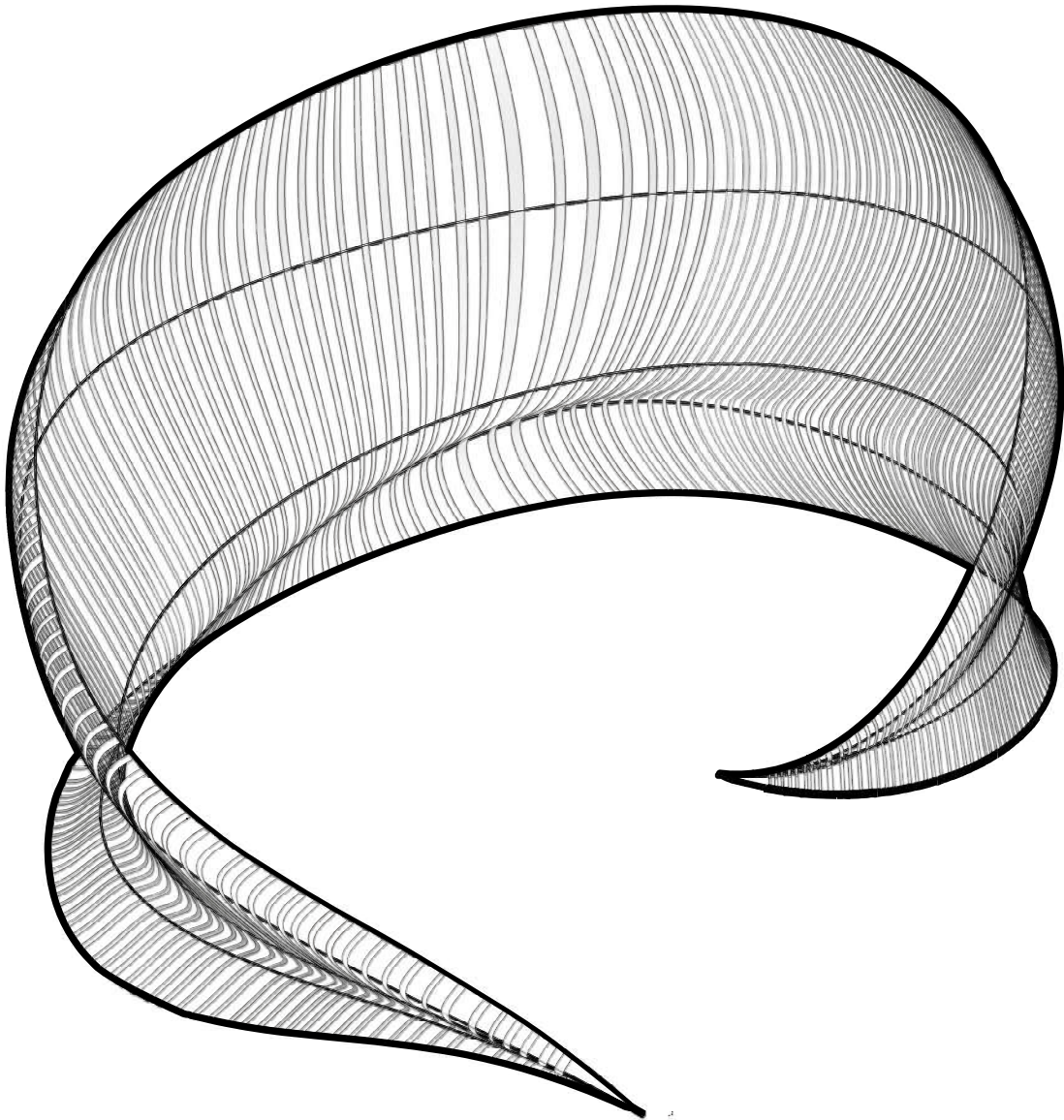
Right Elevation

A @ 6"

B @ 3"

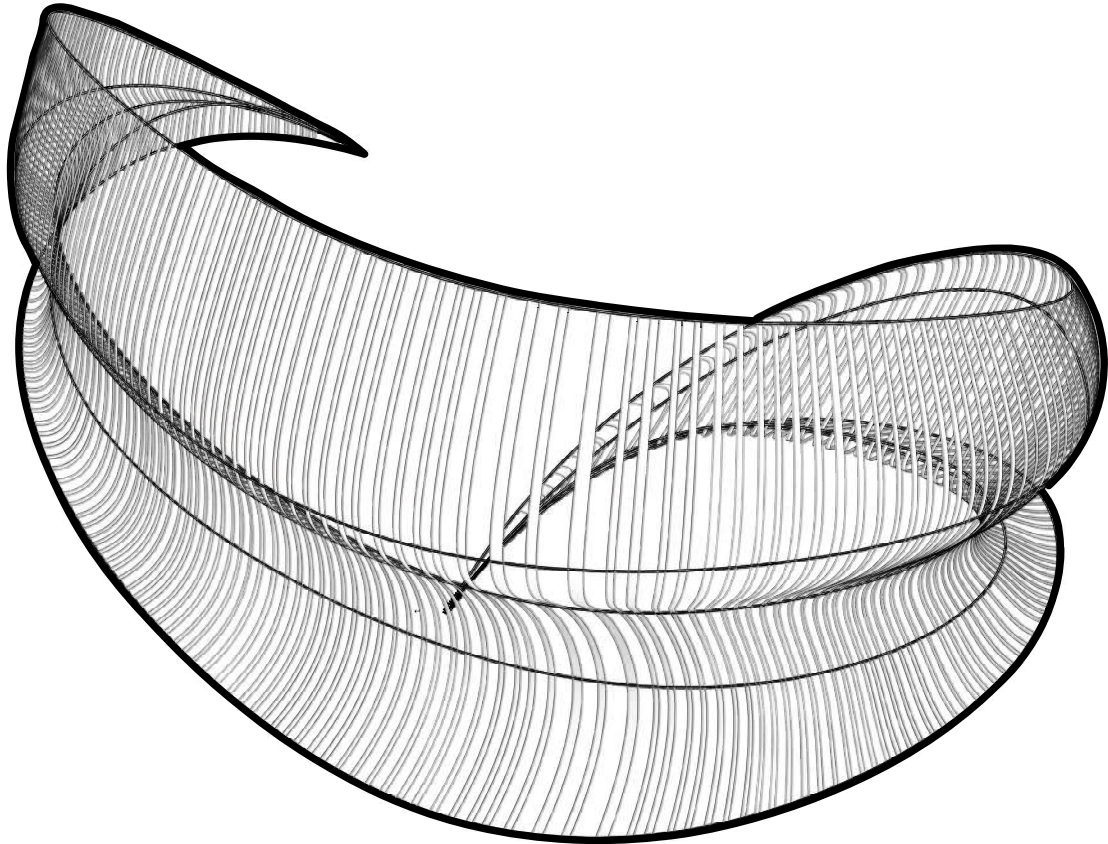
3/4 Front Isometric View

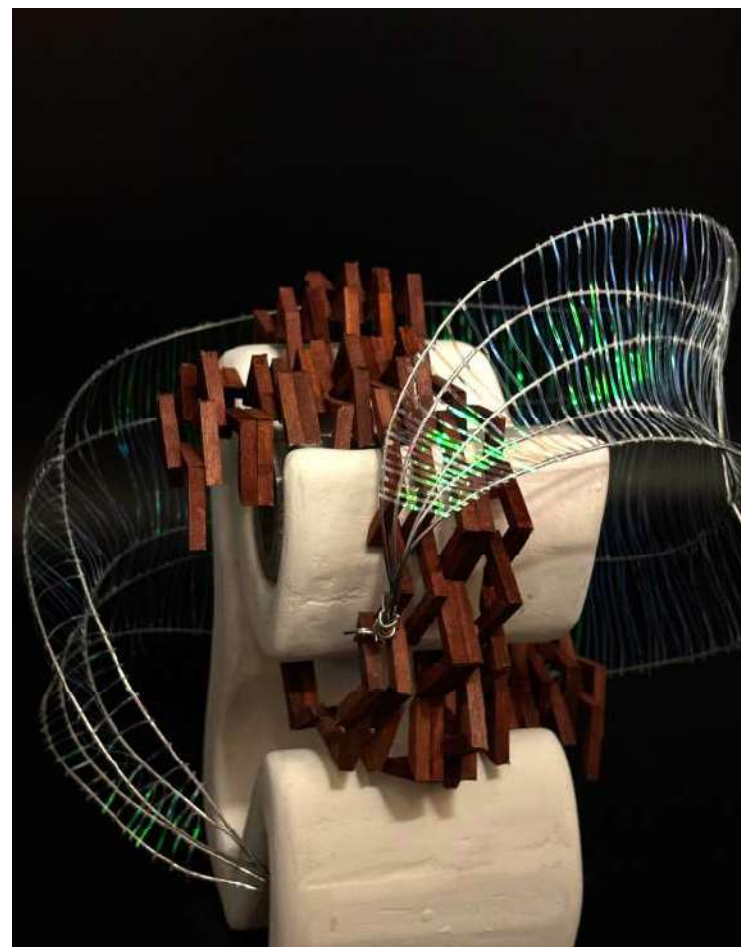
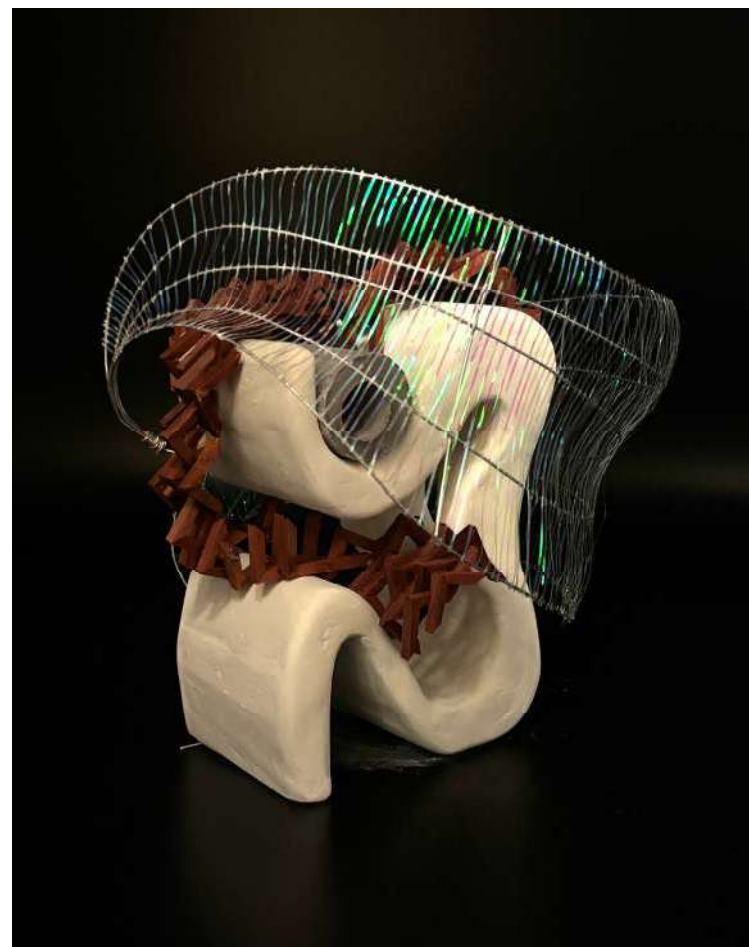
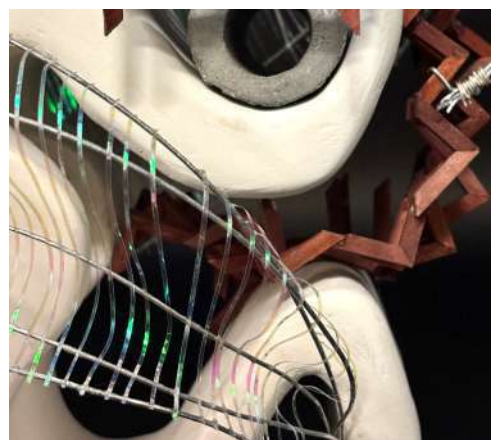
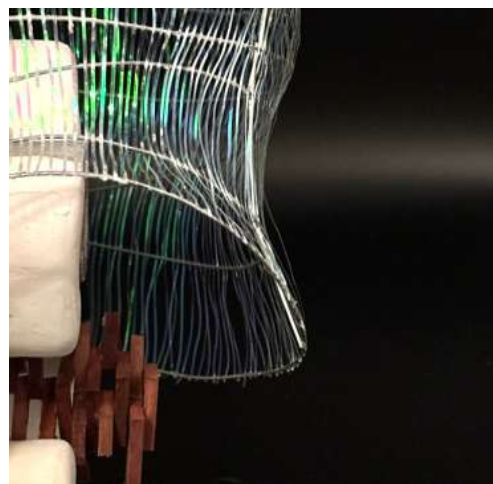
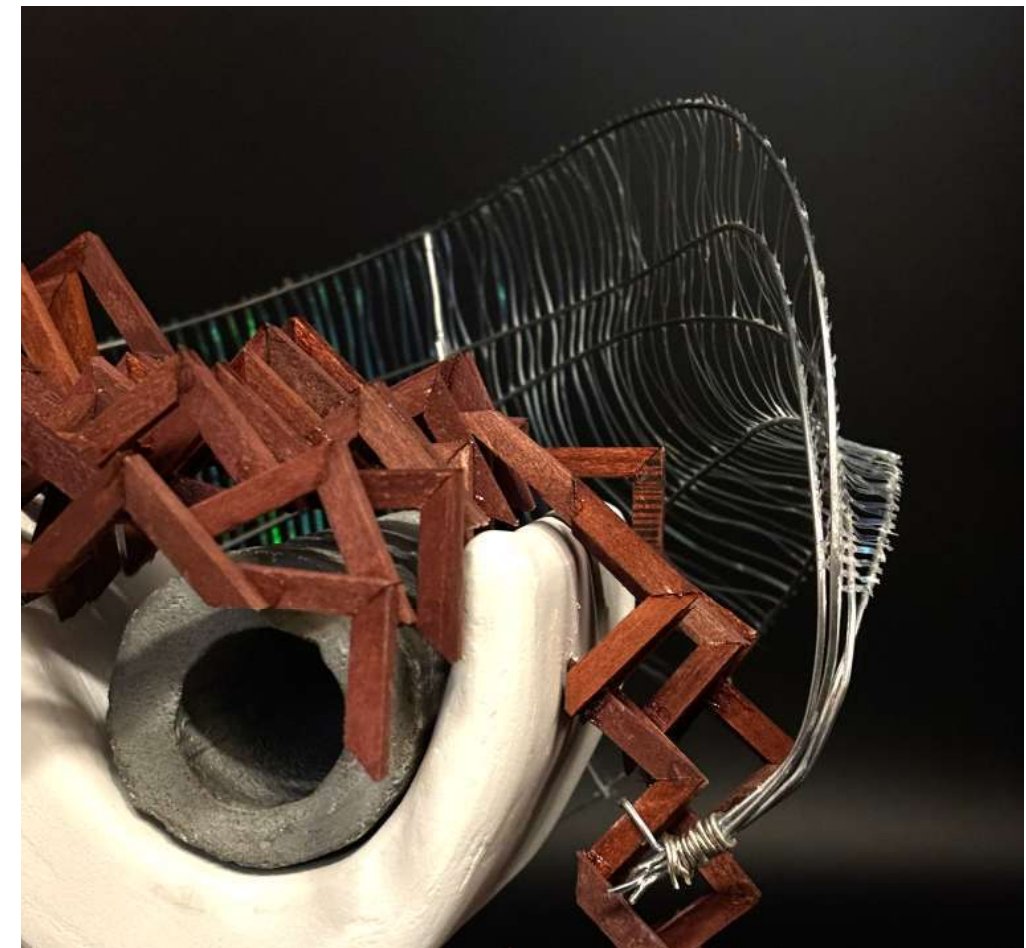
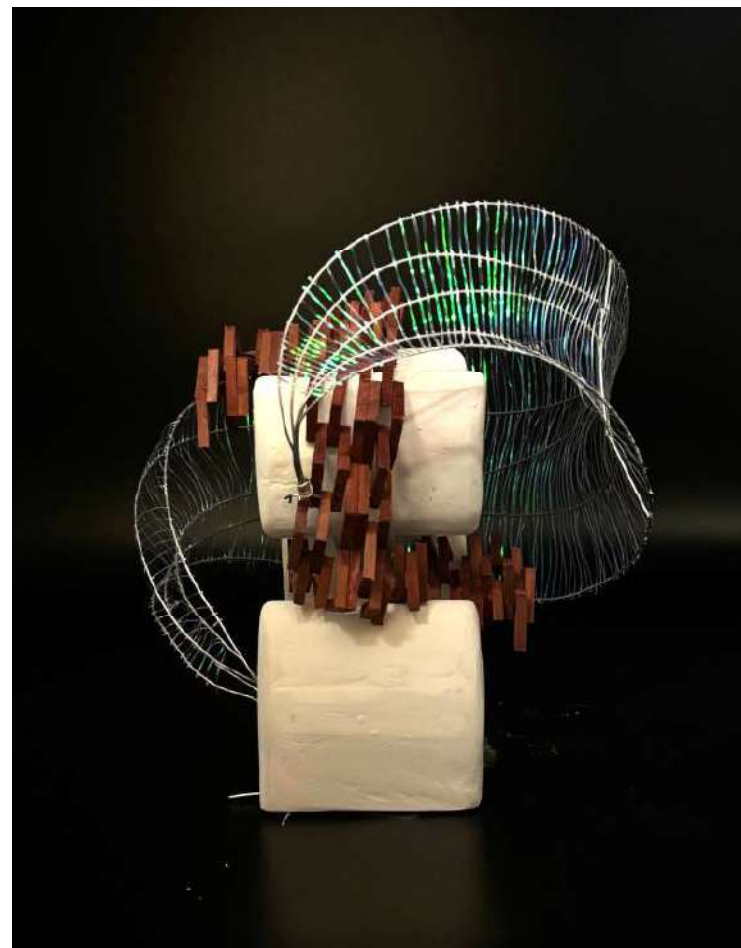
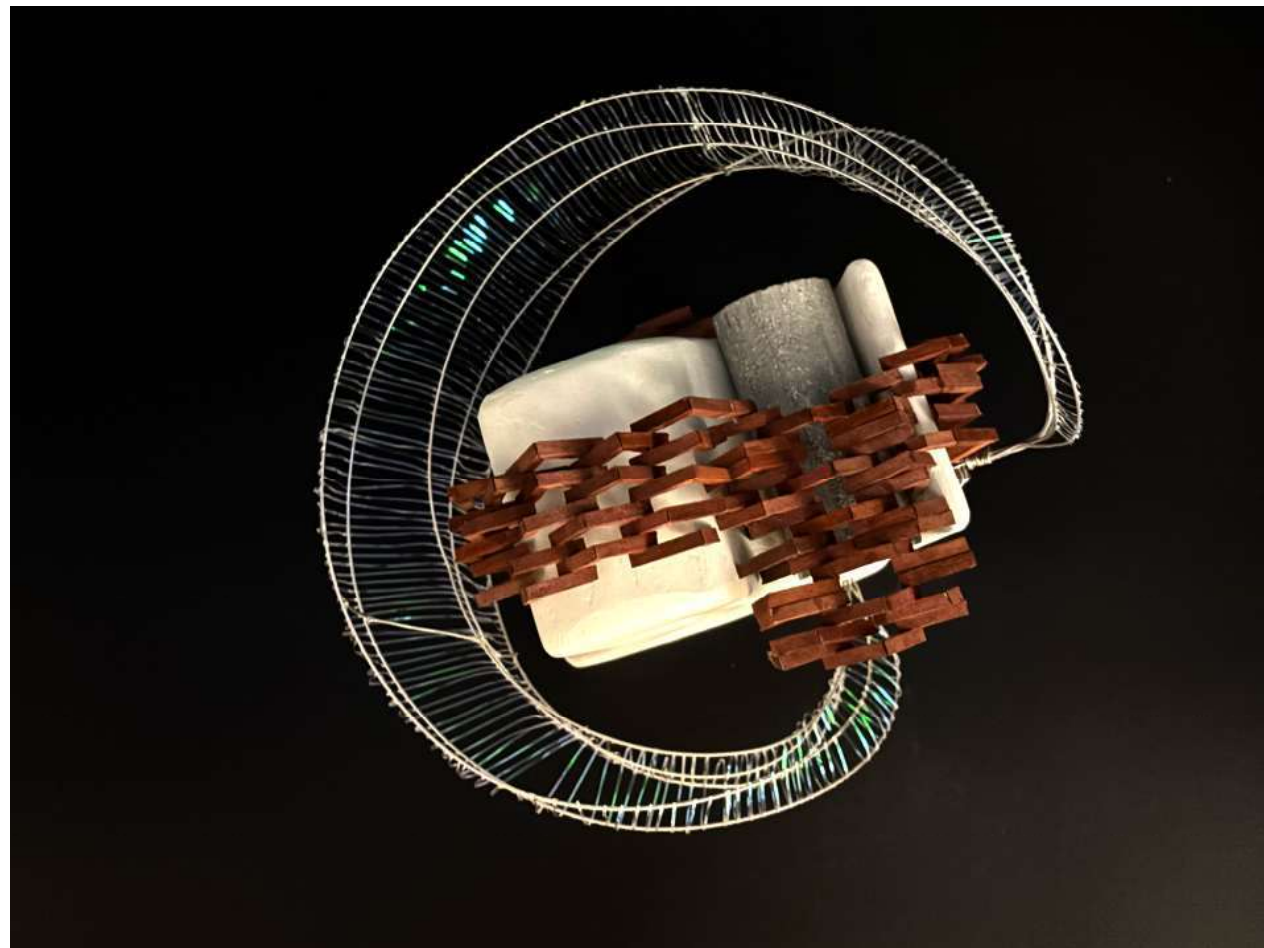
Scale 1:2



3/4 Back Isometric View

Scale 1:2



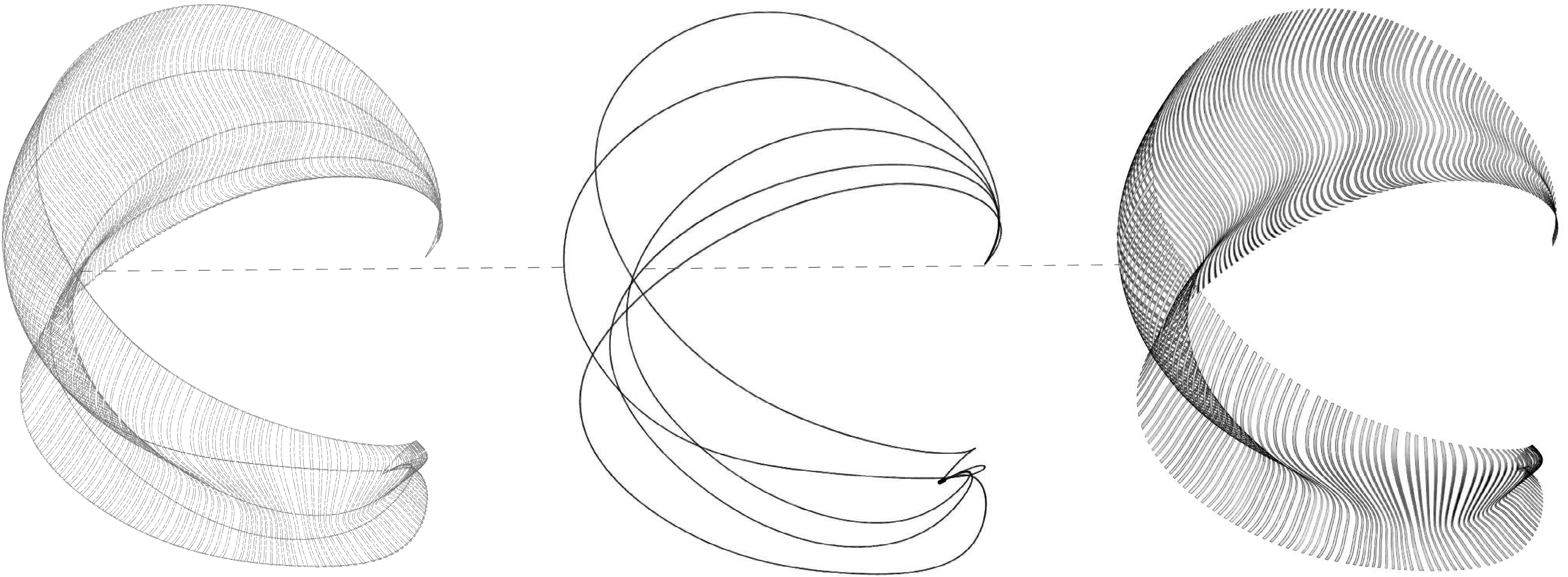


Project 3: Surfaces

As my final contribution for this particular series of explorations, I presented a surface treatment that was created based on the attribute delicate, and its purpose was to encompass the two other projects to create one coherent whole out of them. This surface was crafted from thin and iridescent strips arranged in a weaving pattern along a curving wire frame that did not contain any strip acting as a solid plane, but instead created an illusion of being a continuous and enclosing surface. I chose the material for its iridescent qualities because each strip reflects light uniquely and adds a sense of delicacy and lightness to the overall piece. It was particularly interesting to view all three projects together since each of the pieces had a distinct material character – the sleek clay surface, the rough wooden shapes, and the delicate wire – yet they worked together due to the act of envelopment in one piece.

Exploded Isometric

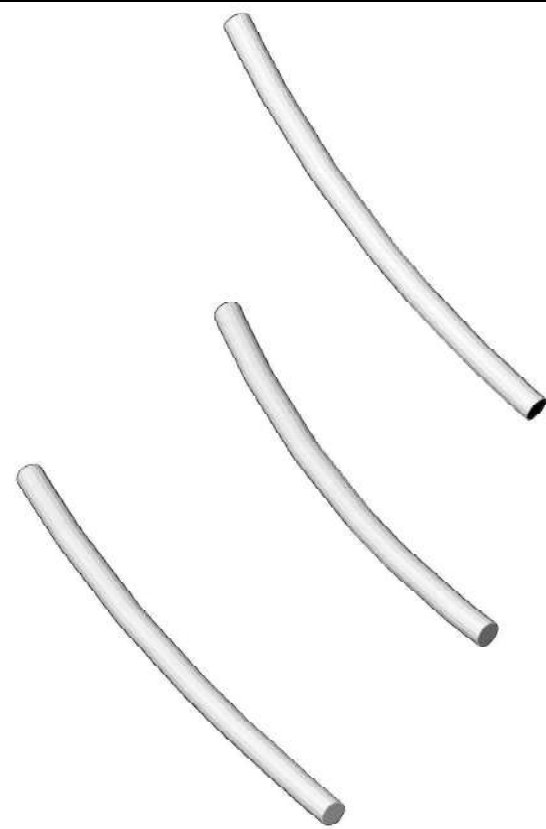
Scale 1:2.5



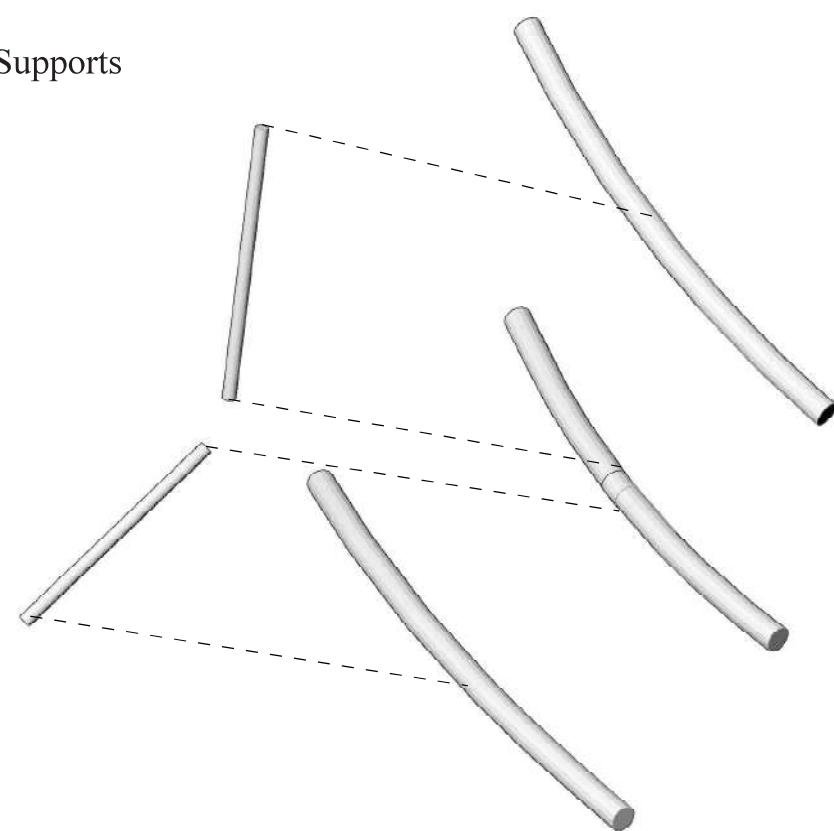
Wire Armature

Scale 2:1

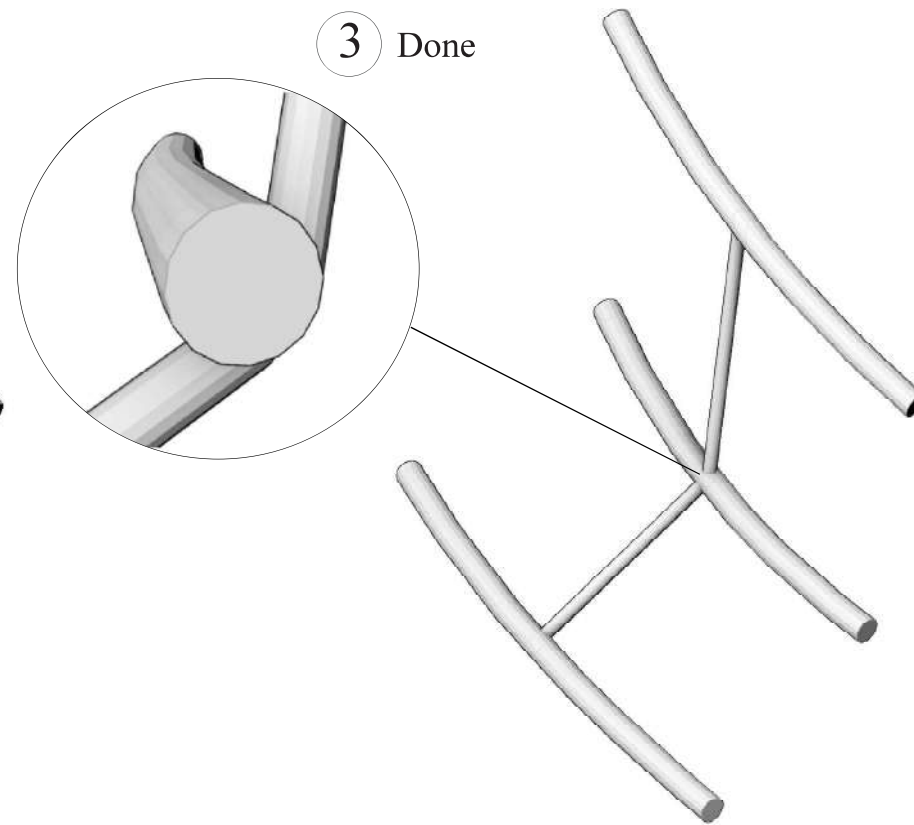
1 Wire



2 Supports



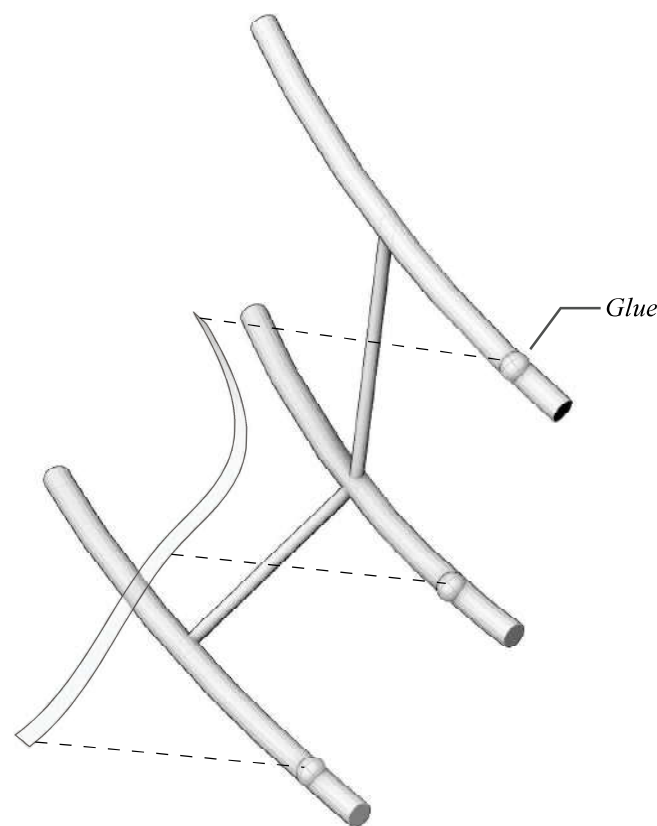
3 Done



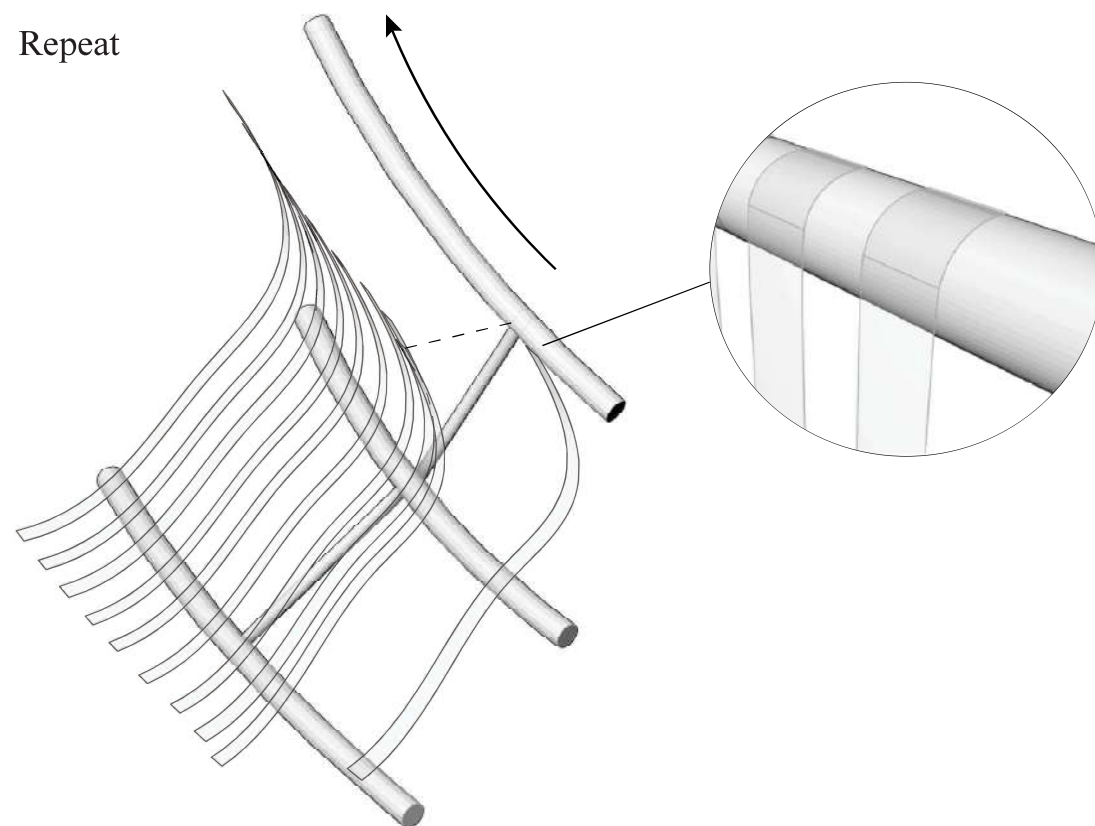
Tinsel

Scale 2:1

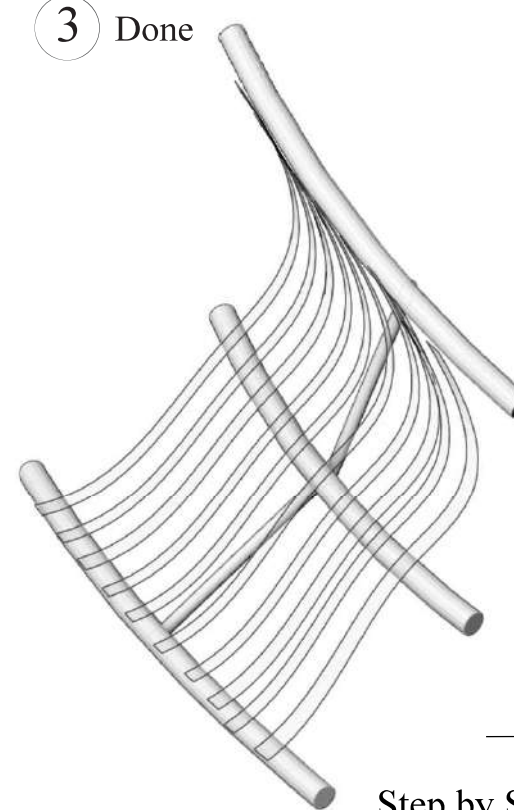
1 Glue



2 Repeat

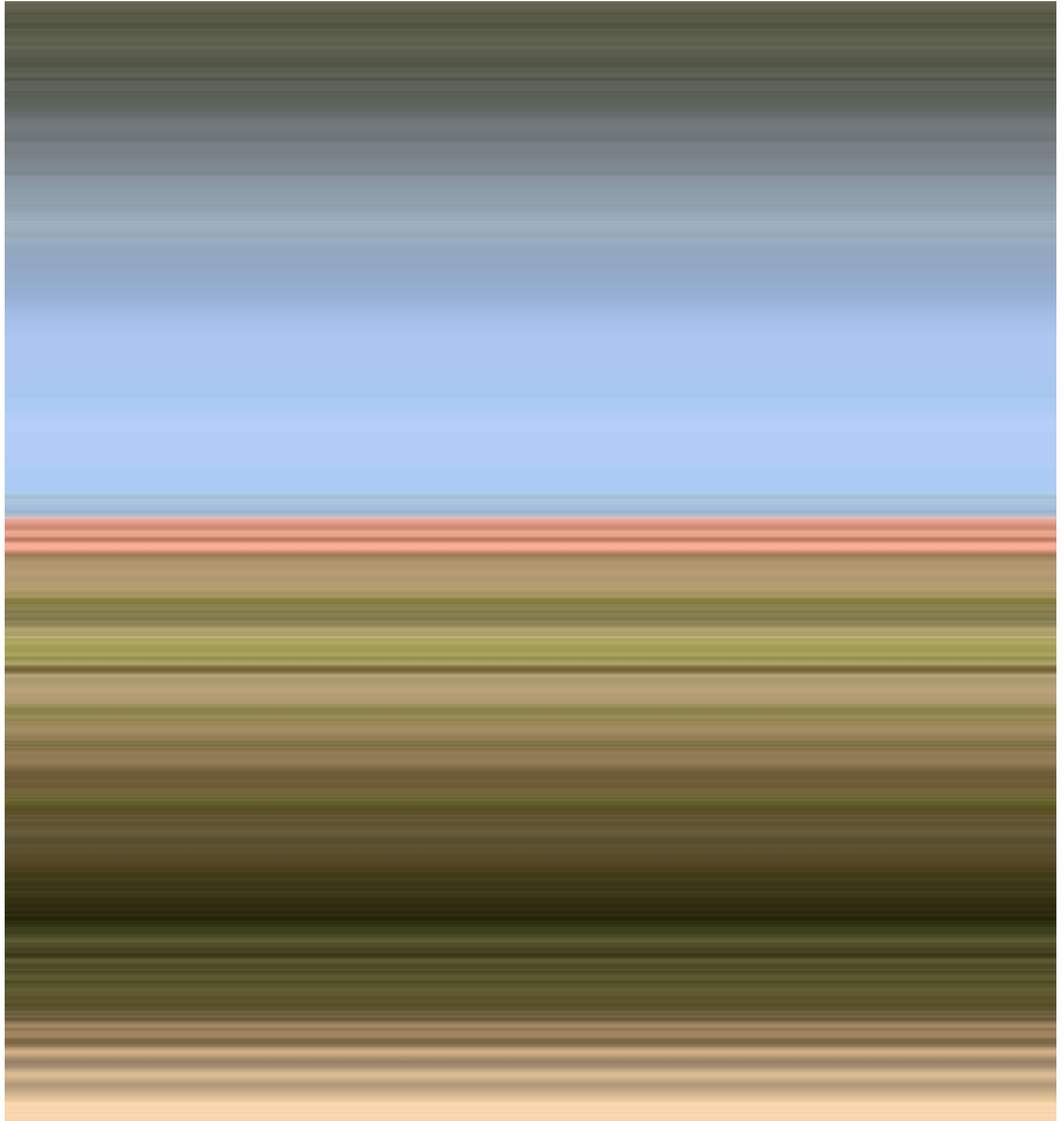


3 Done



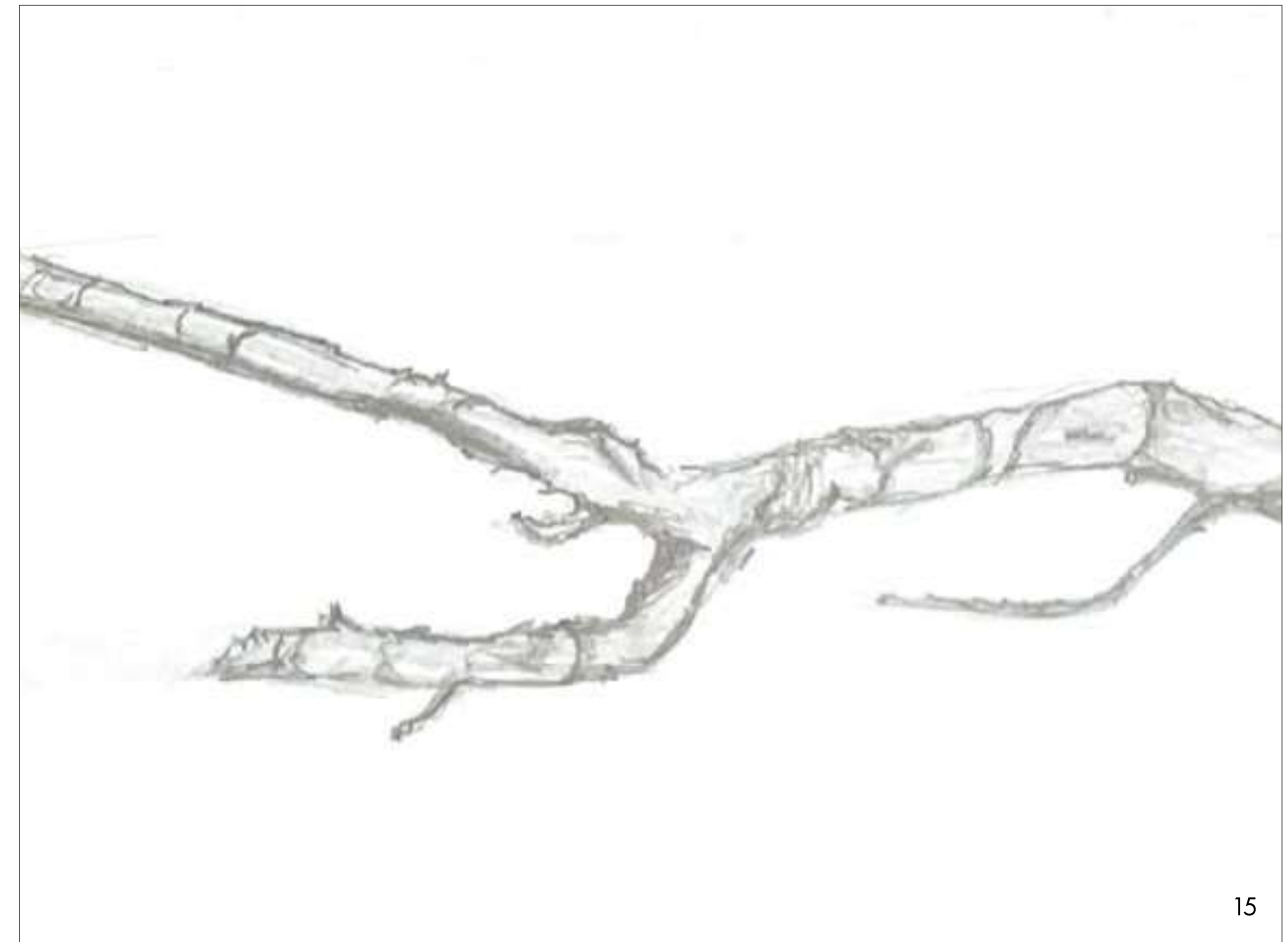
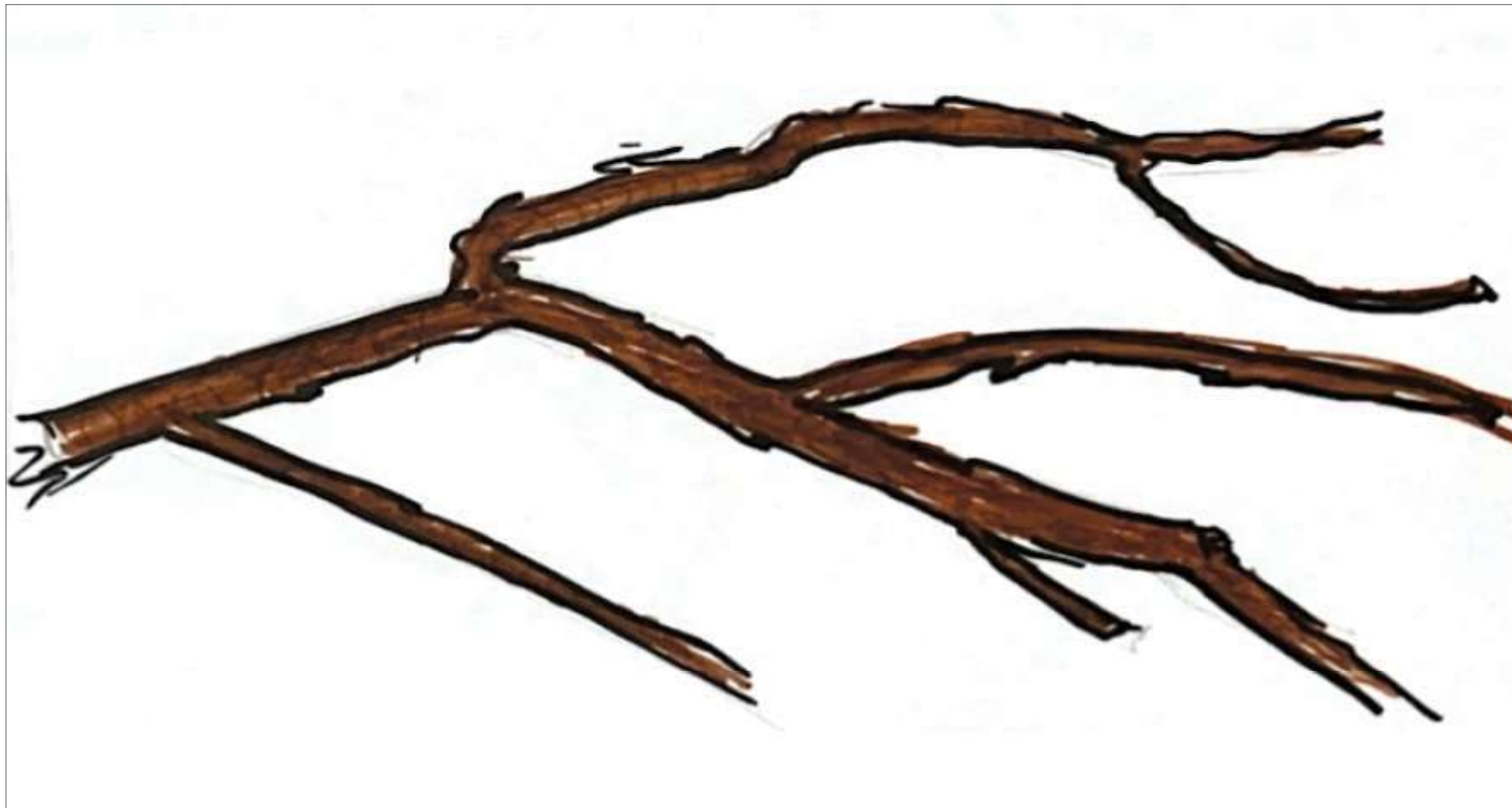
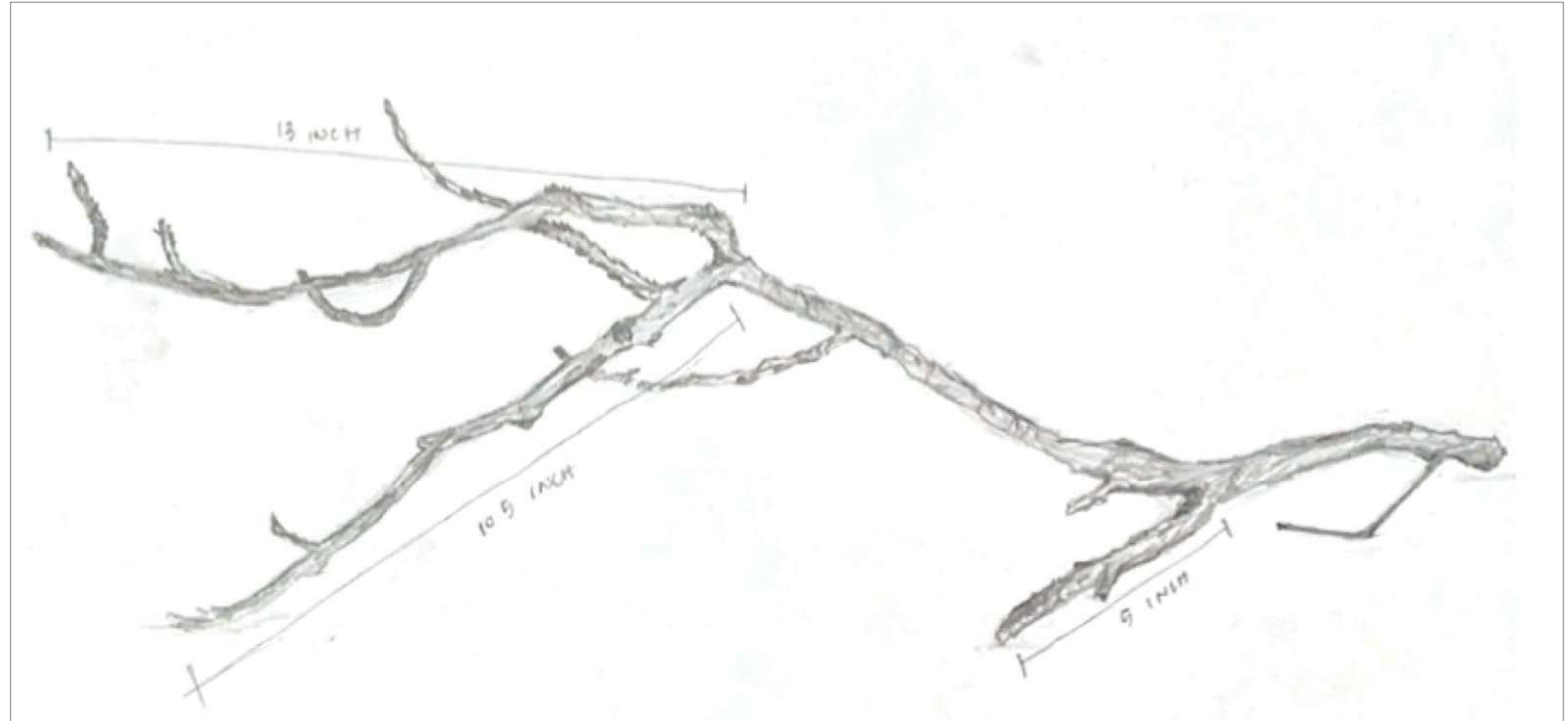
Fall 2025

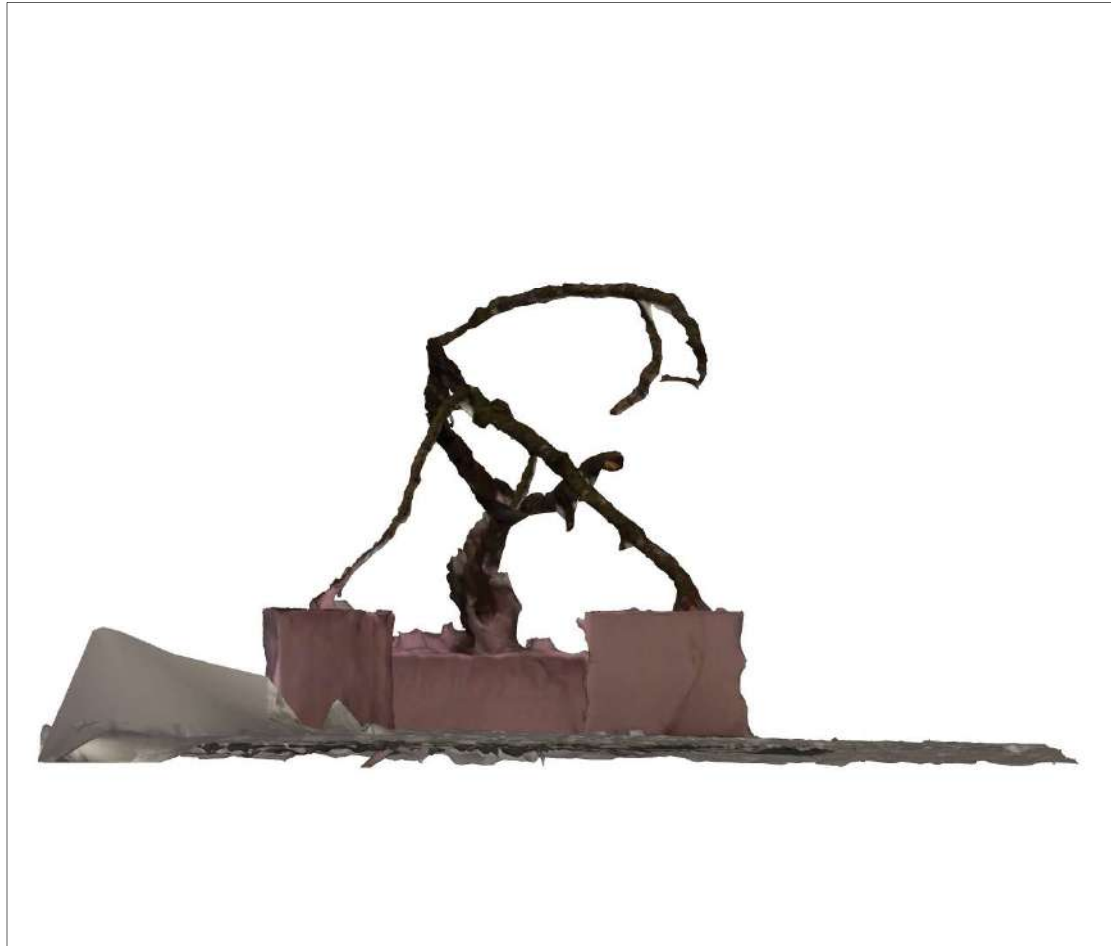
DESIGN MEDIA I



Project 1: Sketching

During this project, I explored different angles and techniques for representing my branch on paper. I primarily worked with sketching pencils and experimented briefly with colored markers. I found it challenging to accurately capture the perspective of the branch as some branches extend out farther than others at different angles and in an organic nature. To depict the exterior texture of my branch I utilized shading.





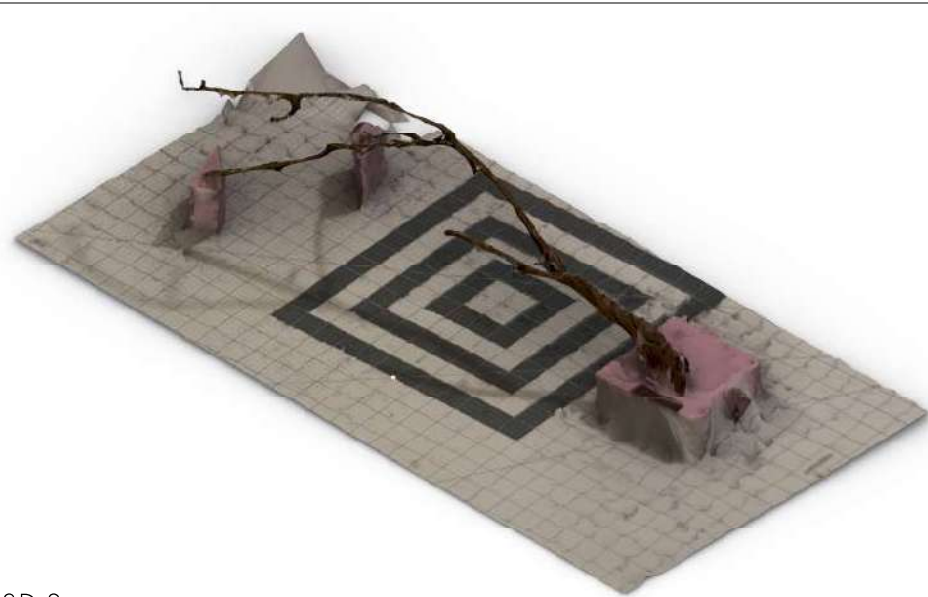
Project 2: 3D Scanning

For this project I had a difficult time creating a clean scan of my branch. I attempted scanning multiple times with different background but ended up settling with the final scan. I really enjoyed importing the scan into rhino as it was very intriguing to see the details of the branch upclose and explore the software a little by doing so.

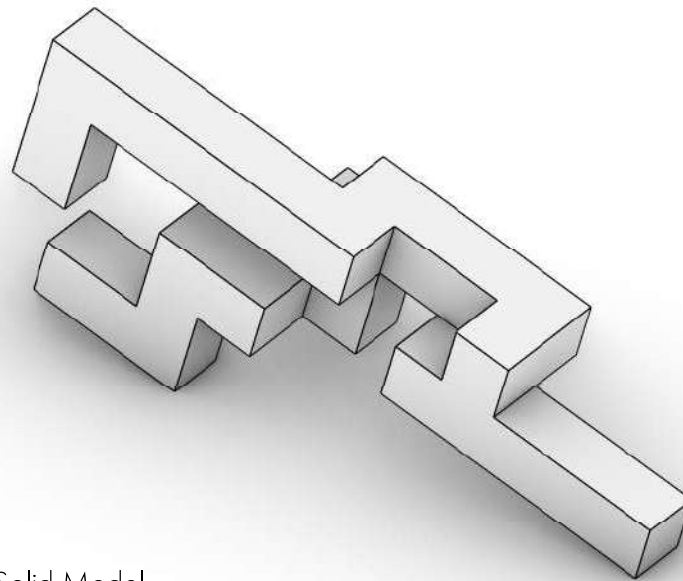


Project 3: Digital Box Model

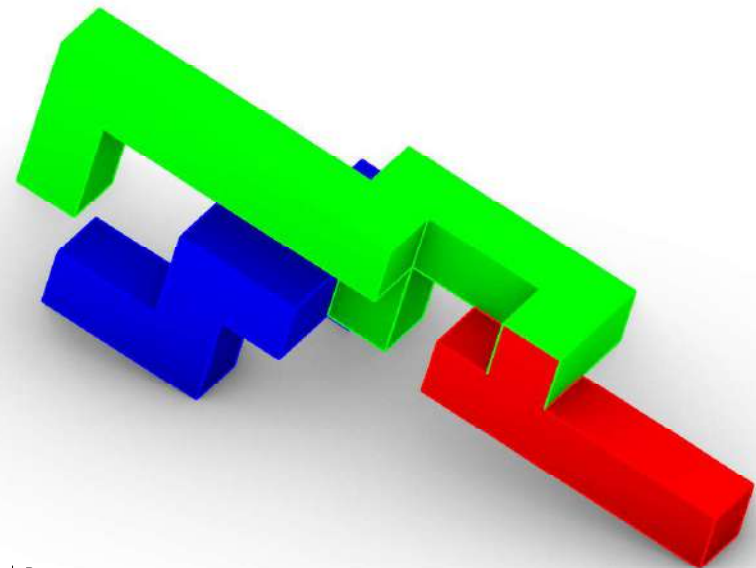
This project was the most complex for me, as each step required very technical and critical thinking to ensure each unfolding went smoothly and logically. I was able to get more comfortable navigating Rhino and the tools it has to offer. I mainly utilized the rotate 3D tool for the unfolding. Additionally, the end of this project was my first time diving into Rhino's display modes, learning how to edit them to better fit what I am communicating.



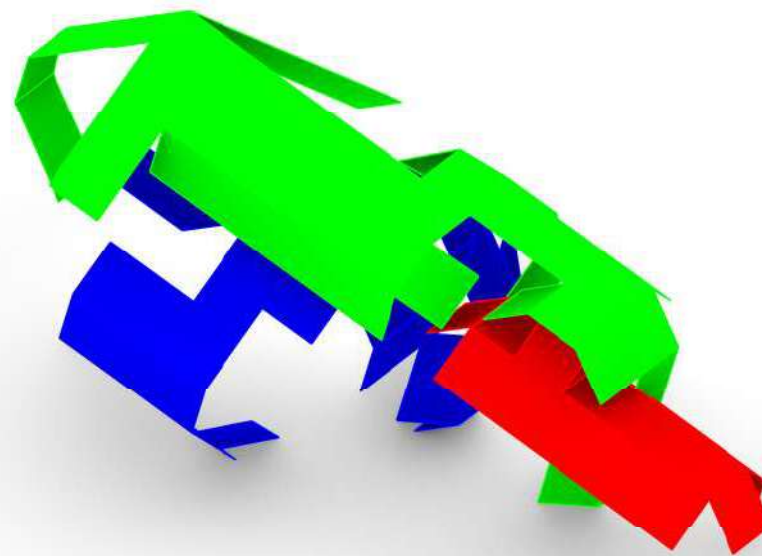
1. 3D Scan



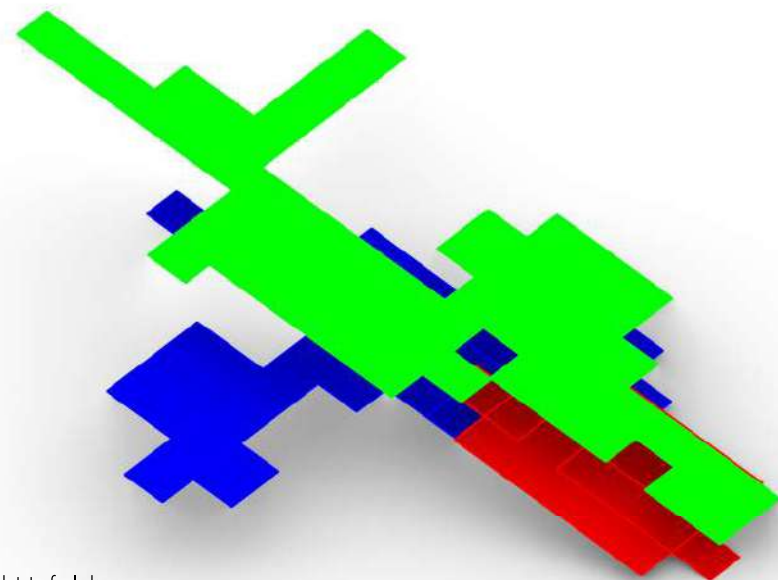
2. Simple Solid Model



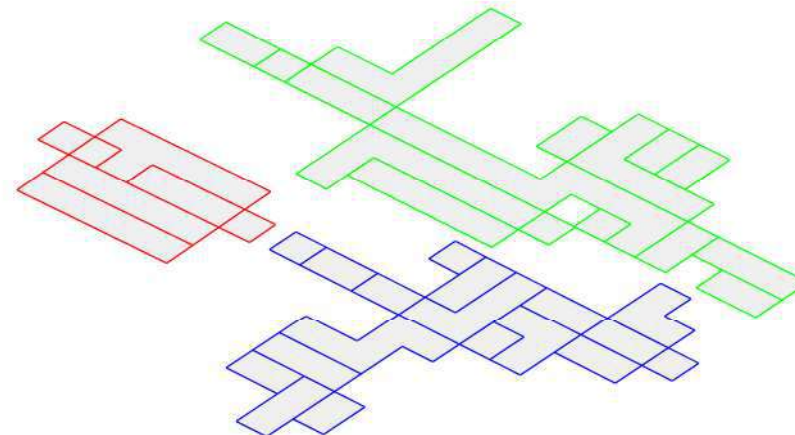
3. Exploded Parts



4. First Unfolding



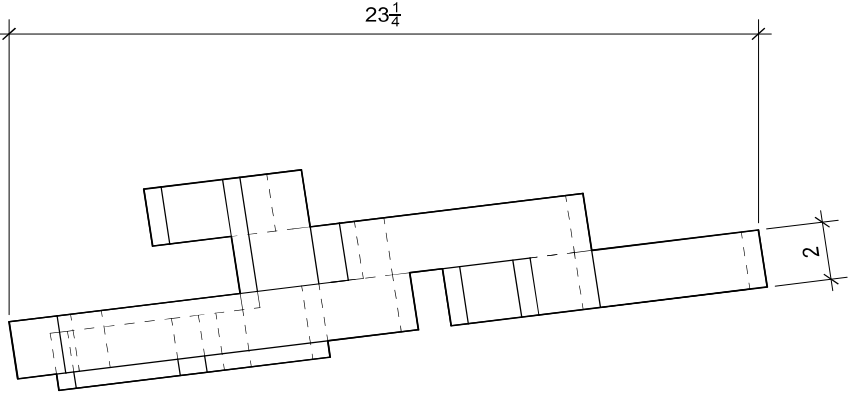
5. Second Unfolding



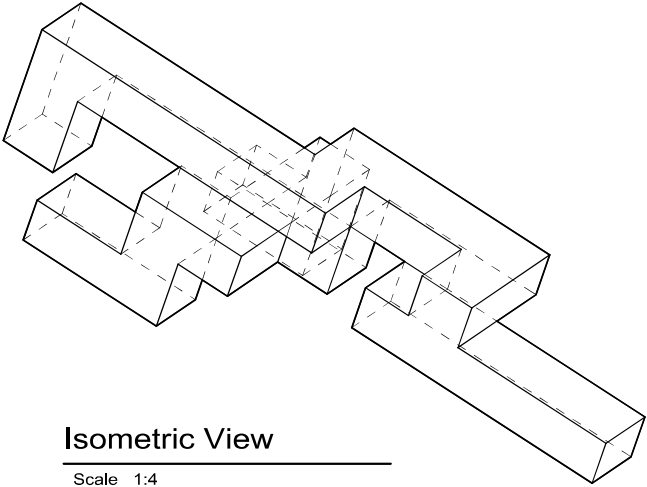
6. Third Unfolding

Project 4: Diagrams & Layouts

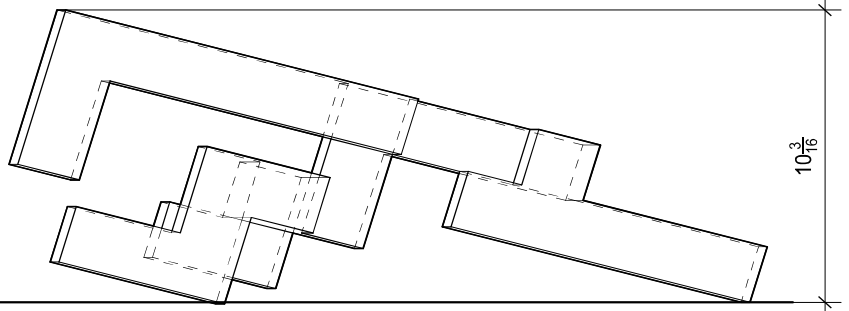
In this project, I learned how to use the Rhino layouts in order to create drawings and diagrams of my branch models. I found this project to be very straightforward and enjoyed the satisfying results of having my work expressed in an organized manner. During this project, I had to keep in mind the clarity and logical understanding of the drawings because I knew that I would depend on them when building my physical model in project 5.



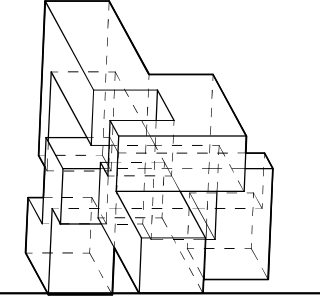
Top View
Scale 1:4



Isometric View
Scale 1:4

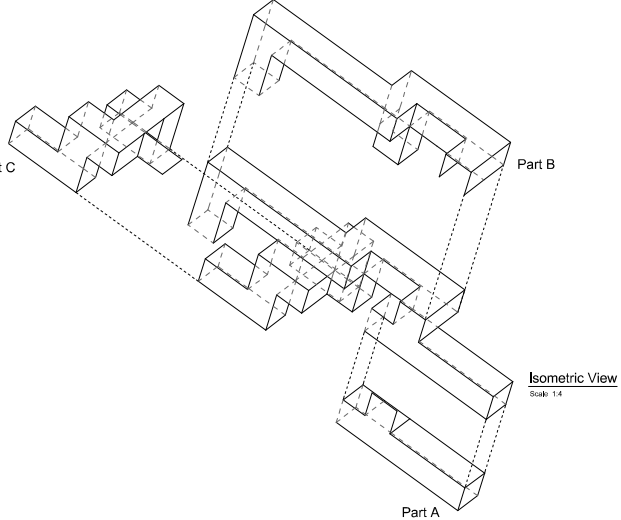


Front View
Scale 1:4

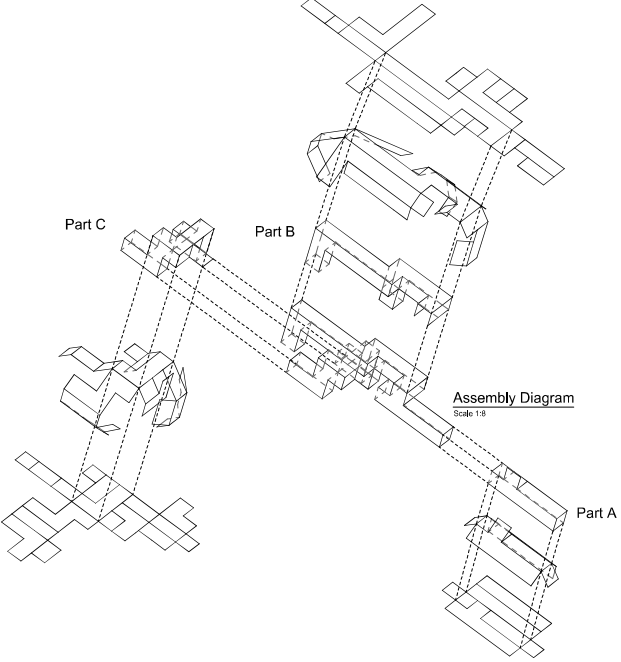


Right View
Scale 1:4

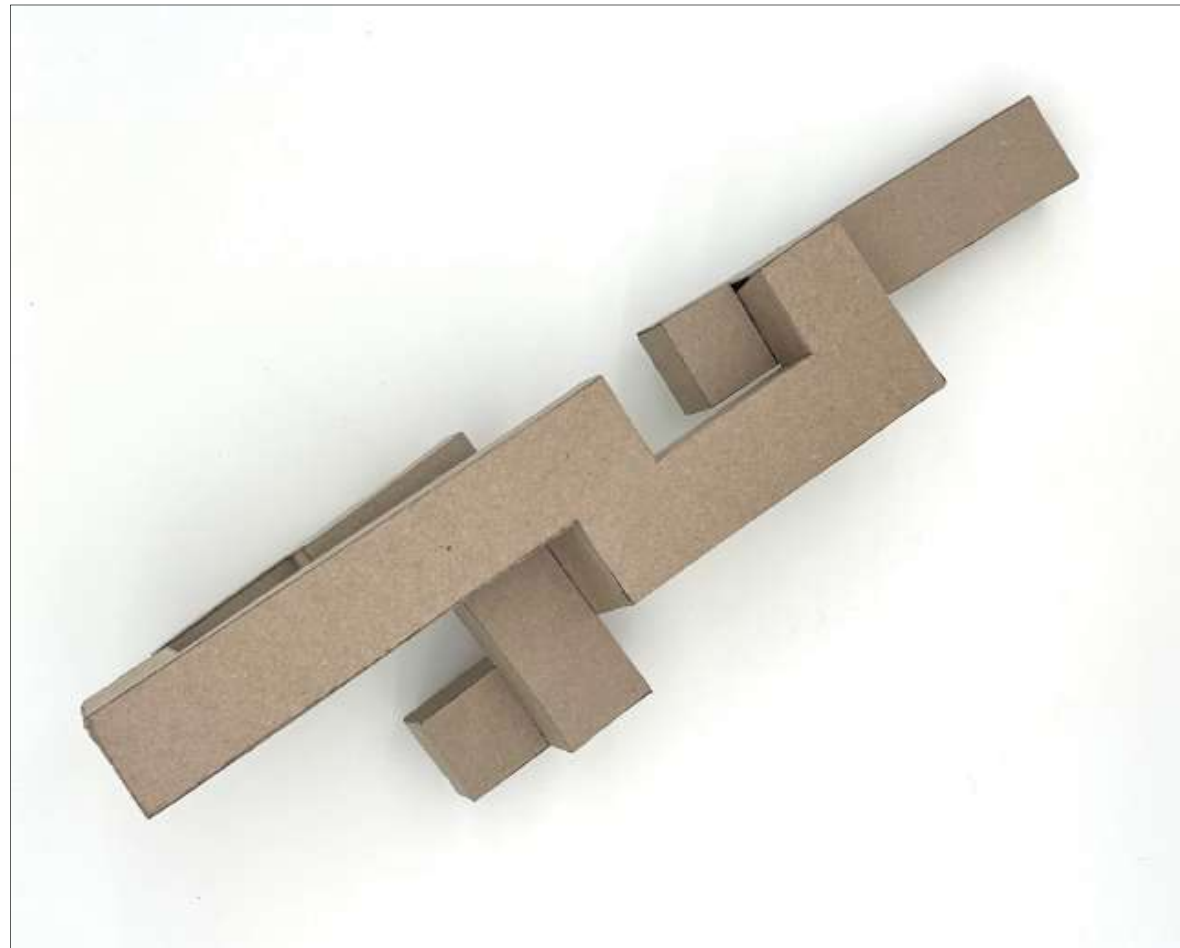
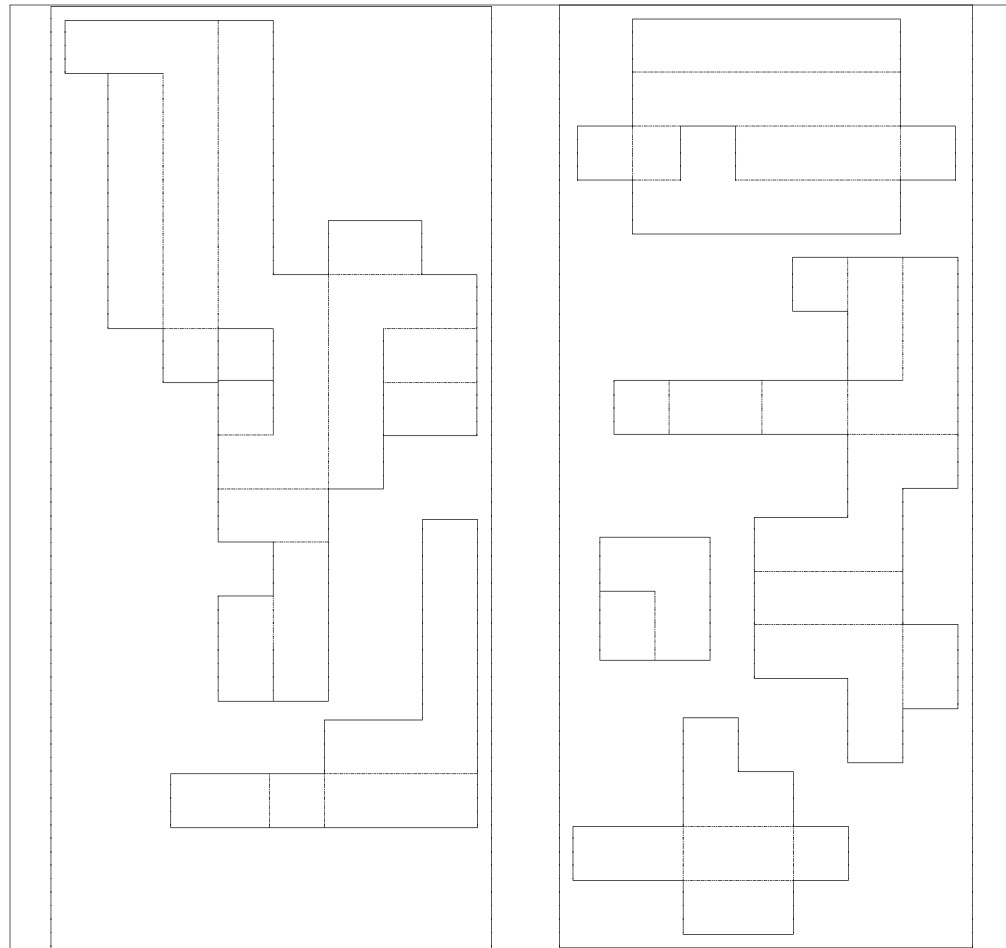
DM-I
DESIGN MEDIA I
MAYAR BADI
SEPTEMBER 23, 2025
PROJECT 4
ORTHOGRAPHIC
DRAWINGS
01



DM-I
DESIGN MEDIA I
MAYAR BADI
SEPTEMBER 23, 2025
PROJECT 4
EXPLODED
ISOMETRIC
02

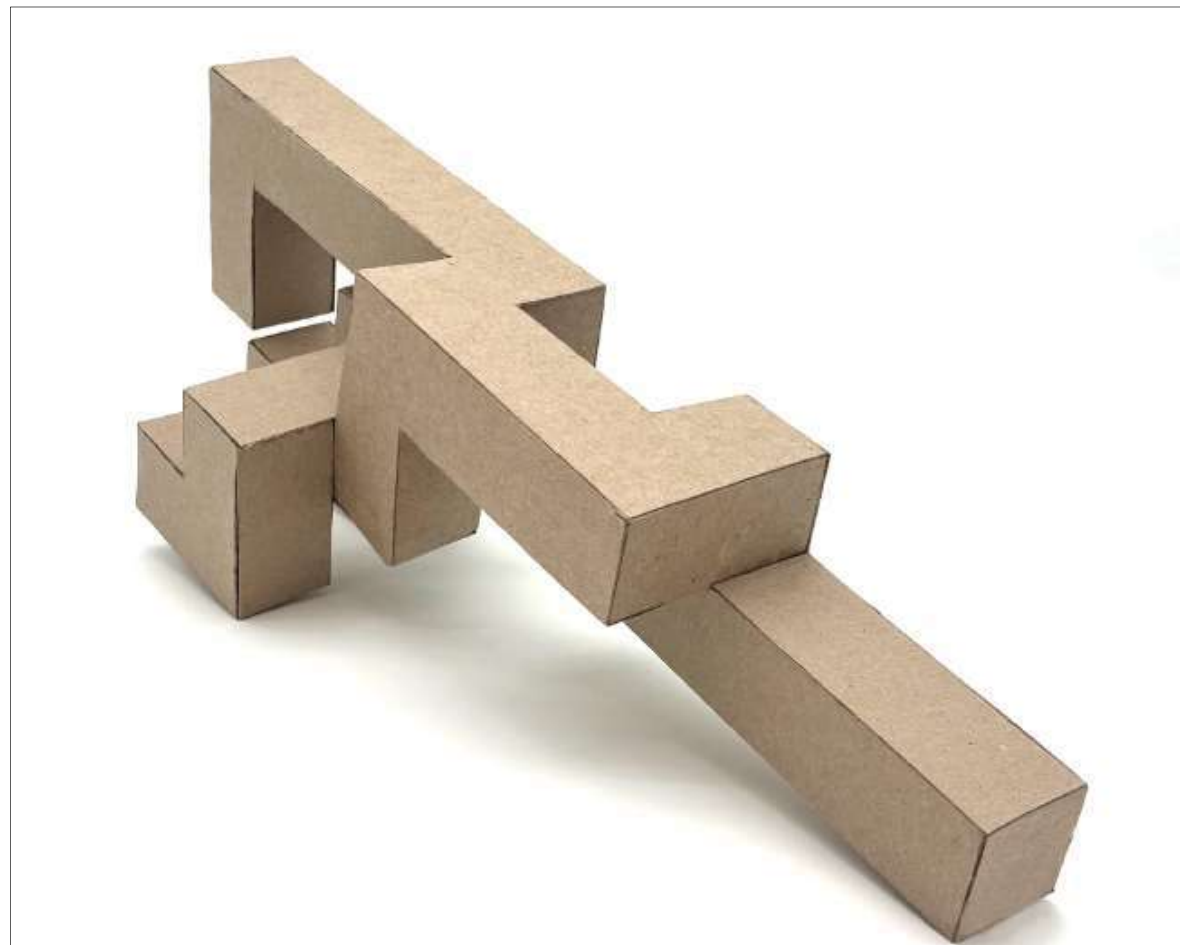


DM-I
DESIGN MEDIA I
MAYAR BADI
SEPTEMBER 23, 2025
PROJECT 4
ASSEMBLY
INSTRUCTIONS
03



Project 5: Physical Box Model

This project was a very exciting project for me, as I felt very confident in my abilities to construct the model due to my previous experience working with chipboard. Despite this, I still had some challenges when assembling the branch parts, as it can get very confusing very fast, especially since some parts had to be split apart into various pieces in the process of nesting the surfaces on the plot. It was nice learning how to make clean edges using tape and other techniques. Overall, the process from going from 2D to 3D was very helpful in better understanding my branch, and I am very content with the final result of my physical model.



Project 6: Color Palettes

The color palettes assignment was a very impactful project because it really opened up my comfort level with Adobe software. Through this project, I was able to understand the purpose and uses of both Photoshop and Illustrator. I personally really enjoyed this step-by-step process and illustration of the overall project, as I felt it allowed me to explore different color configurations while still trying to navigate the software. I learned how to use various blending tools within Photoshop and how to display everything in Illustrator.



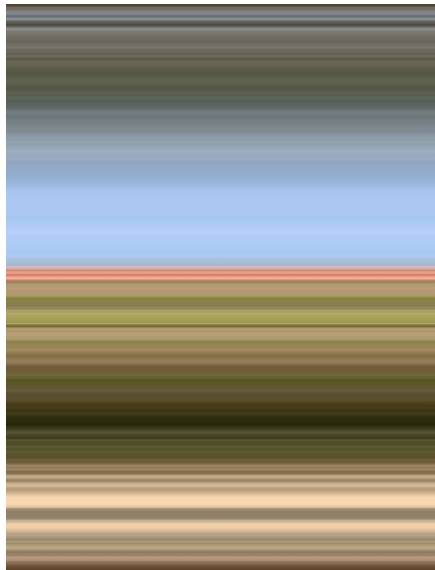
Original Image



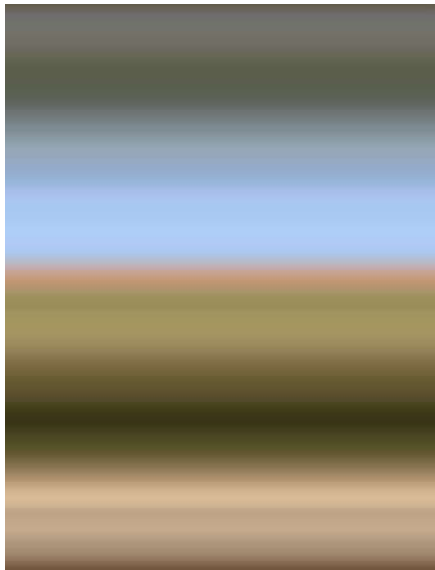
Guassain Blur



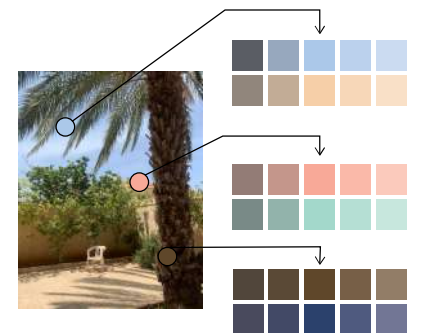
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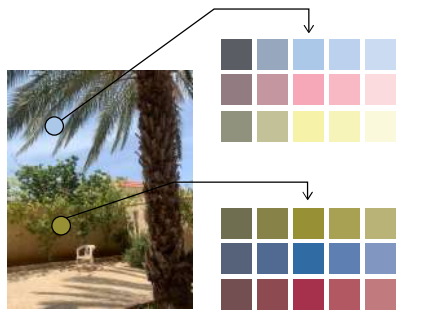
Pixel Slice



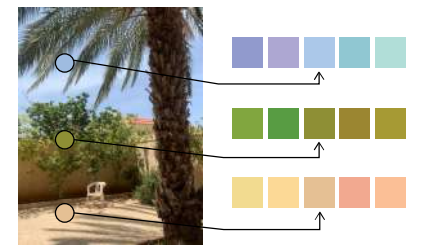
Guassain Blurred Pixel Slice



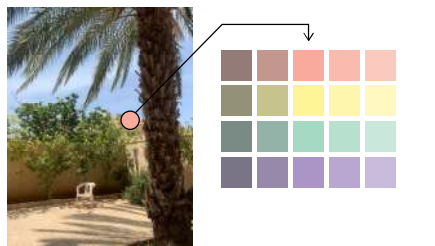
Complimentary Colors



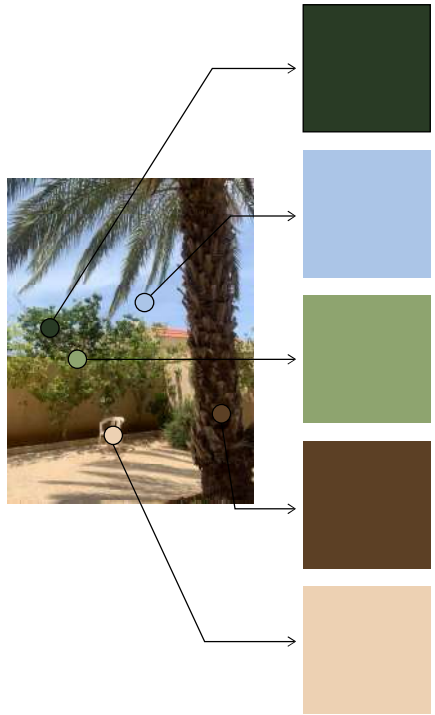
Triadic Colors



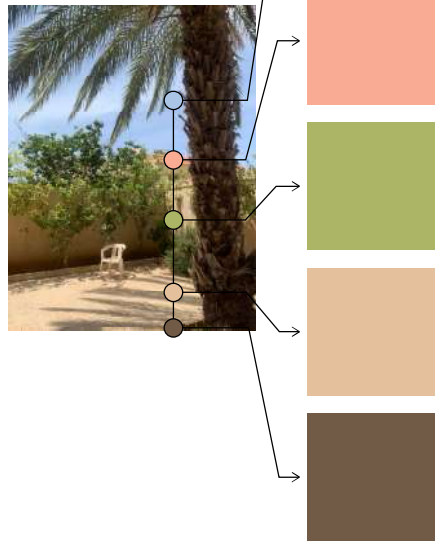
Analogous Colors



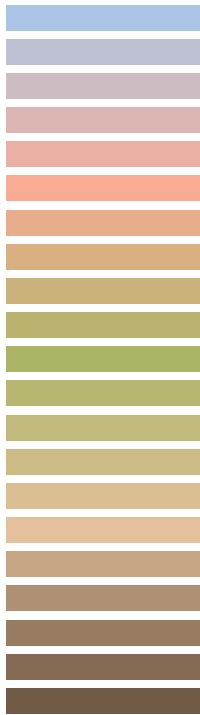
Tetradic Colors



Extract Theme From Image



Extract Gradient From Image



Blend Tool



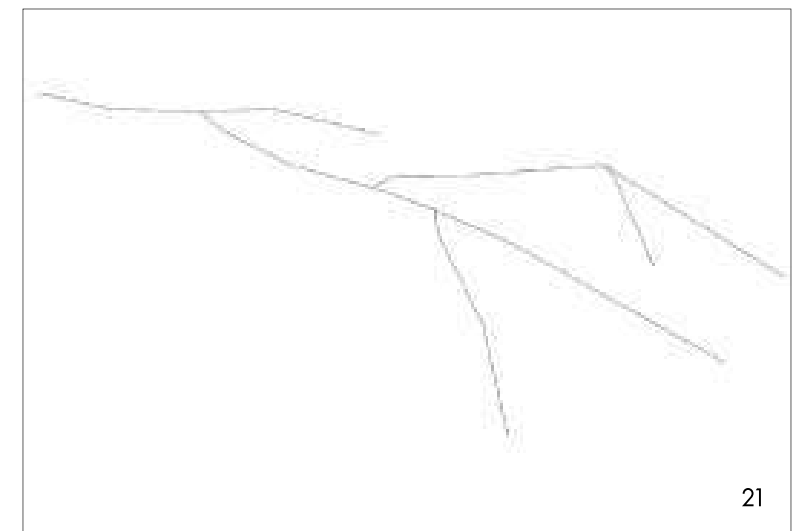
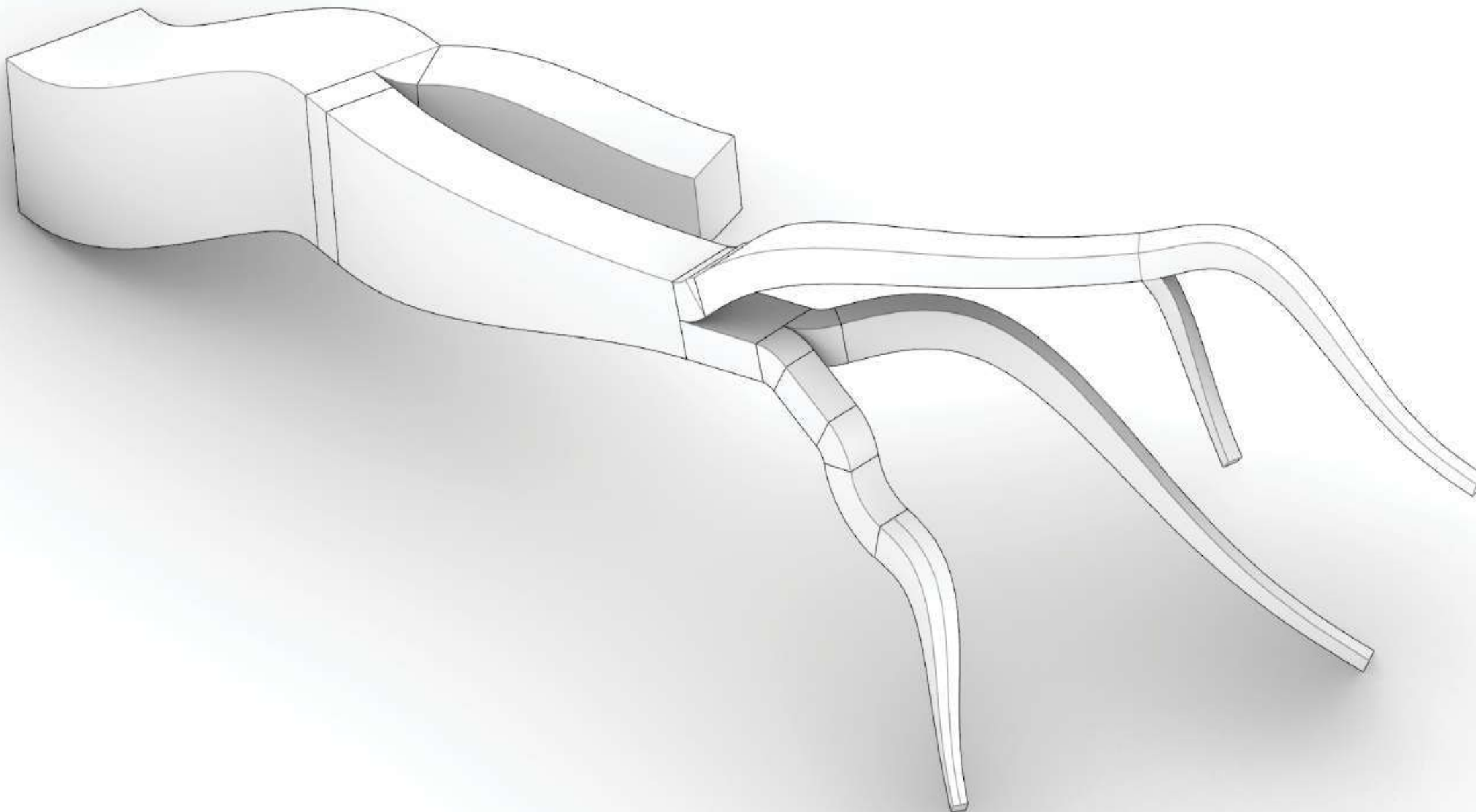
Gradient Tool

Contruct Gradients

Design Media I: Project 6: Color
Mayar Badi

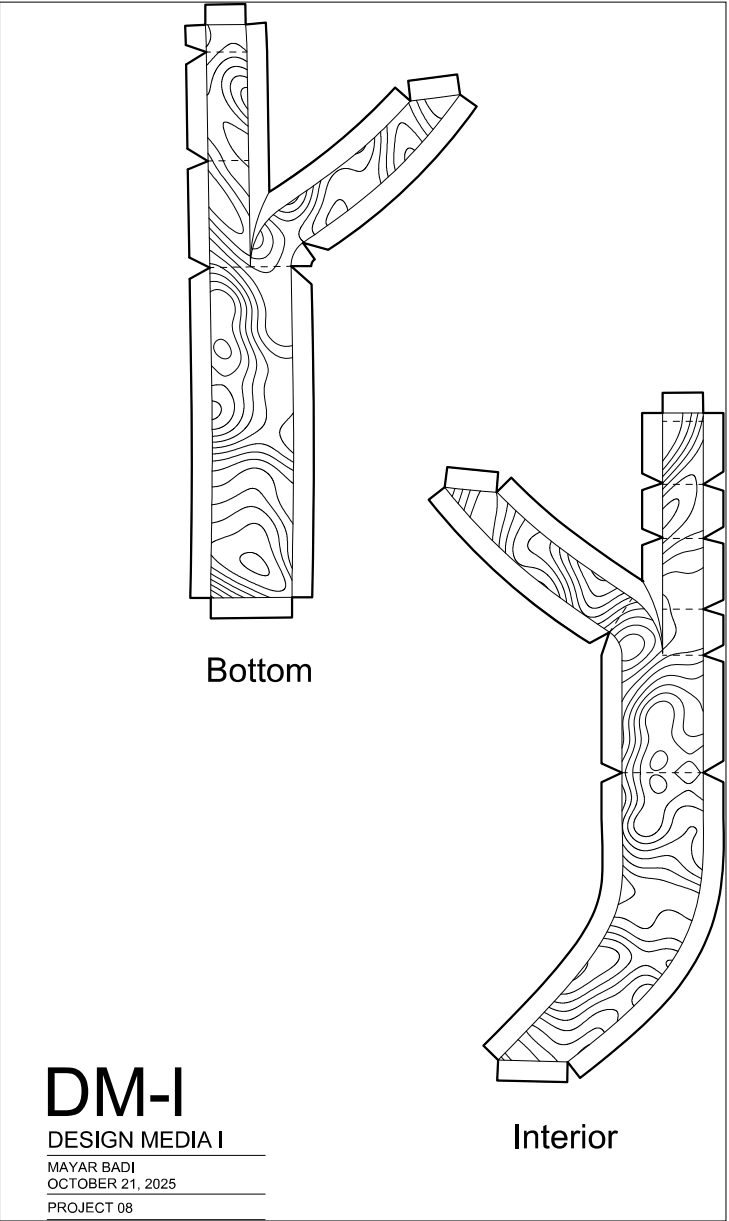
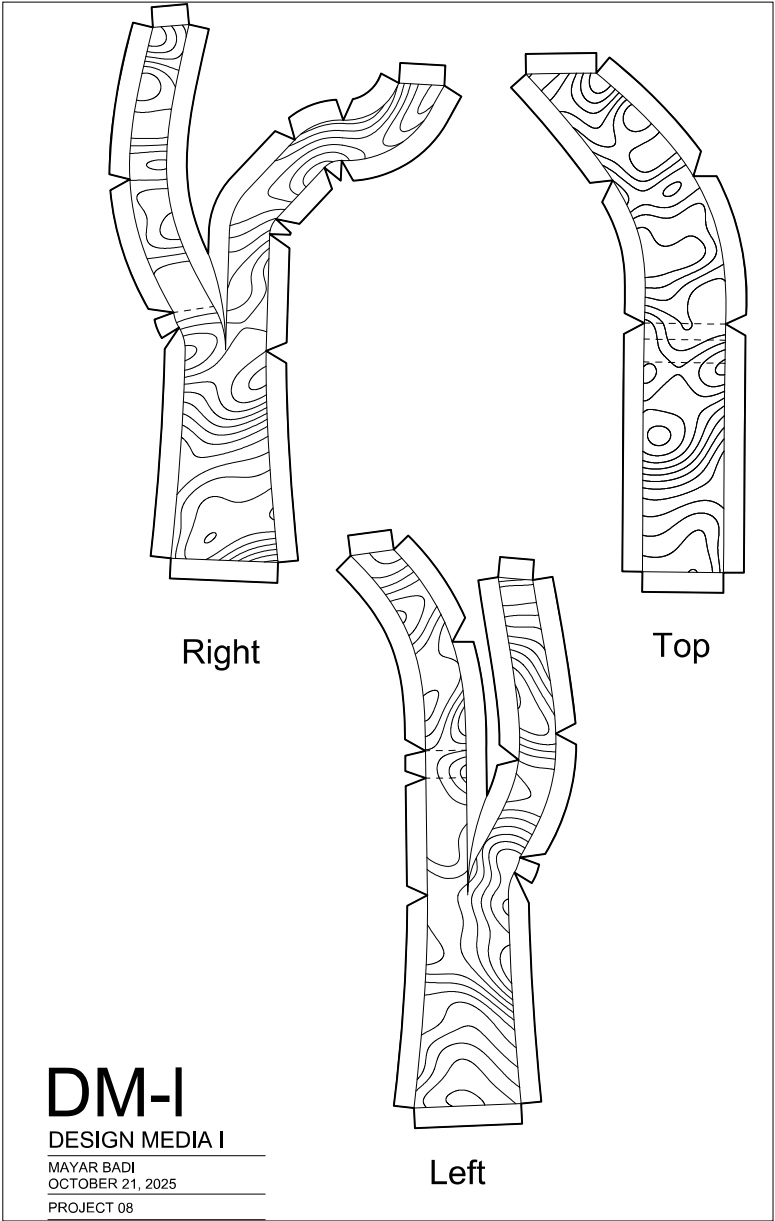
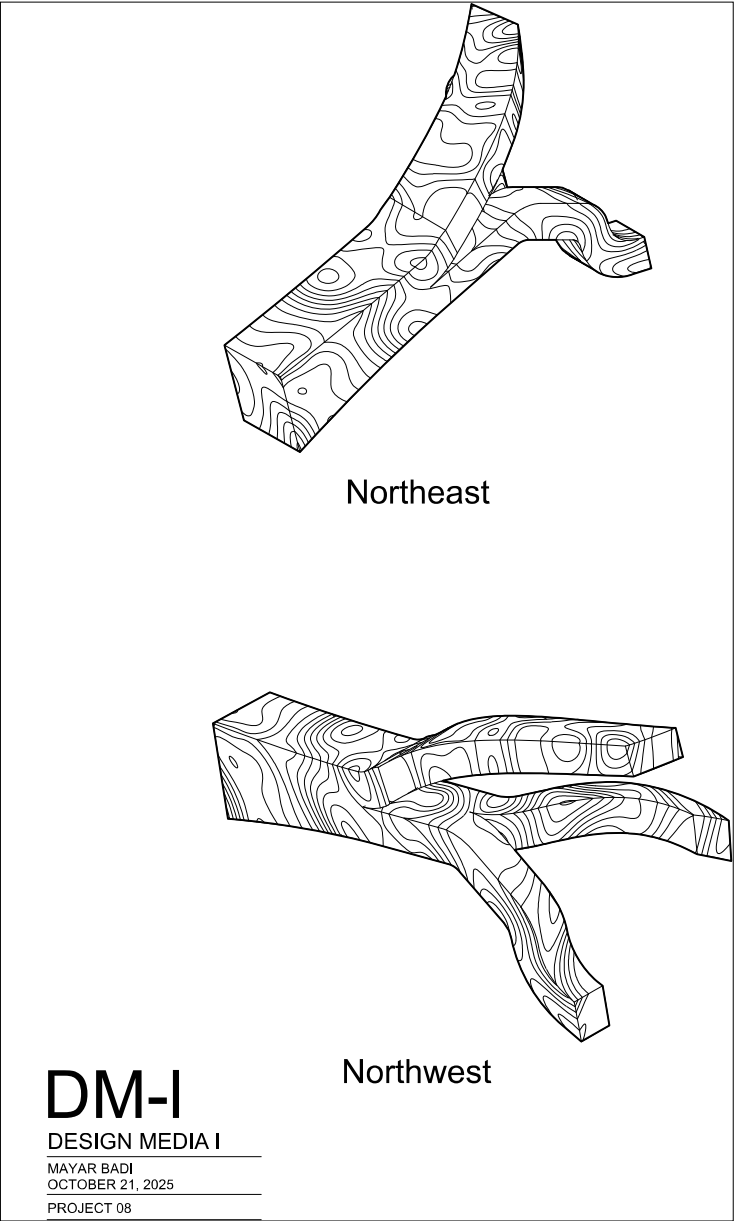
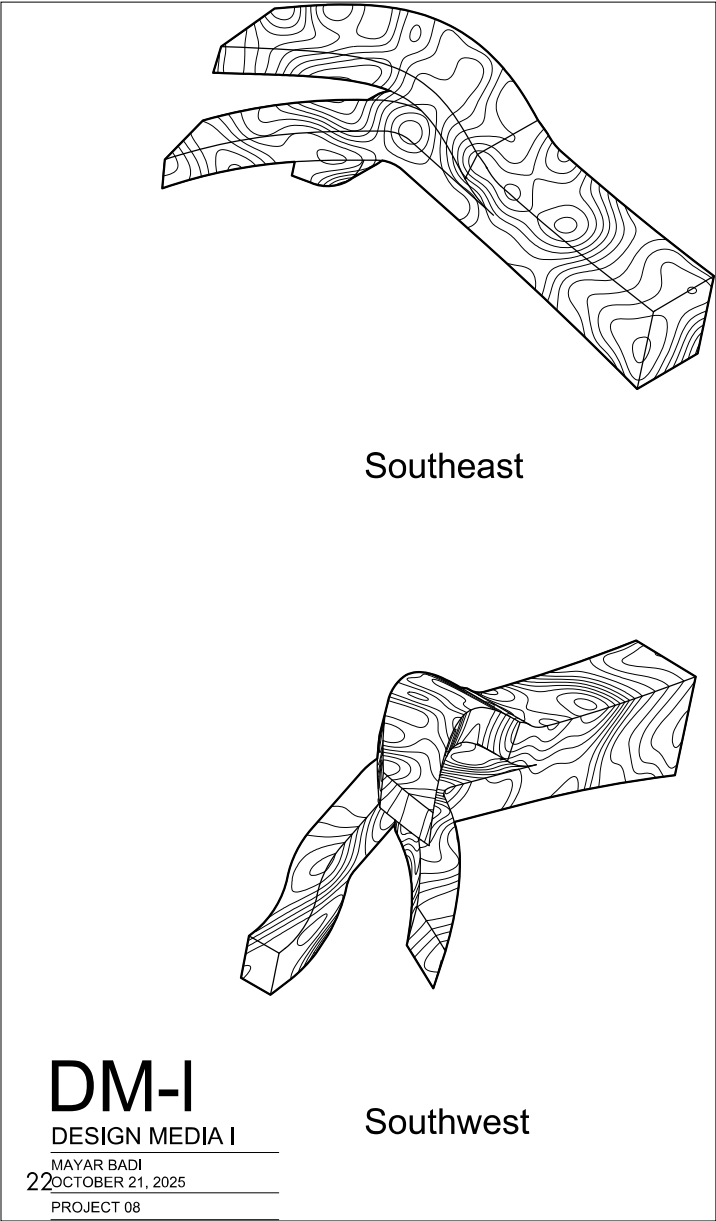
Project 7: Ruled Surface Model

Creating my ruled surface model in Rhino was a very tedious process, and while the overall instructions for this project are straightforward, it still requires some critical thinking, similar to project 3. What I found to be the most time-consuming and complex aspect of this project was the constant changing of the C-planes within the model. After getting further along the branch, I definitely started to get the hang of constant changes, but it took some time. Another tool I heavily relied on for this project was the loft tool, which was the main tool I utilized in order to achieve the forms of my branch.



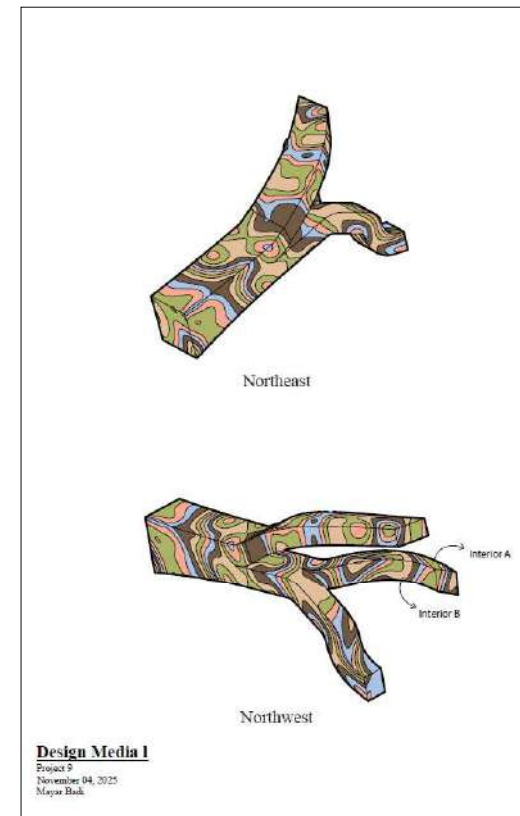
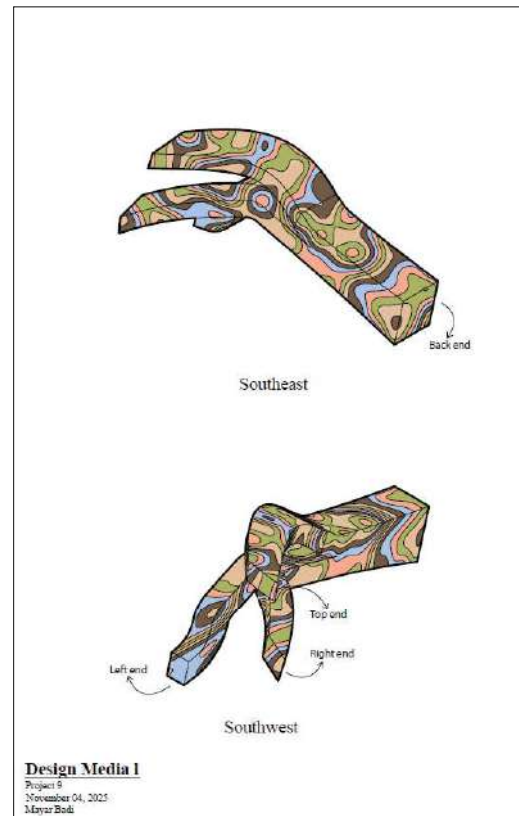
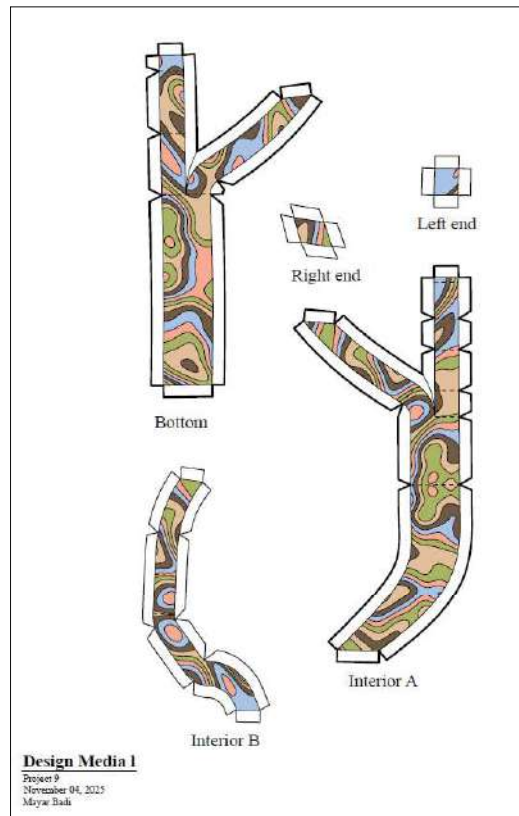
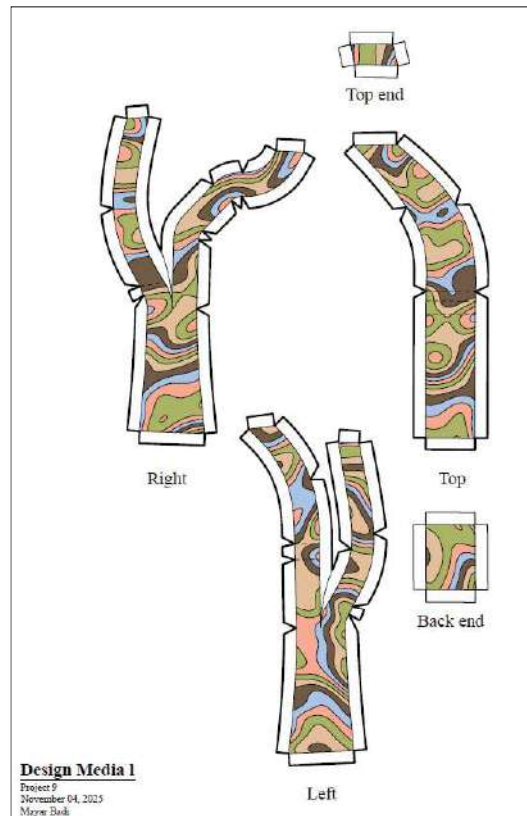
Project 8: Surface Patterns

This project has many different variables that contributed to the final product, which made it a bit more complex than some of the other projects, but I felt that my previous projects prepared me for it. Additionally, this project introduced the use of a heighfield (in Photoshop) with Rhino. I learned that there are many possibilities with the use of multiple platforms and how I can utilize Photoshop in collaboration with Rhino to project curves. During this project, I was also able to strengthen my understanding of how to use the layout feature within Rhino and implement different line weights and line types within my drawings.



Project 9: Ruled Surface Physical Model

This project was one of my favorites because it felt very therapeutic and relaxing. I really enjoyed how repetitive the process of using live paint was with the combination of the typography that I projected in the previous project. The more challenging part of this project was the physical model-making portion. Unlike my box model in project 5, I found this model harder to construct due to the many bends and curves. My preparation beforehand definitely helped make the process a lot smoother as I made sure to create plenty of tabs and planned where I would score the paper. The area I struggled with the most was the interior portion, but I was able to overcome it with some small alterations and by creating a larger slit in my Bristol paper.

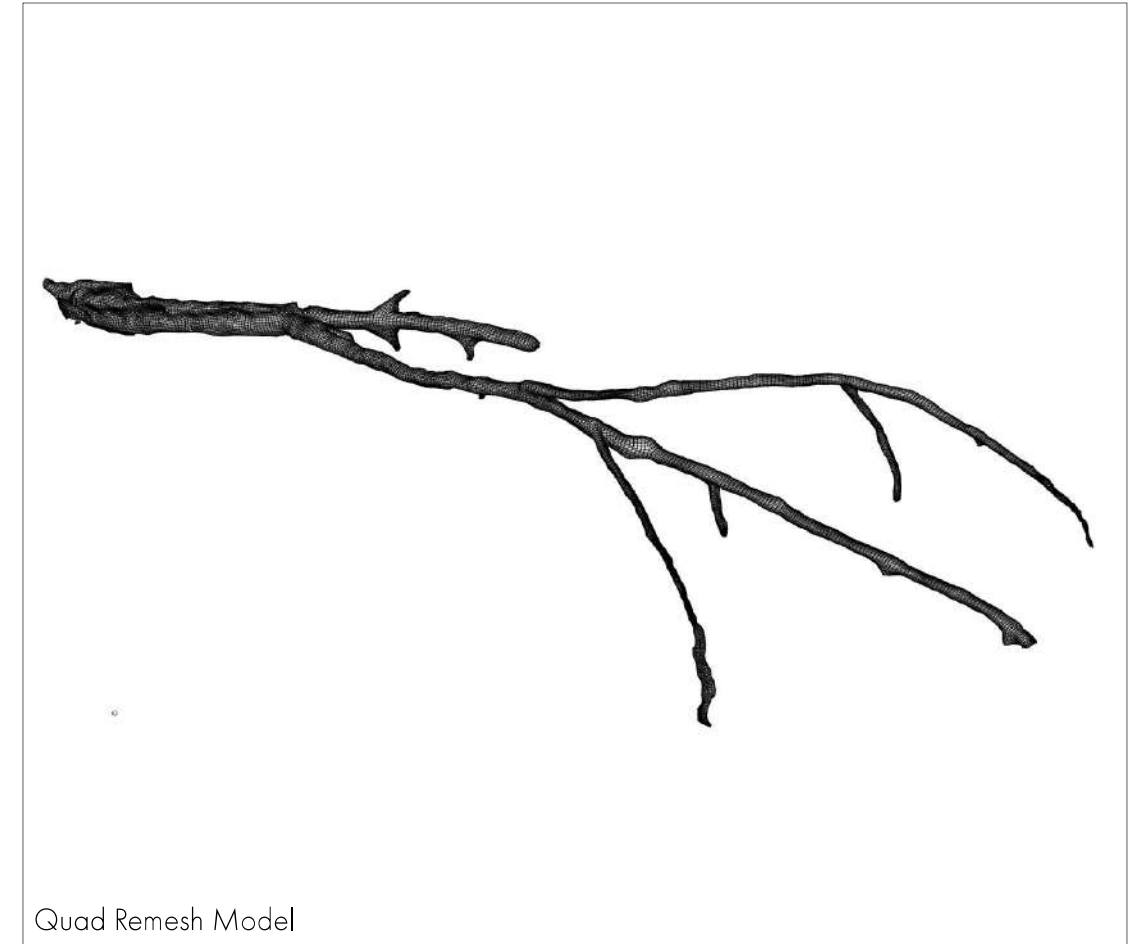


Project 10: Digital Mesh & Subdivision Model

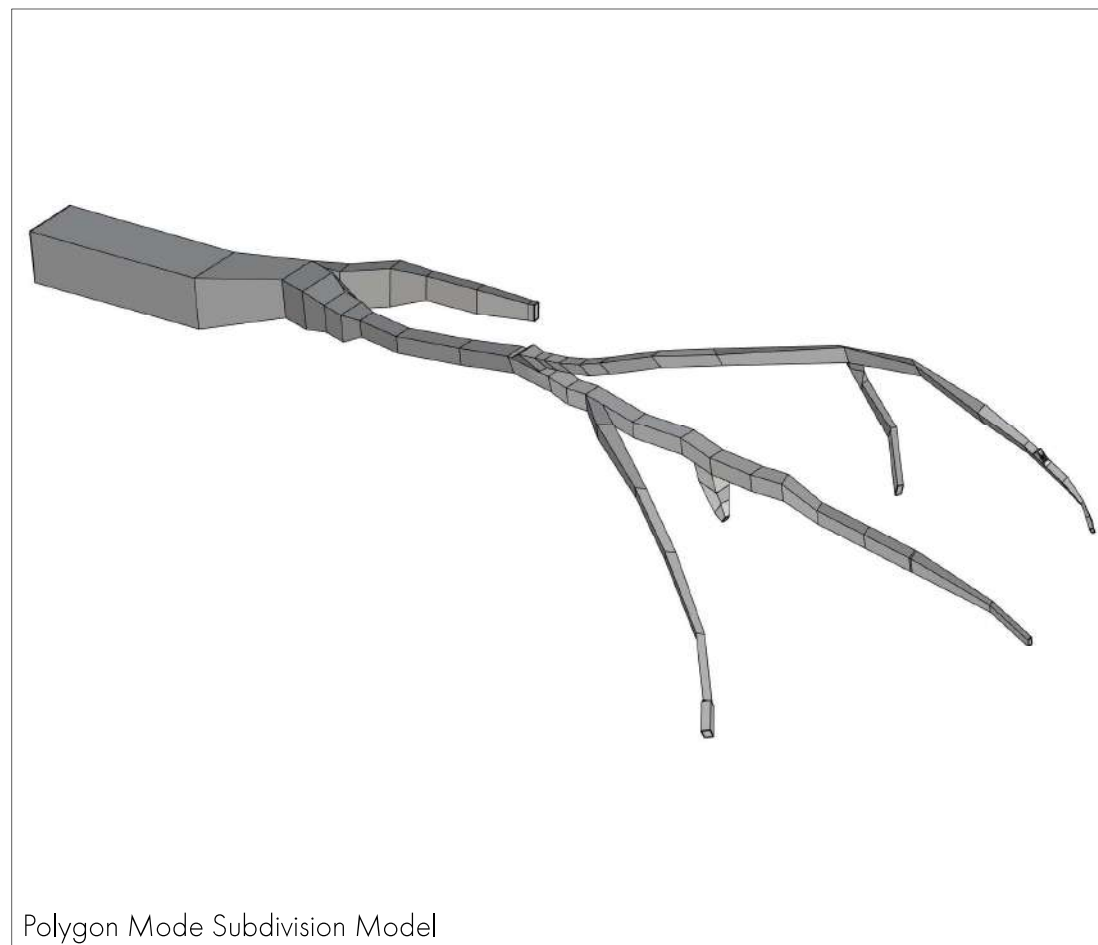
This project was very simple and quick overall, especially with the experience I built up with the other projects. I mainly just had to clean up my scan, then I went in with the quad mesh tool and the subD modeling. I found the concept and process of SubD modeling to be very interesting. It was very motivating to see the branch come together as I was modeling and switching back and forth from the polygon mode to the smooth mode.



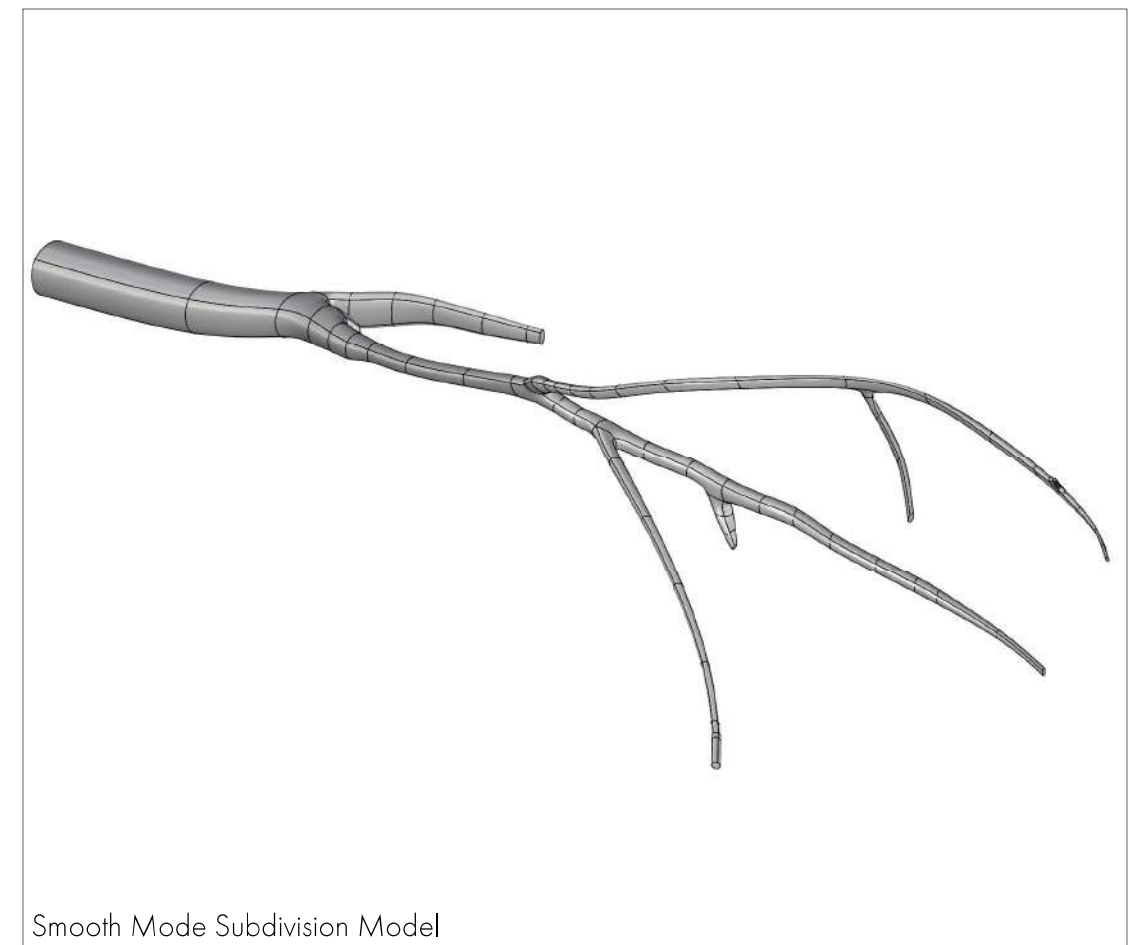
3D Scanned Model



Quad Remesh Model



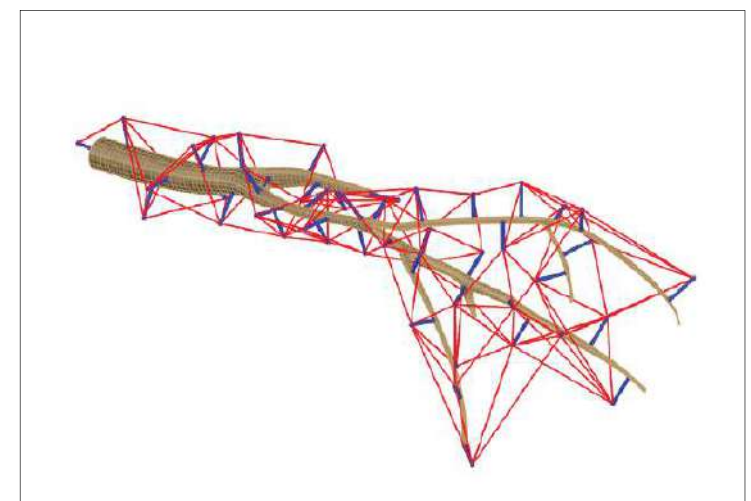
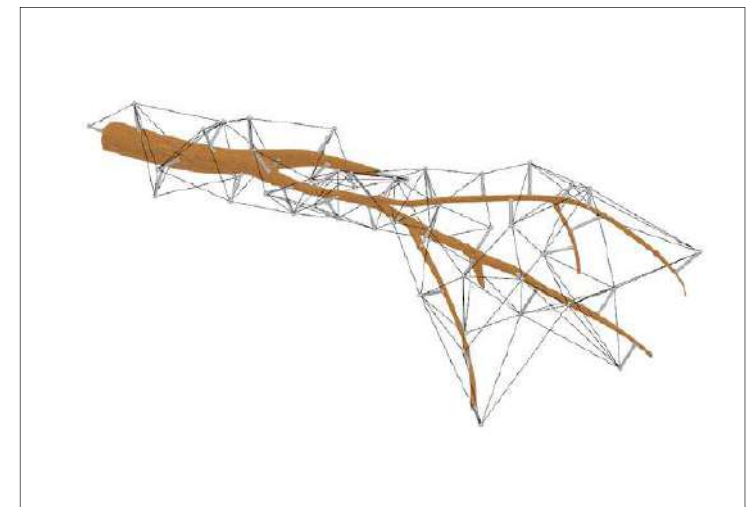
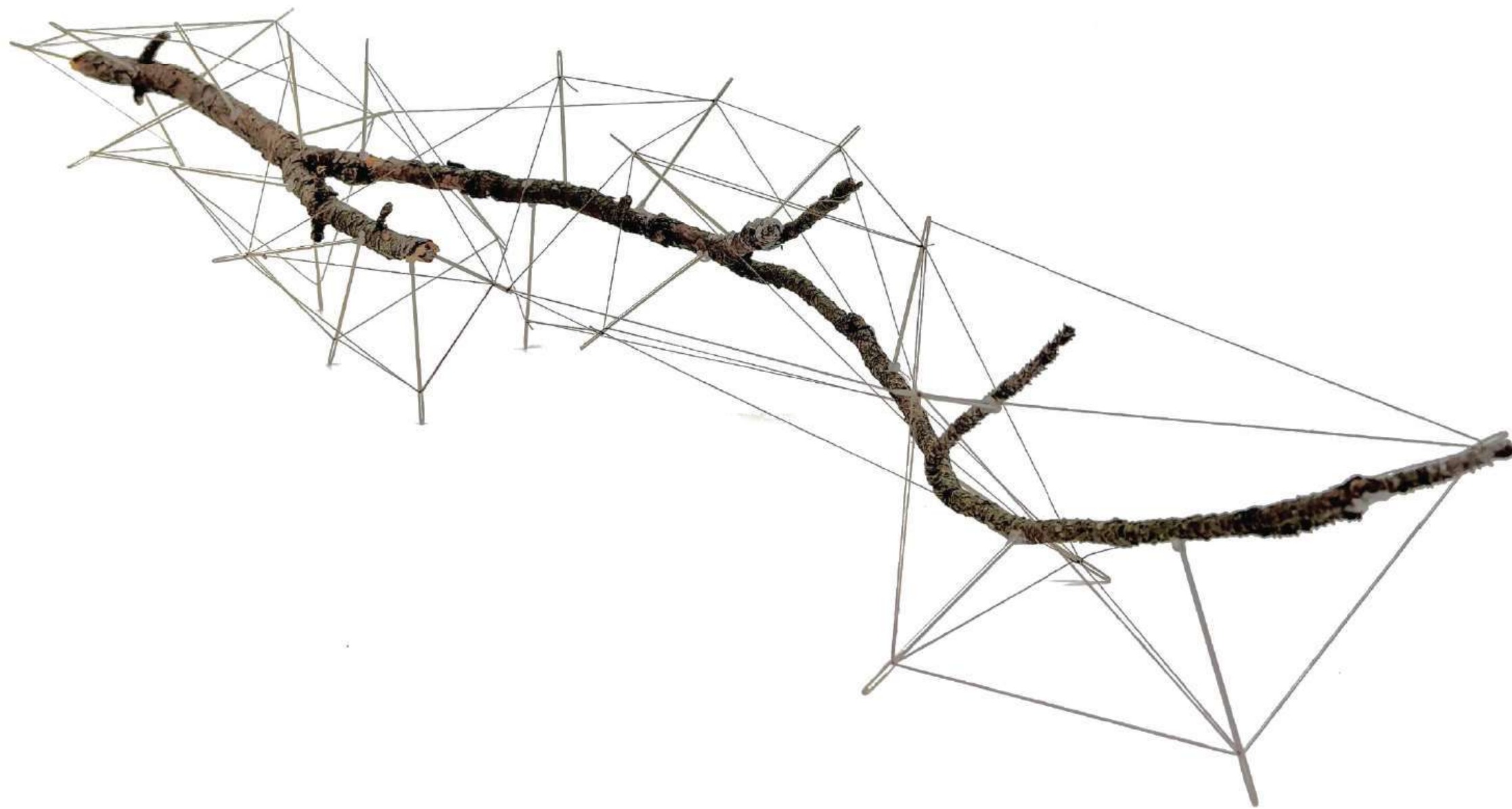
Polygon Mode Subdivision Model



Smooth Mode Subdivision Model

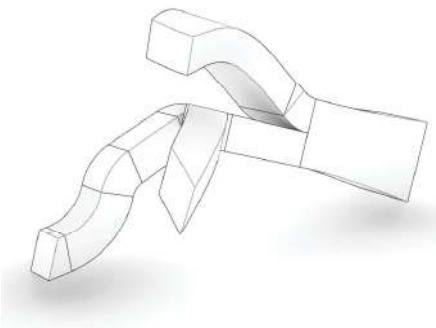
Project 11: Tensegrity Model

This project introduced the use of Grasshopper within Rhino to simulate the tensegrity model. I found Grasshopper to be very interesting, and it definitely took some time to understand how it operated with its version history. After I was able to get my rhino model inputted and set up, the rest of the process was very smooth sailing and straightforward. I continued to add my nodes until I felt I had a good stopping point and all my points were evenly spaced out.



Project 12: Generative AI

The final project of the semester provided some freedom and creativity for me to explore the use of AI in relation to my previous projects. I decided to prompt the AI software to create a library building that utilized the natural arch of my model as a walkway. The use of AI taught me how unpredictable it can be. I learned that with AI tools, when it came to visual renders, I had to be very open-minded and be able to work with what it provided/ be patient throughout the process.



Reoriented 3D Model
Rotated the 3D model from Project 8 to appear like a building in Rhino.



Text to Image
Prompt: A library building made of wood wall elements and large glass windows. With greenery space beneath the arch. The building is located in a park area with trees and bright lighting. The photo is taken from an eye level.



Image to Image
Prompt: Show me the line drawing as a photo using the style, color, environment and photography as a reference. Make the line drawing into a wood cladded structure with glass windows. The line drawing has an arched form, beneath that space i want park like space. Follow the line drawing very closely.



Inpainting
Prompt: Add people walking and standing in the circles areas.



Upscale
4x Upscale



Image to Video
Prompt: A slow drone video zooming in on the building from the ground to the balcony.



Remove Background
Prompt: Remove background so that only the building remains.



Image to 3D Model

Spring 2026
ARCH 1501



Project 1: Precedent

Rio House

Olson Kundig

Rio de Janeiro, Brazil

2018

The Rio House by Olson Kundig is a private residence that is located within the National Tijuca Park in Rio de Janeiro, Brazil. The home was designed to serve as an escape from the busy city and a retreat.

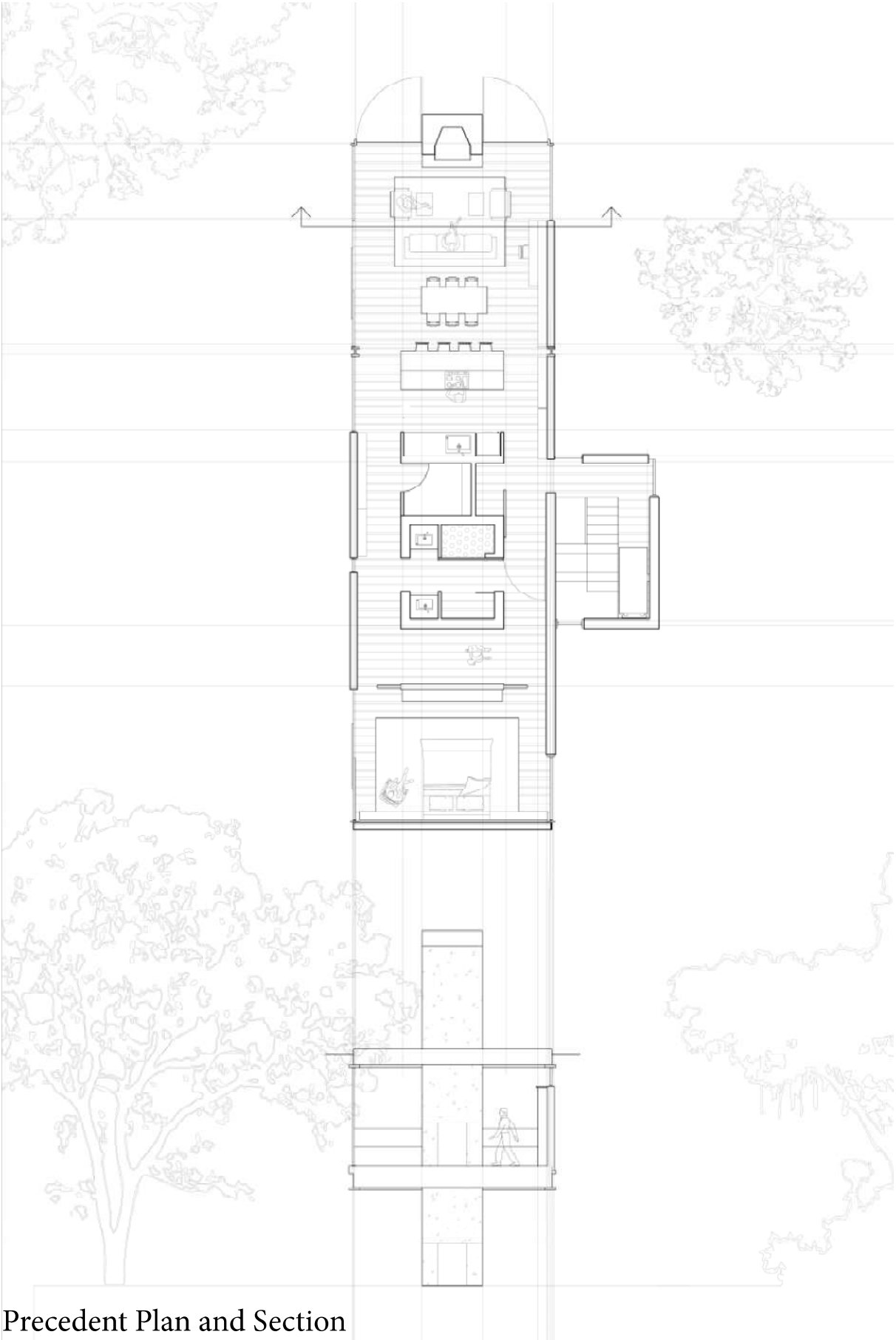
The strategic placement of the main building above the ground, allows the main spaces of the home to be submerged in nature adjacent to the tree canopies. The overall structure is a simple steel and glass mass that is supported by two heavy concrete pillars. The house contains a single bedroom at the far north end for maximum privacy and the linear program created a guide for the movement and circulation. Other spaces include an open living space and an open porch and outdoor kitchen on the lower floor.

Local construction techniques are incorporated throughout, including board-formed concrete site walls and interior walls of colorful plaster over terracotta in the Brazilian tradition. Floors are Brazilian wood and vermelhão stained concrete, a common vernacular tradition. Painted, marine-grade stainless structural steel – the home's primary material – stands up to the humid climate where corrosion is a concern. The home is designed for natural ventilation with manual pivot windows and retractable window walls with insect screens. These, along with a solar water heating system, allow the home to function during intermittent power outages.

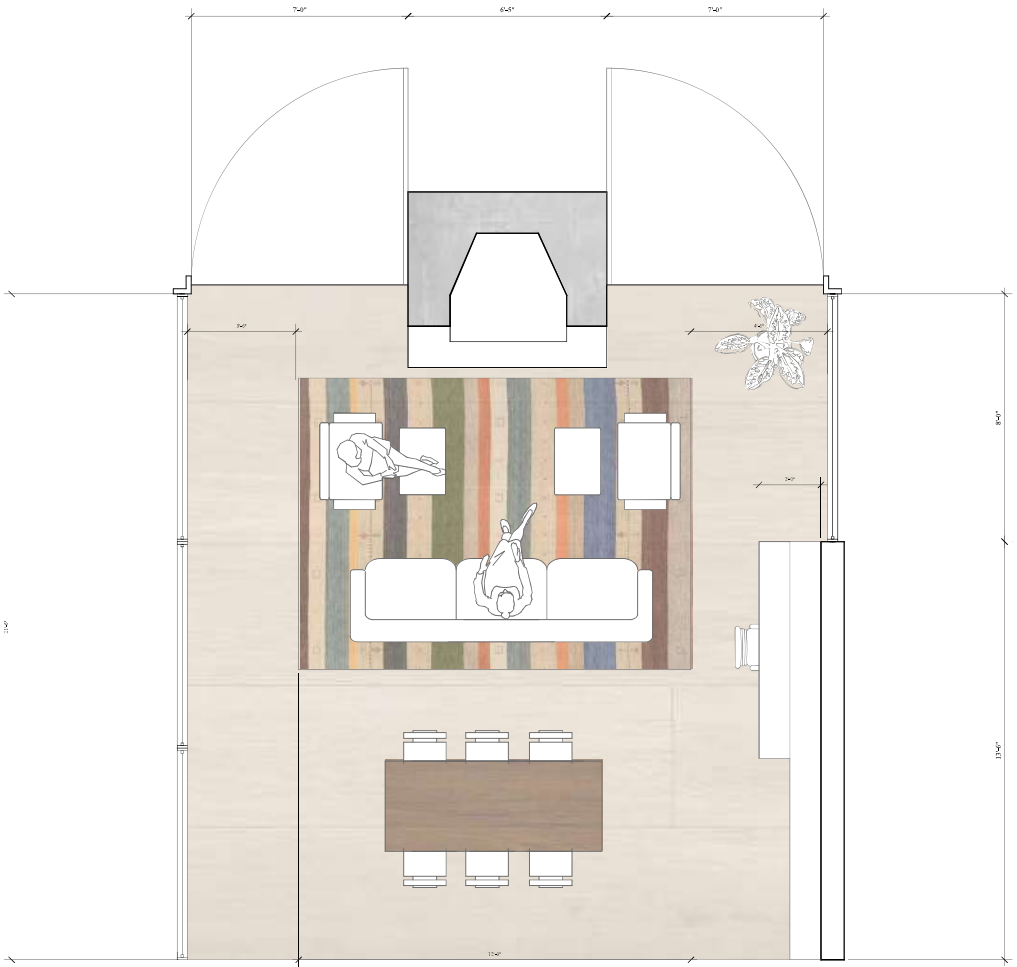
Overall the home is centered on the outdoor landscape and surrounding environment, making the Rio House a peaceful and relaxing escape.



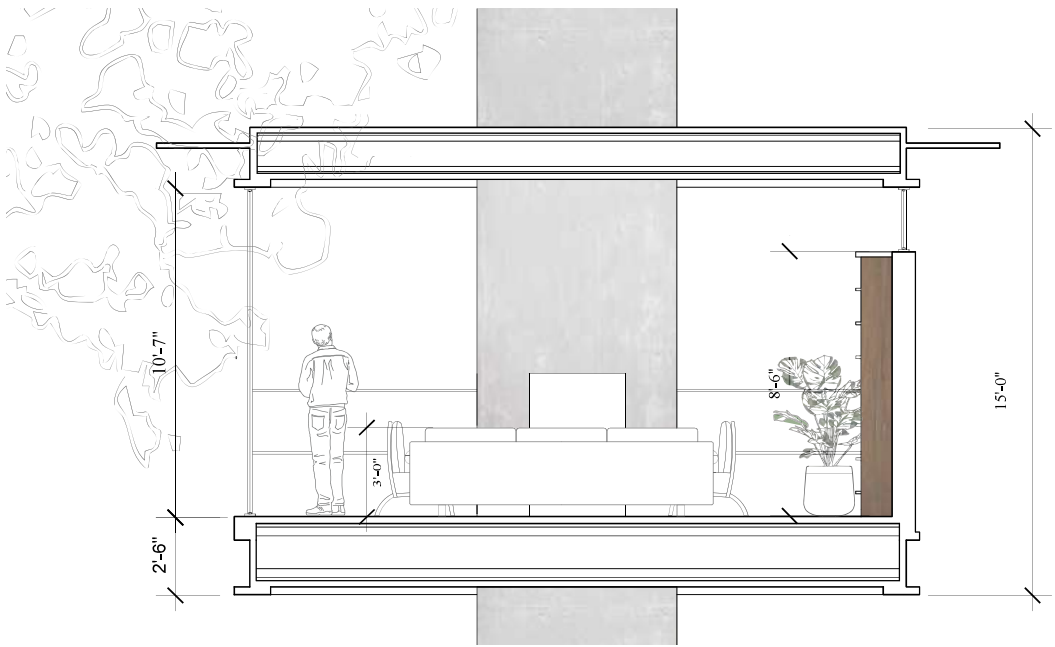
Precedent Room Analysis



Precedent Plan and Section



Room Floor Plan



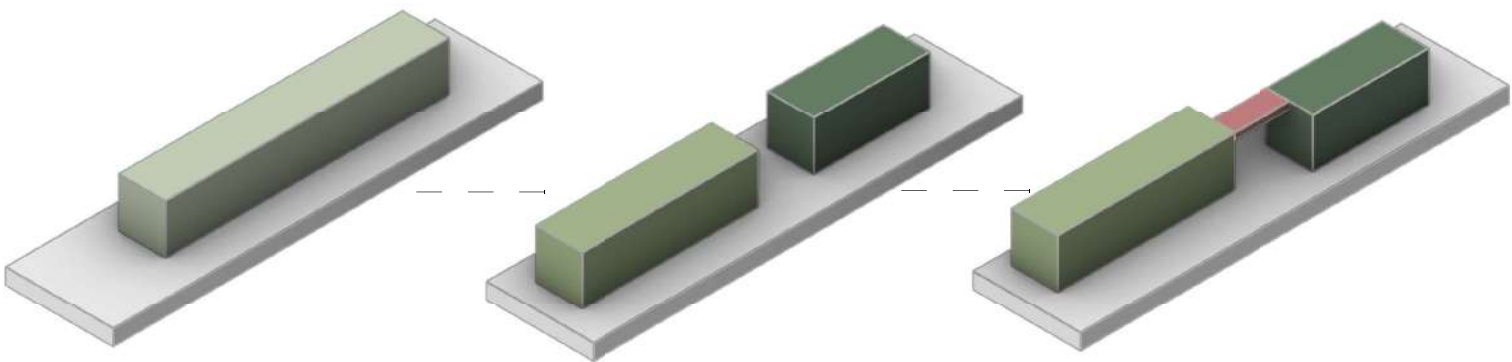
Room Section



Project 2: Flowline Library

This design starts with two shifted forms that lay under a continuous connecting roof structure. The composition of the forms explores movement and circulation through a restricted and linear site through solid and voids. The slanted roof collects water that falls into a ground basin. As you walk through the program you hear the serene and calming sound of the water flowing from the roof. The second floor creates a semi secluded space that allows the user to overlook tree canopies and enjoy a light and open environment. The linear circulation encourages the users to walk through all of the spaces from left to right.

My concept is derived and inspired by the Rio House by Olson Kundig. Considering the site's location on the UH campus, the design programs are geared toward students. Some design features include my tilted roof design that collects water into a long linear pool located on the long edge of the site. I have a sturdy concrete structure (inspired by the concrete pillars in the Rio House precedent) that helps support the roof but also serves as bookshelves that provide a communal library for students to take casual books to read. There is also a patio area shaded by a large tree on one end of the site, which provides seating. The two masses of my project included rotating frosted glass panels that allow users to manipulate the space and control privacy and the openness of the space. The second floor connects the two masses with a glass bridge, overlooking the first floor.



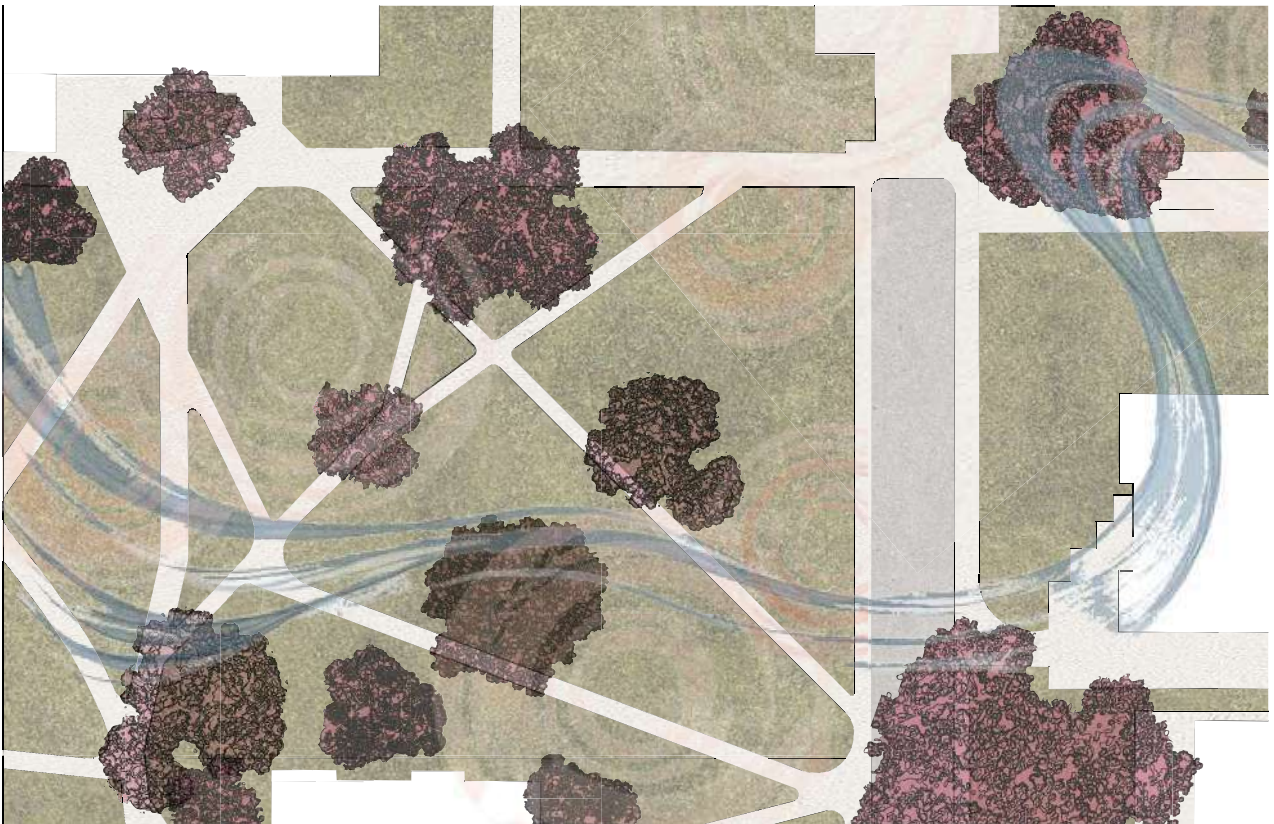
01
Massing
Base linear volume created

02
Program
Volume divided into two separate programs, and shifted vertically

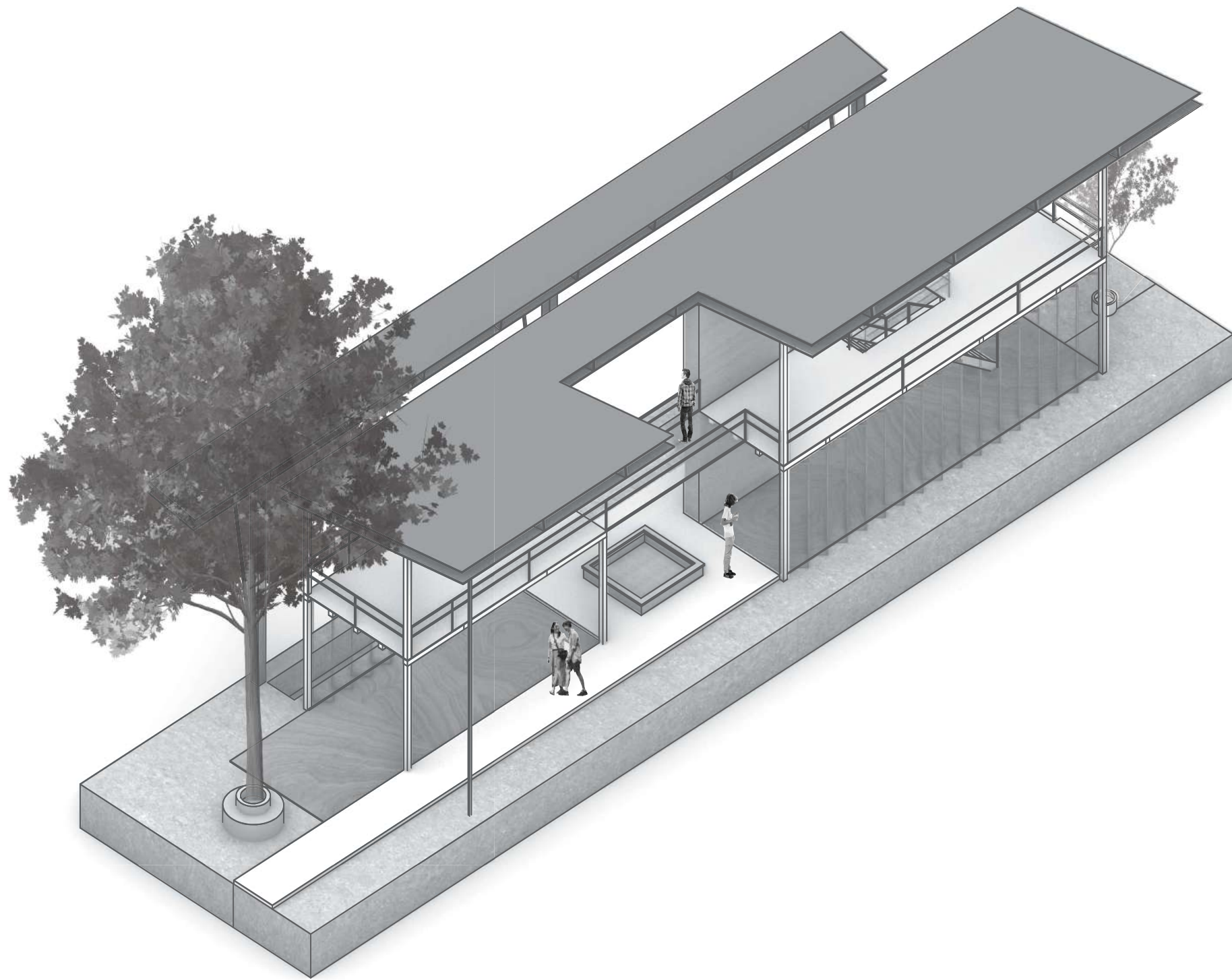
03
Connection
Second floor connection encourages flow and interaction



Circulation Site Analysis

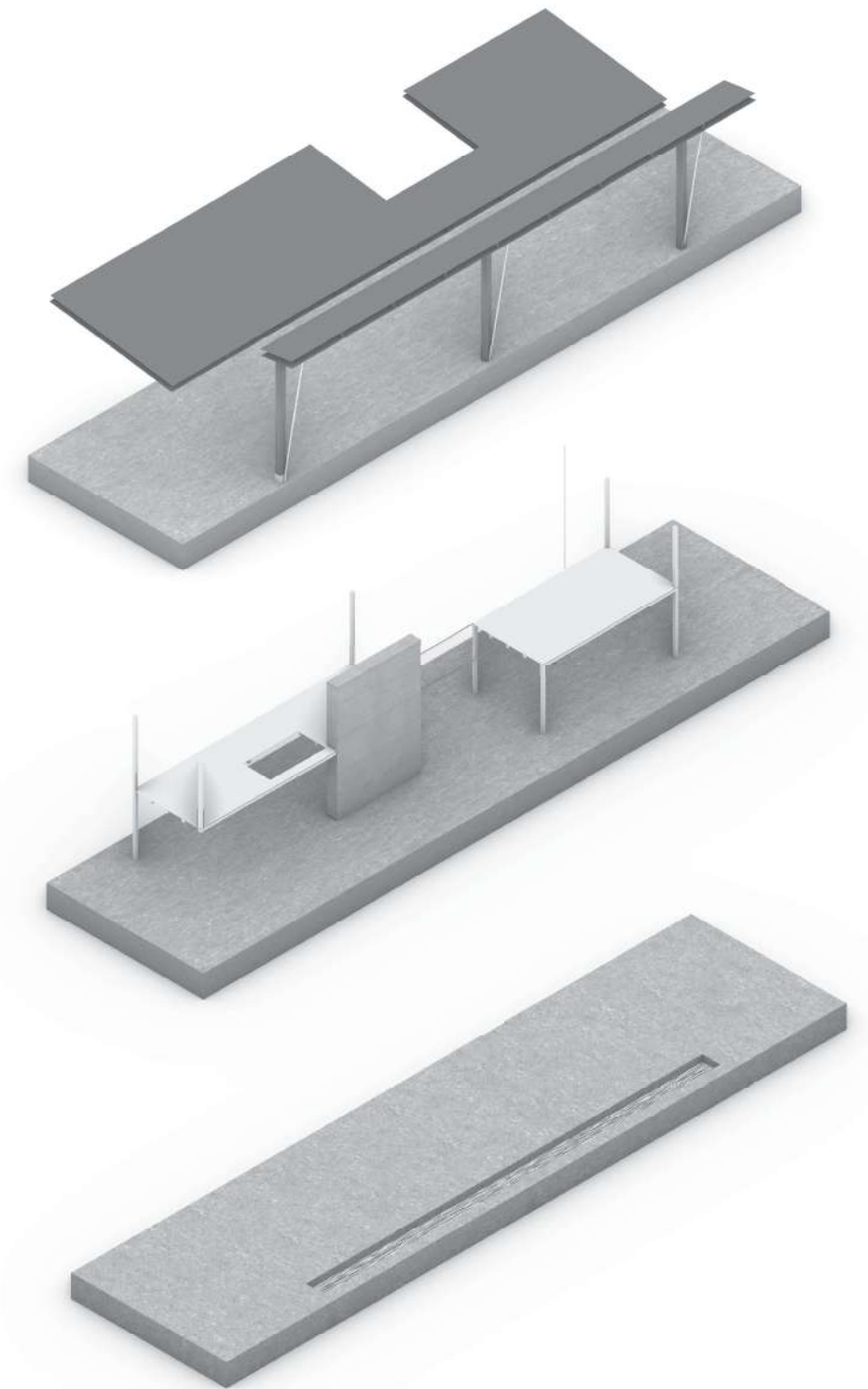


Terrain Site Analysis



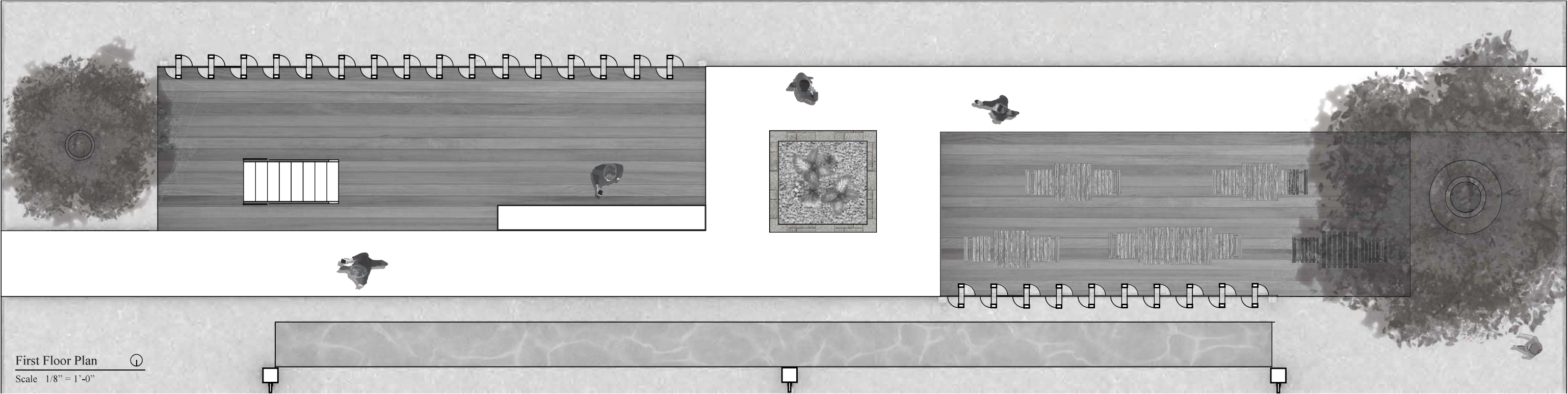
North East Isometric View

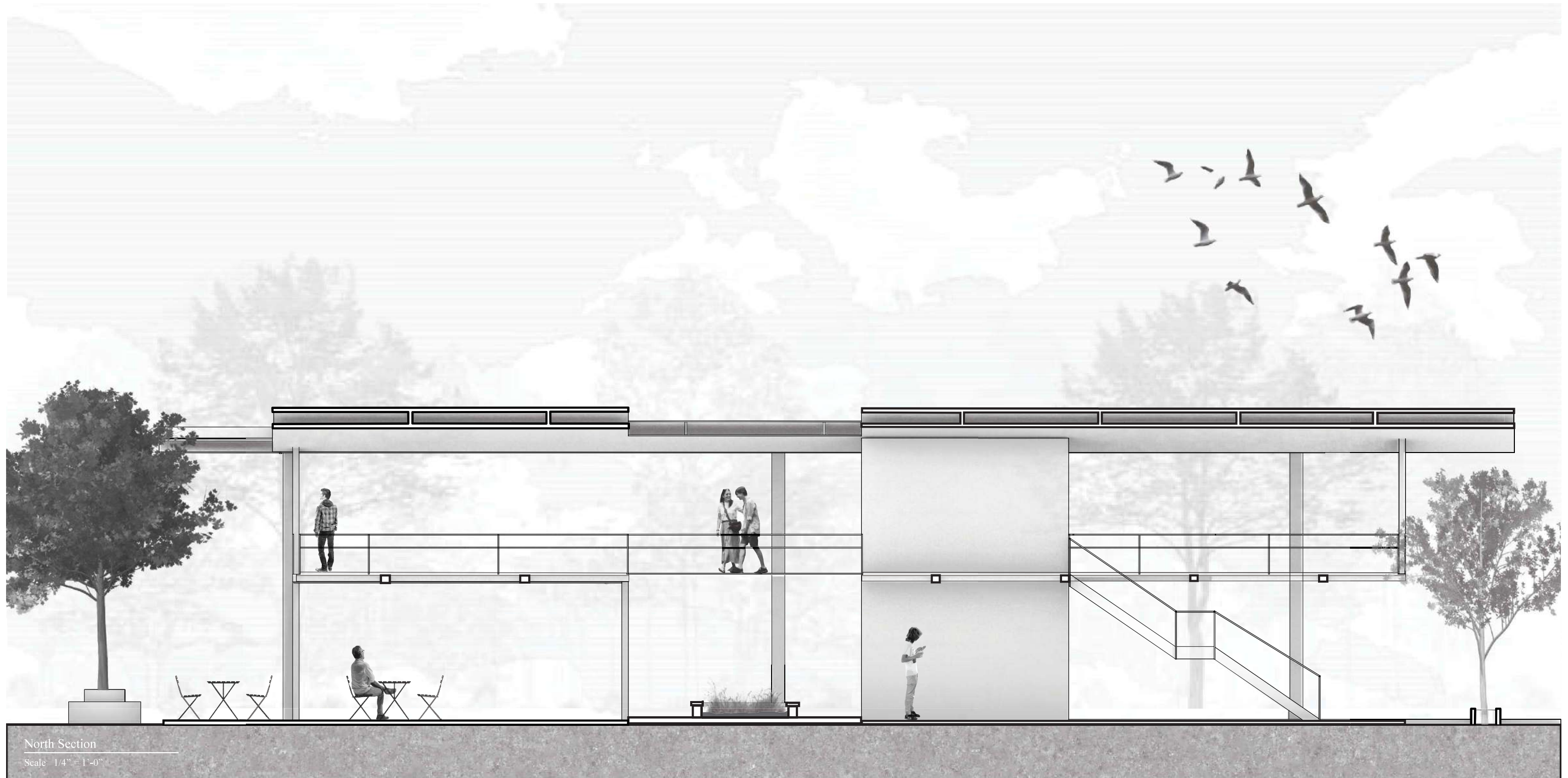
Scale 1/8" = 1'-0"

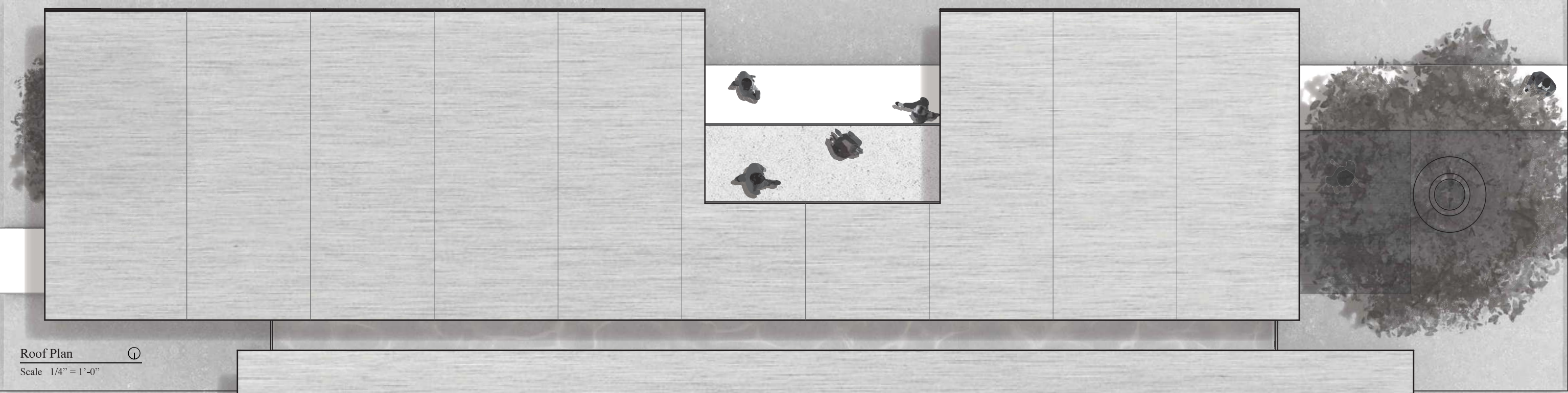


Isometric Diagrams

Scale 1/16" = 1'-0"







Perspective Shots

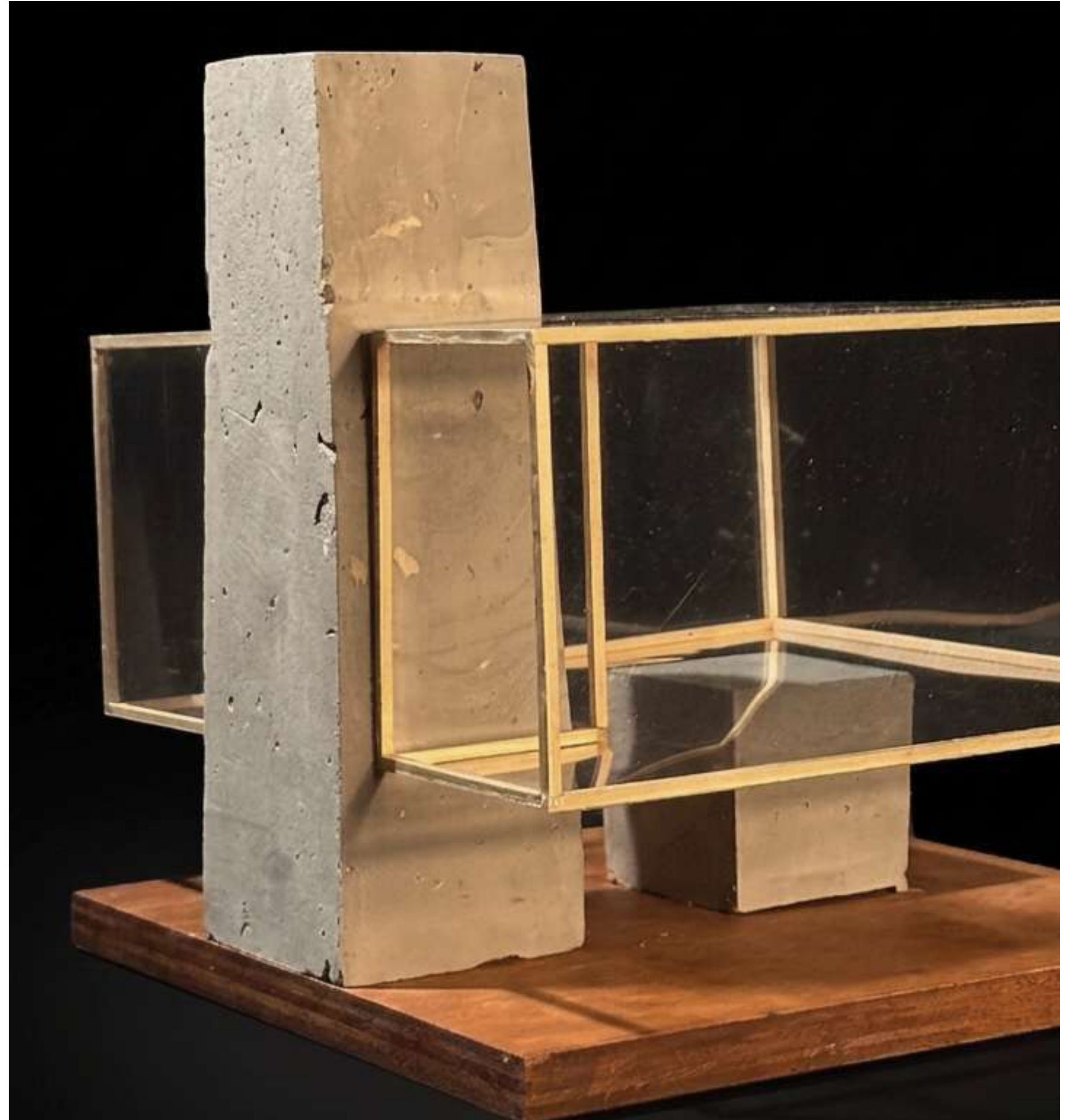




Final Model

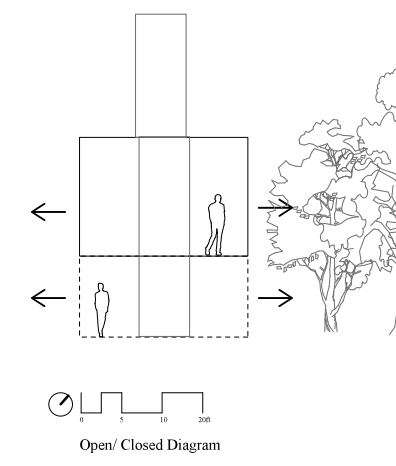
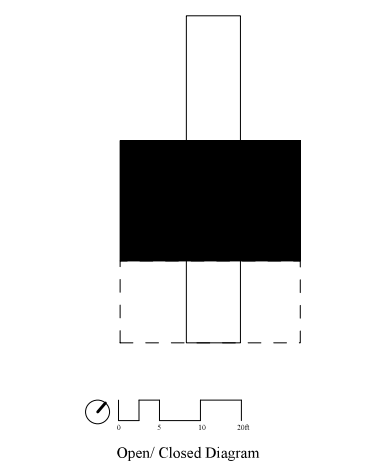
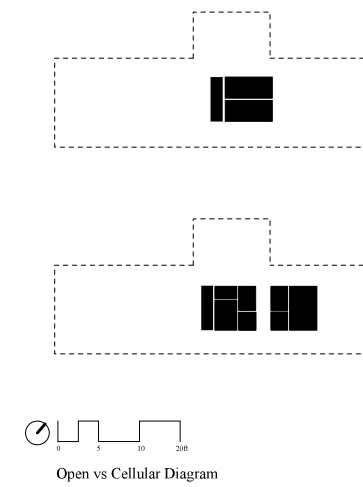
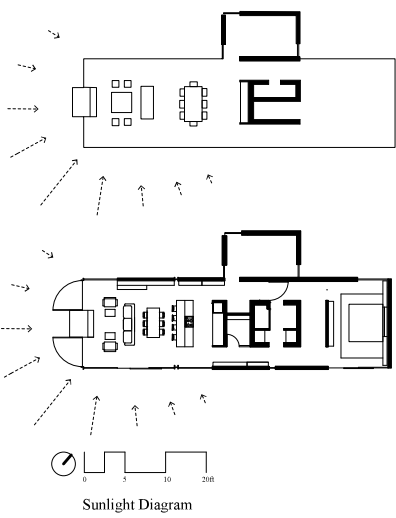
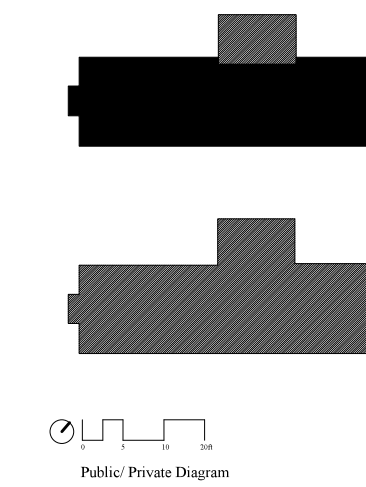
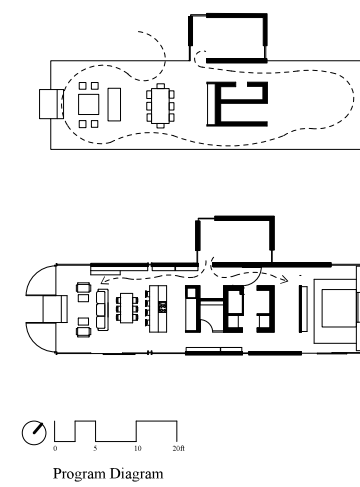
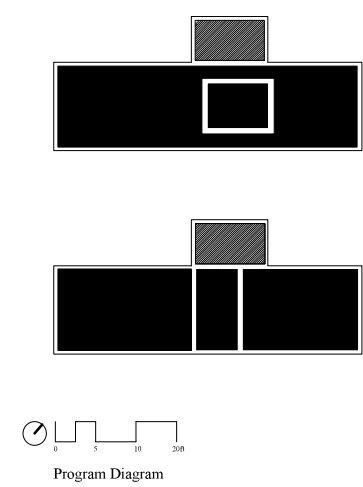
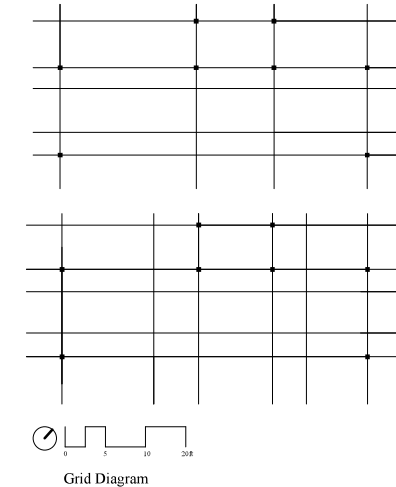
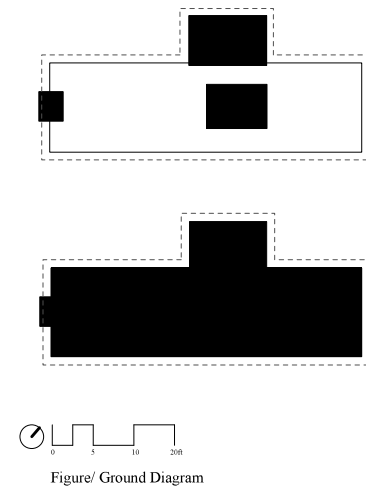
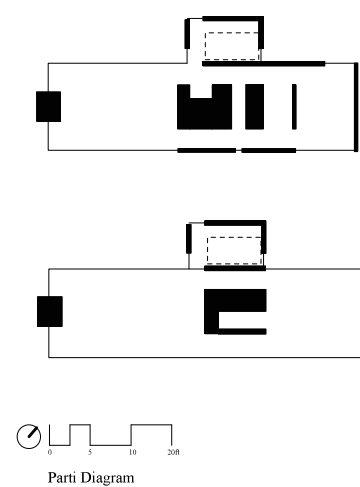


SPRING 2026
DESIGN MEDIA II



Project 1: Diagrams

In this case study, I conducted a formal analysis of the Rio House designed by Olson Kundig Architects using a series of ten diagrams. In order to perform this formal analysis, I re-created the project based on its plan and section view. The five diagrams that were required: parti, figure/ground, grid, program, and circulation, helped me uncover the basic formal structure that guided the design of the building. Specifically, these diagrams showed me how Olson Kundig designed a solid mass for the house in contrast to the open surroundings. My chosen five diagrams included public/private relationship, sunlight, open/cellular space, and open/closed conditions, as they seemed particularly important in regards to the Rio House, which makes extensive use of interior and exterior boundaries and natural light.



Project 2: Rendered Site Plan

For this project, I created a rendered site plan of the Rio House, located in Rio de Janeiro, Brazil. Using GIS data from CADmapper and a satellite image from Google Earth Pro, I built out the site in Rhino before bringing everything into Illustrator and Photoshop to render it. The drawing covers a 1000m x 1000m area at a 1:2000 scale, which felt right for showing how deeply embedded the house is within a hilly, densely wooded landscape. Vegetation ended up being a big focus since the site is heavily forested, so capturing the trees was key to communicating the house's relationship to its surroundings. I really enjoyed experimenting with different color schemes throughout this project, trying to find something that felt true to both my own style and the quiet, natural character of the Rio House. The satellite underlay ended up tying everything together, giving the drawing a grounded, textured quality I was really happy with.



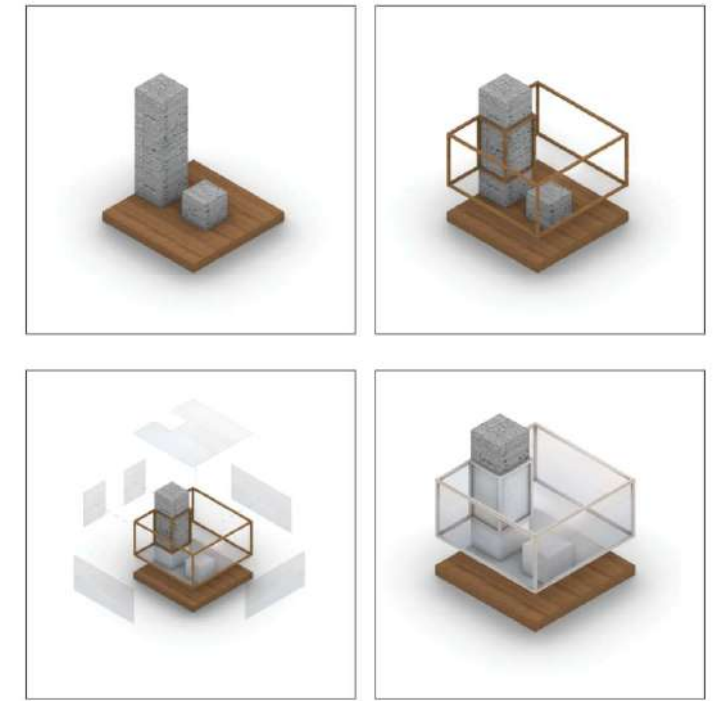
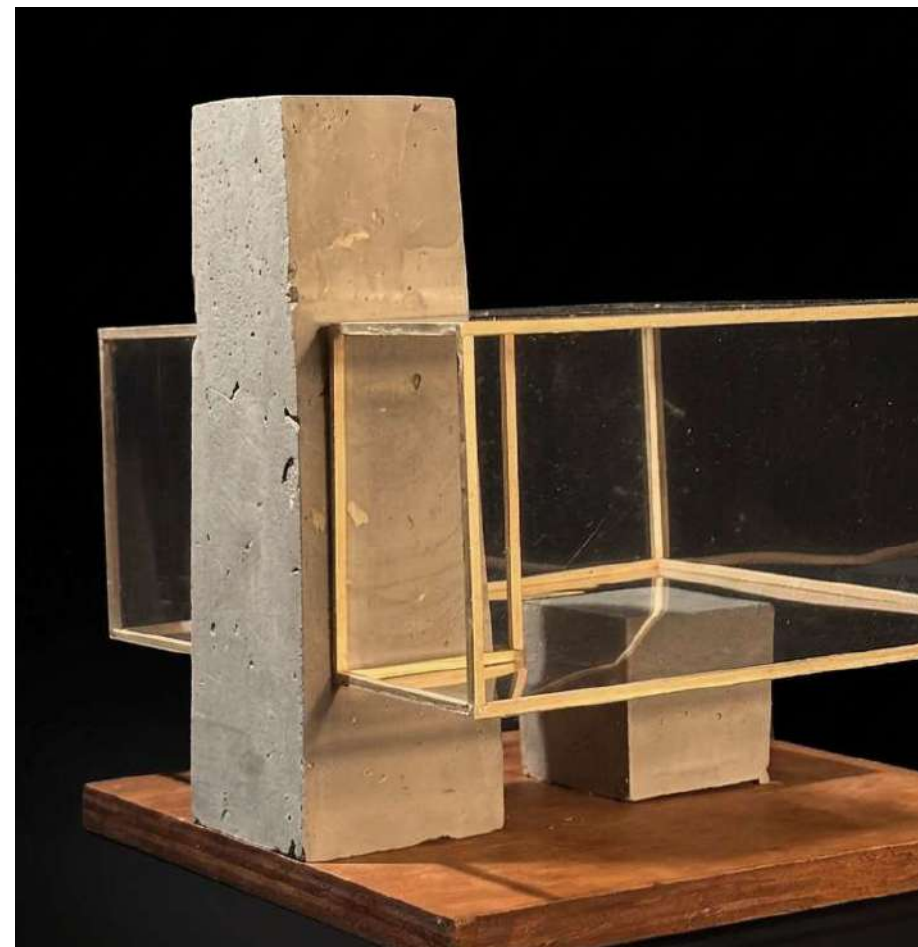
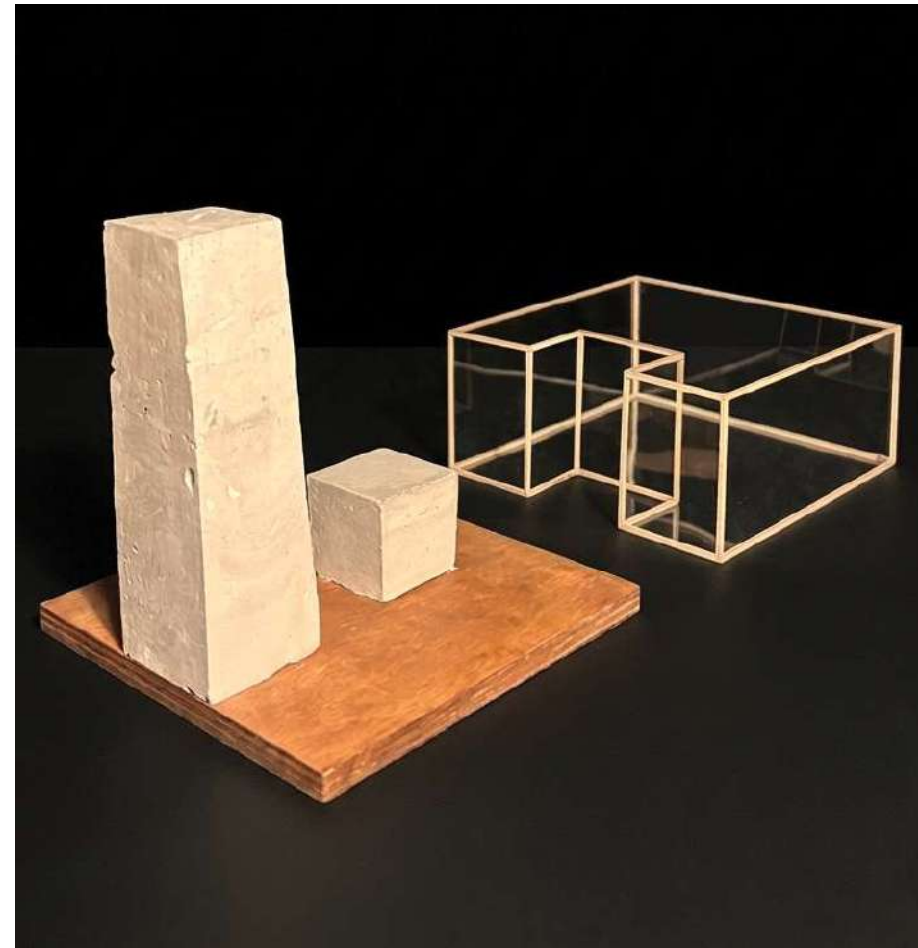
Rio House
2020
Olson Kundig
Rio de Janeiro, Brazil
Scale 1: 2000





Project 3: Collages

In this project, I made three collages of the Rio House: the plan, the section, and an exterior view. The purpose of these drawings wasn't accuracy but more creating an atmosphere of the house. In contrast to the more traditional drawings we have been making so far, this seemed like quite an interesting project. Each drawing was done in the 10" x 10" frame, and the medium used was vector combined with raster drawing on both Photoshop and Illustrator. The final collage that became my favorite one is the perspective because it allowed showing not only the house itself, but also the landscape and the whole surrounding atmosphere of this place, from the mountainous background to all kinds of animals and vegetation depicted. The section and plan collages were an opportunity for me to apply the same atmosphere to these drawings as well.



Project 4: Concept Model

This model looks at the main spatial and structural idea of the Rio House through a basic study of materials. The concrete parts represent the grounded piers that secure the building to the site. The transparent portion of the model demonstrates the lightness of the enclosed building that seems to float around these piers. A thin wooden frame marks the space's edges without completely closing it off and confining the space. This setup highlights openness and a smooth transition between the interior and exterior. The model explores the relation between heavy and light, solid and void, communicating the overall concept behind the Rio House.

Project 5: Renderings

In this assignment, I created four photorealistic renders for the Rio House via Twinmotion, with two exterior shots and two interior shots. This was one of my favorite assignments for this semester, as it was a culmination of all of the work I had done to create the model. Lighting took me a lot of time to get perfect since I wanted the exterior renders to have different moods. I decided to make one shot in the daytime and another in dusk. I thought it gave a great effect since the house looks very different under various light conditions.



Project 6: Animation

For the final project for this class, I created an animated tour of the Rio House using Twinmotion software and edited it in Adobe Premiere. The total length of the video is about 30 seconds and consists of four shots: two exteriors and two interiors. They were all rendered in high-definition resolution. I organized the video tour as a transition from the exterior to the interior spaces of the house, and I think it was a good choice because this architectural complex is largely dependent on its context and location within nature. Finding the right pace for animation was important for me because of the need to convey the calmness and tranquility of the building. At the same time, I carefully selected a background music track for my animation, which was supposed to match the overall atmosphere. However, since embedding the video is not possible, I included screen captures from each of the four shots and a QR code to access the video.



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