

PORT- FOLIO

ZACHARY J. LEONG

INDUSTRIAL DESIGN



Zachary J. Leong

Selected Works
2019-2022

Pratt Institute
Brooklyn Campus

Industrial Design, BID
Sustainability Studies, minor
Furniture Design certificate

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ABOUT

Zachary J. Leong is an industrial, graphic, and website designer living in New York City. Utilizing his design knowledge, technical drawing skills and imaginative mind, Zachary continues to create engaging and beautiful objects that cohesively encompass functionality, craft and originality.

Additionally, Zachary possesses a strong entrepreneurial spirit, as shown in his most recent venture, Corki Designs Inc. – a small business centered on sustainable and innovative plant decor made from the cork material.

Experience

Corki Designs Inc.

Business Owner
Freehold, NJ
March 2021 – Present

Formed a company based on the *Corki Planter* project, conceptualized during my junior year of college.

Launched on the Kickstarter crowdfunding platform in October 2021 and reached 196% of the original funding goal in one month.

Required and demonstrated business management skills, knowledge of woodshop machinery, and marketing capabilities.

TerraCycle / Loop

Design Intern
Trenton, NJ
Summer – Fall 2020

Collaborated with the design team to create consumer-friendly products and systems while conducting manufacturing research.

Individually completed a furniture/exhibition design from concept to production, showcasing the iconic Loop tote bag. Included rendering mockups for promotional displays.

Followed specifications to build exhibition decor and gifts.

Metro East Brokerage

Managing Assistant
New York, NY
Jun 2017 – Aug 2019

Assisted business owner in daily tasks regarding clerical work, data entry, and client reconciliations,

Regularly updated and maintained office hardware and software.

Education

Pratt Institute

Bachelor of Industrial Design
Sustainability Studies minor
Brooklyn, NY
Graduated May 2021

Pratt Institute – School of Continuing and Professional Studies

Furniture Design Certificate
Brooklyn, NY
Completed Summer 2021

Skills / Interests

Adobe Creative Cloud – Illustrator, Photoshop, InDesign, Premiere Pro, After Effects
Prototyping – Woodworking, Metalworking, Sculpting, Paper craft, Clay, Ceramics
Digital Modeling – SolidWorks, Fusion 360, Keyshot, Rhino, Maya, Sketchup, Sculptris
Programming – Java, JavaScript, C++, C#, HTML/CSS, Arduino, WordPress, Shopify
Other Interests – Cooking, Camping, Hiking, Houseplants, Event hosting, Poster making



THE CORKI PLANTER

Course: Entrepreneurship and Crowdfunding with Peter Ragonetti, Personal venture

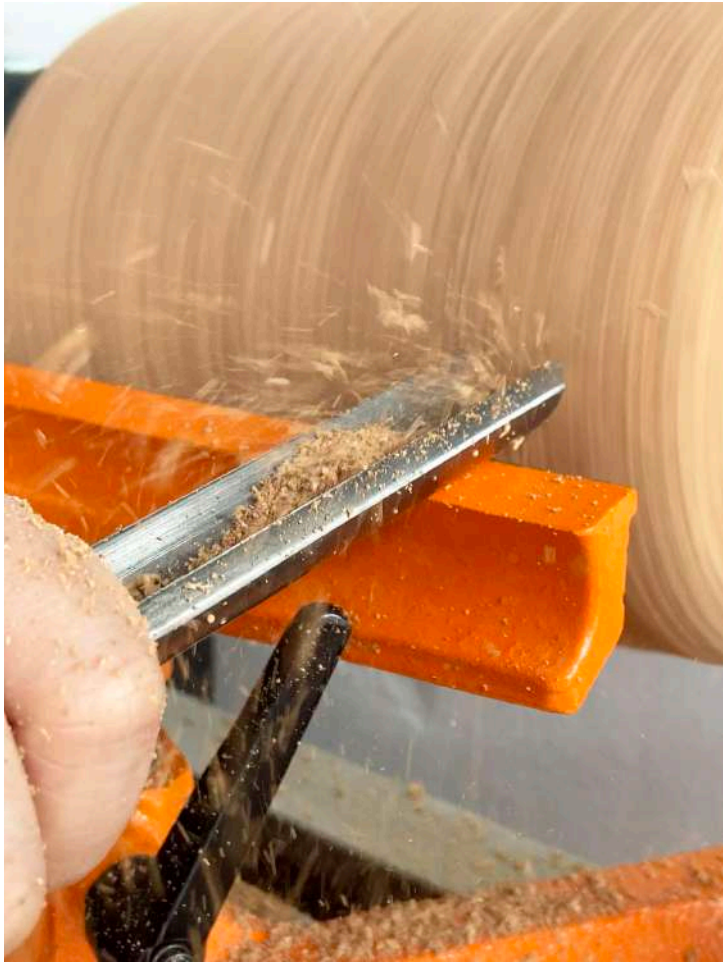
Fall 2020, Spring 2021

Zachary's passion for houseplants meets the trending material, cork, in an original design that considers drainage, durability, and of course, sustainability.



Initial Inspiration
Home decor project: Spring 2020

Corki originally resulted from a previous course – Conscious Home with Meredith Erickson. Research on the company *Parachute Home* led to the planter’s form and style, while the materiality came from extensive exploration into cork, its life cycle, and its production methods.



Second Iteration
Created six months later

During the next Fall semester, Corki advanced to a more practical design in terms of production, function and appearance. Lathed by hand, the new *Corki Planter* became the focus of the current entrepreneurship course with special attention to promoting it to the crowd.



One-of-a-kind Design

Materials: cork, natural beeswax

The final concept included a unique, friction-fit drainage saucer. Corki aimed to address the growing use of unsustainable plastic and concrete planters on the market, many of which left out the most important part of caring for houseplants: drainage.

Kickstarter Platform

The Corki Planter: Let's Grow

Having won first place in the final pitch competition of the semester with distinguished judges and experts of their field, consultation offers, and a small cash prize, Corki proved to be ready for the crowd.





The Corki Planter

An original cork product designed by Zachary Leong. Made to last and keep your plant thriving.

New Material. New Meaning.

Every houseplant holds a special place in your home. Make that place meaningful with a handcrafted, sustainable cork planter.



Small Business *Corki Designs Inc.*

After a successful Kickstarter launch in October 2021, reaching 196% of the original \$8000 funding goal, Corki was transformed into a NJ corporation. This required gaining finance and tax knowledge, business management expertise, website design skills, and consumer interaction on a more regular basis.





SUCCULENT SENSORY SET

Course: Biomimicry with Ignacio Urbina Polo
Fall 2020

Combining the growing need for autism awareness with the forms and functions of the natural world, the *Succulent Sensory Set* provides a tactile learning tool for young children across the spectrum.



Project Focus

Autism Spectrum Disorder

The project pivoted from originally focusing on mental health to a more specific topic of designing for children with autism.

Nautral Reference

Textural Inspiration

Extensive research into the animal and plant kingdoms revealed many opportunities for properties that could prove useful as educational tools. The variety of textures and forms found in succulents provided a simple method of translating sensory input to children with ASD in a fun, informative way.



Final Model

Construction

Unfortunately made without the use of woodshop machinery due to the COVID-19 pandemic, the Succulent Sensory Set was constructed with 1/2" wood with textures created from cotton, rubber, mesh, glue, shellac, and beeswax.



Final Model

A tactile learning tool

The Succulent Sensory Set contains eight objects, each with distinct tactile surfaces, and are laid out in a cohesive pattern that allowed children to color match as well as texture match to advance their sensory vocabulary.





DIFFUSE

**Course: Design for Wellbeing
with Karol Murlak**
Spring 2021

To cope with the unprecedented stresses of living in a global pandemic, *Diffuse* aims to relieve that tension with an engaging aromatherapy routine.



Form Testing

Material: cork, glass, lava stone, sand, lavender, coconut oil

The concept of the aromatherapy routine was fairly simple. The conduit to convey this process was the main area of exploration for this project. Iterations were made to create a system that actively engaged with the user.



Aromatherapy

Office space

Diffuse is intended to alleviate the anxiety associated with a monotonous routine while working from home due to the COVID-19 pandemic. Establishing an interactive routine with the process of aromatherapy allows the user to bring fresh scents into their workspace, thereby boosting productivity and motivation.



Final Model

Construction

Three glass containers sit on a bed of sand, allowing the user to arrange them in their desired fashion. A smooth lava stone sits on one end that diffuses infused oils. A cork base provides a safe way to store all components.



Final Model

Process and Routine

One holds a carrier oil, such as unscented coconut oil. Another holds a scent concentrate, such as lavender, that will have the carrier oil added to it. The last acts as a vessel for storing the resulting infused oil, which is to be poured over the lava stone diffuser in small increments daily/weekly.





HANDS-ON CLOCKS

**Course: Conscious Home with
Meredith Erickson**
Spring 2020

The Hands-On Clocks differentiate work time from play time by easing communication between family members. This design comes at a pressing time when the coronavirus swept the world by surprise in early 2020.



Initial Inspiration
Dims Home collection

Dims Home became the proposed company to design for, promoting materials such as ash plywood, powder-coated steel, and PLA derived from corn starch.

Group Project
(reference picture to the right)

In addition to the *Hands-On Clocks* by Zachary Leong, *Lan-Turn* designed by Xiaonan Yao (hanging light, upper left) and *Co-Tracker* designed by Chenxi Guo (circular desk object, middle right) complete the collection aimed to cohesively integrate with Dims Home products.



Clocks indicate that a 20-minute timer has been set



Final Concept
Connectedness

The “parent” clock (left) and “child” clock (right) are intended to communicate with one another, allowing one viewer to know the other’s schedule. The key difference between the two is that the child clock contains a plastic cover, preventing young children from accessing the clock hands. The black hands convey the actual

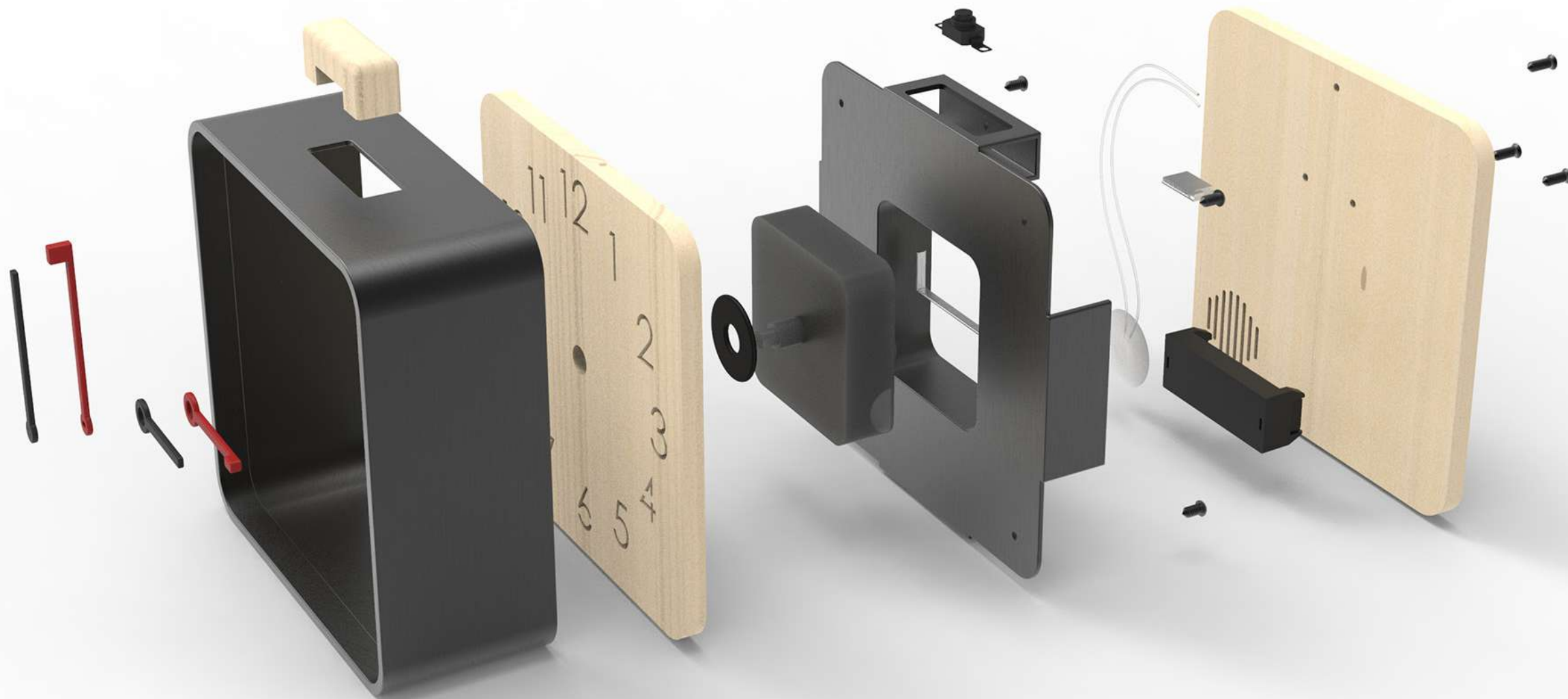
time, while the red hands on the parent clock can be used to set a timer that will simultaneously apply to its child clock. When the actual time catches up with the timer, it indicates that the parent clock’s user is done with work for the moment. If not in use, the red hands will stay hidden.

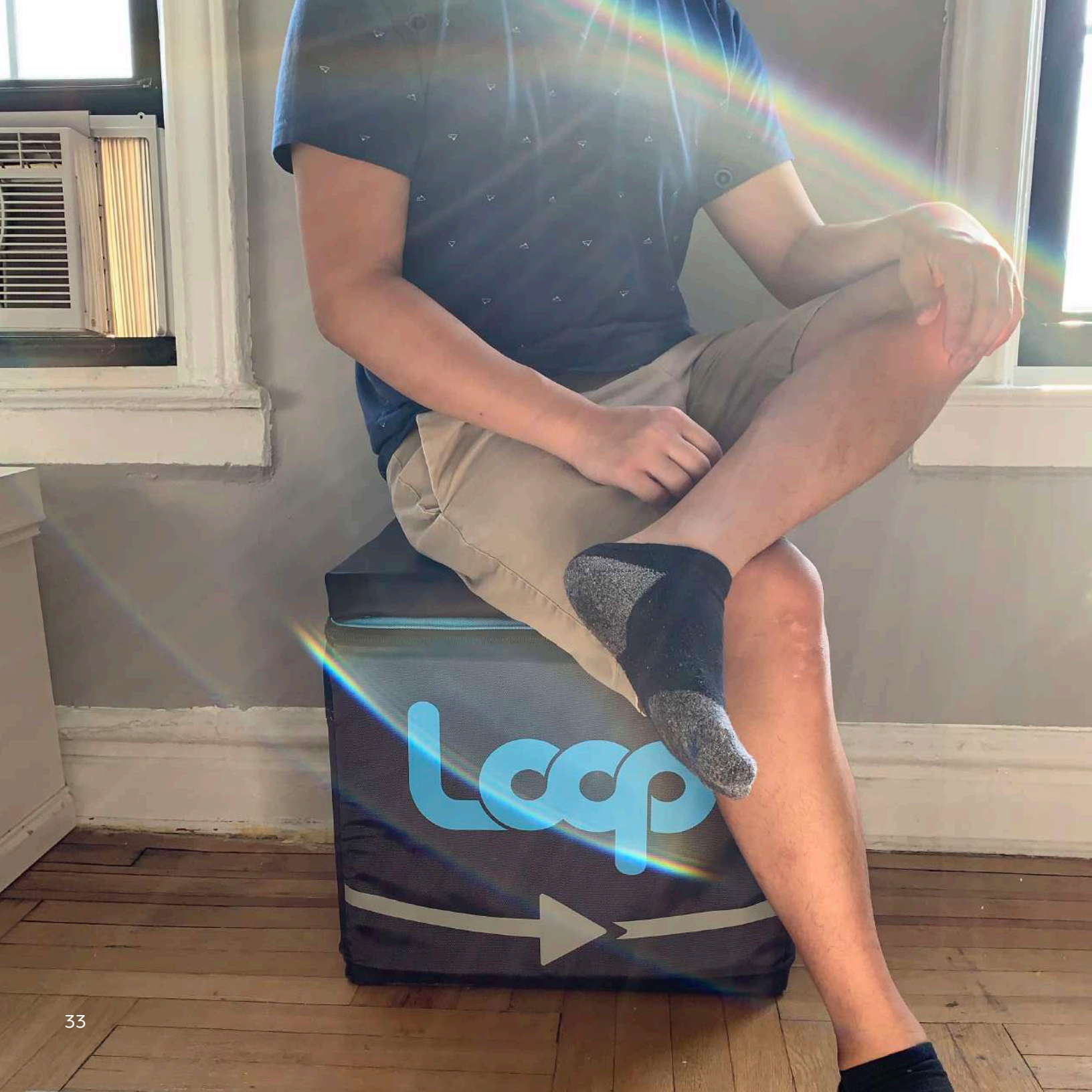


Working from Home
Distinguishing work from play

The principle behind this is to separate work time from play time and allow parents, guardians, elders, etc. to schedule quality time with younger ones. The *Hands-On Clocks* are ideally meant for WFH conditions.



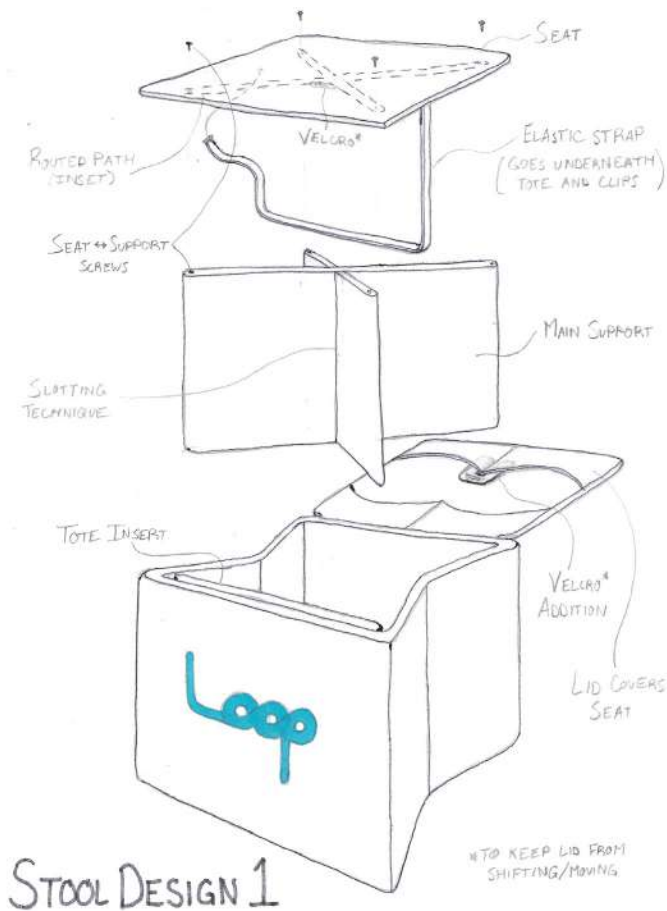




LOOP TOTE EXHIBITION

**Design Internship with
TerraCycle Inc / Loop Global**
Summer 2020

As part of a two-month internship with the global recycling company, TerraCycle, Zachary designed exhibition furniture for future Loop launch events. The primary goal was to showcase their signature Loop totes, meant to promote a more circular economy.

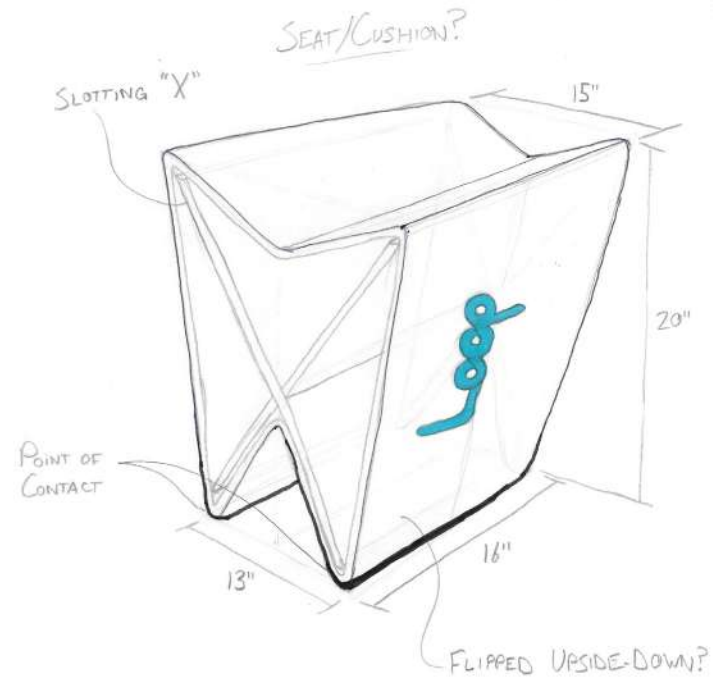


STOOL DESIGN 1

Ideation

Loop Tote research

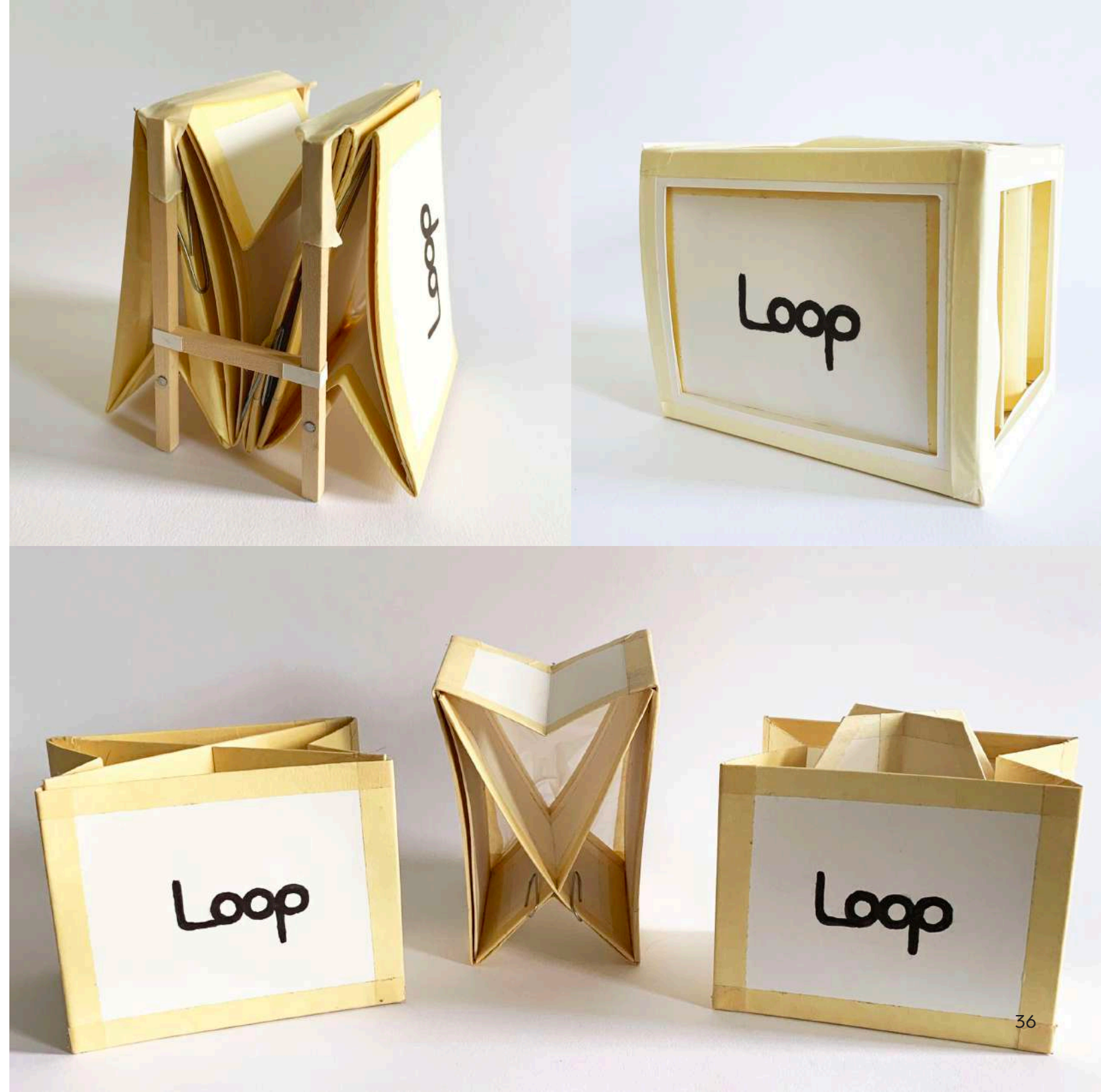
Multiple variations were sketched out for a stool concept, following the conditions of being portable, cost-efficient, and of course sustainable. This all depended on the limits, dimensions and accessories of the Loop tote.



Sketch Models

1/4" scale paper studies

The most efficient way to move forward from ideating on paper was to build scaled-down models to present to the rest of the design team for approval. Five of the initial drawn concepts were modeled, and two of those were chosen for full-scale construction.





Final Concept
Flat-pack design

(reference picture to the left)
An interlocking 'X'-pattern of plastic corrugate became the structure of the stool. Meanwhile, the seat and seat cushion were designed to secure onto the mailing slot of the Loop tote.

Final Concept
Construction Materials

The final stool concept consisted of upcycled/recycled plastic corrugate (presumably from used signs and posterboards), plywood, upcycled foam pads, and recycled acrylic sheets.



Grouped Seating

Tote Tower

In addition to a stool concept, TerraCycle asked for a larger group seating idea where event-goers could lounge around and post on social media.



Grouped Seating

Construction

The tower consists of exactly 100 totes, and while most are empty, some require the stool concept internals for seating and some require a different internal support to be used as a backrest. Every tote is secured in place by connecting zippers with an adjacent tote. This method, in addition to including a wooden structure in the center, prevents totes from falling.



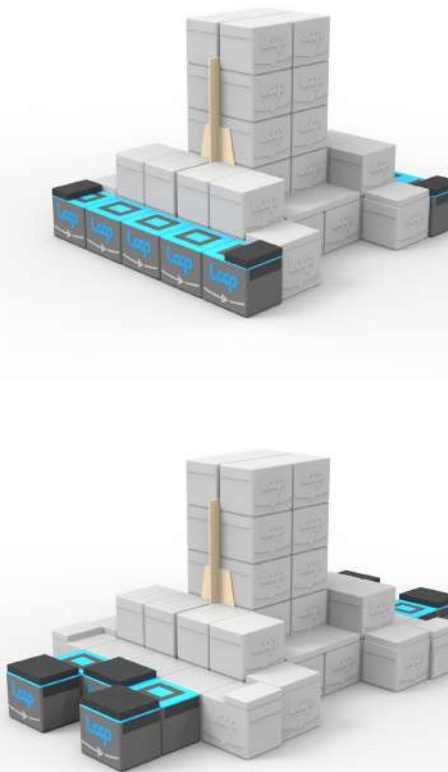


Digital Renderings
SolidWorks / Keyshot

The above image represents the intended arrangement of the tote towers at most future Loop Global launch events.

Instructional Guides and Technical Specs
SolidWorks / Keyshot

For both the stool and tote tower concepts, assembly guides and manufacturing packets were created for TerraCycle to recreate them accurately.



Internal Wooden Structure	TerraCycle Inc. / Loop Global Zachary J. Leong
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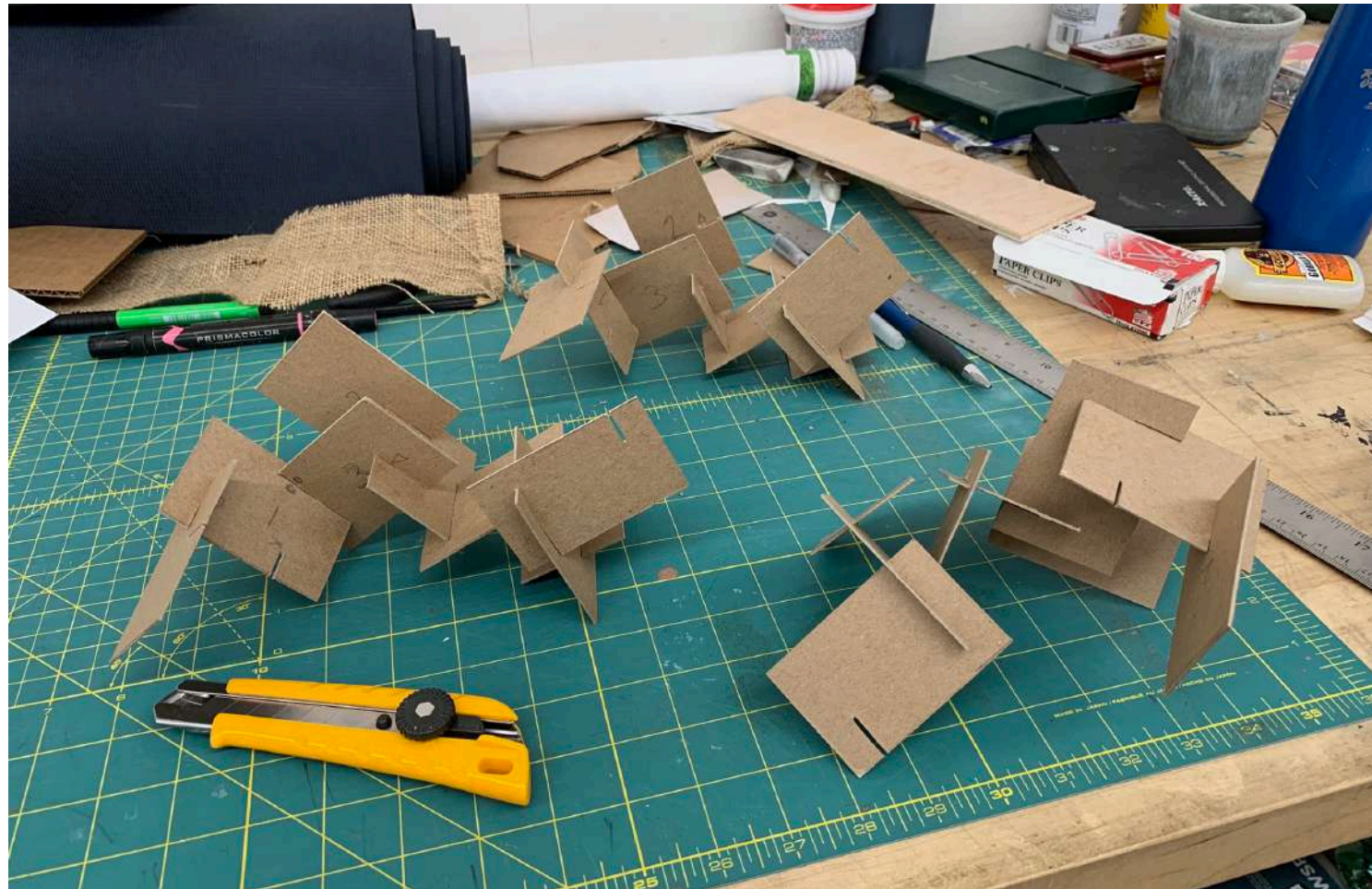
Loop Tote Stool	TerraCycle Inc. / Loop Global Zachary J. Leong
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PIET

Course: Lighting Design with Michael Sarno
Fall 2019

Piet is a large geometric chandelier inspired by Mondrian's Composition. The lighting form follows a more natural style with exposed planes of wood and acrylic.



Initial Inspiration

Ideation

Piet takes the geometric style from Mondrian's *Composition* and creates a similar awe-inspiring pattern for its audience. Chipboard models were designed to test out different configurations as well as to see which modular design worked most efficiently.

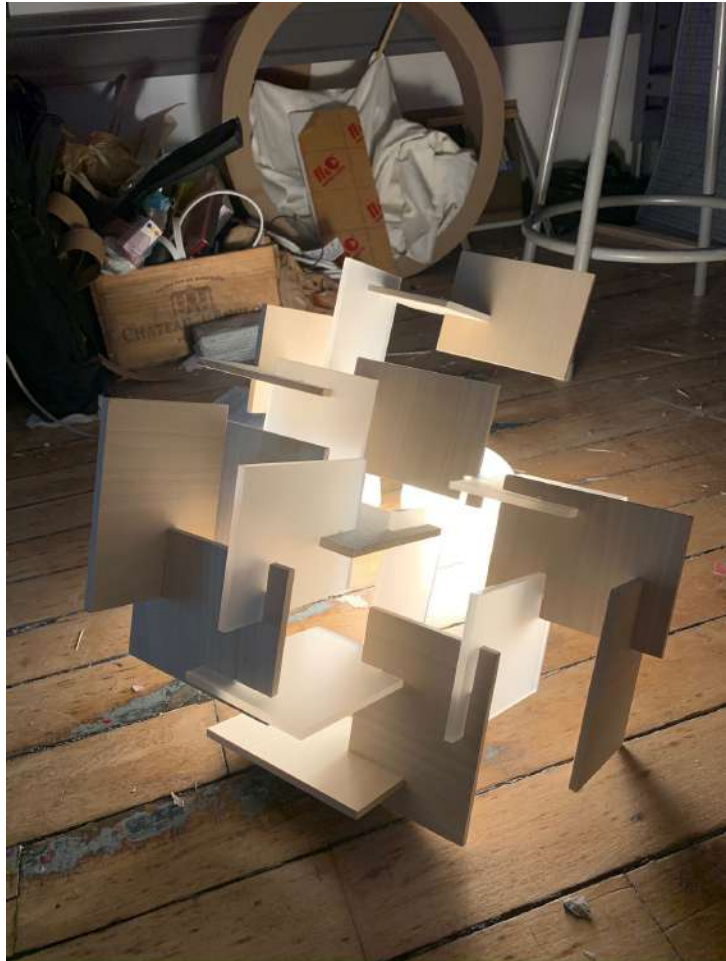


Early Prototypes

Materials: 1/4" MDF, frosted acrylic, birch plywood

Chipboard models progressed to more final materials and thicknesses to account for assembly and visual hierarchy. After finalizing a modular pattern, it was then scaled up to the actual size of the final lighting piece.

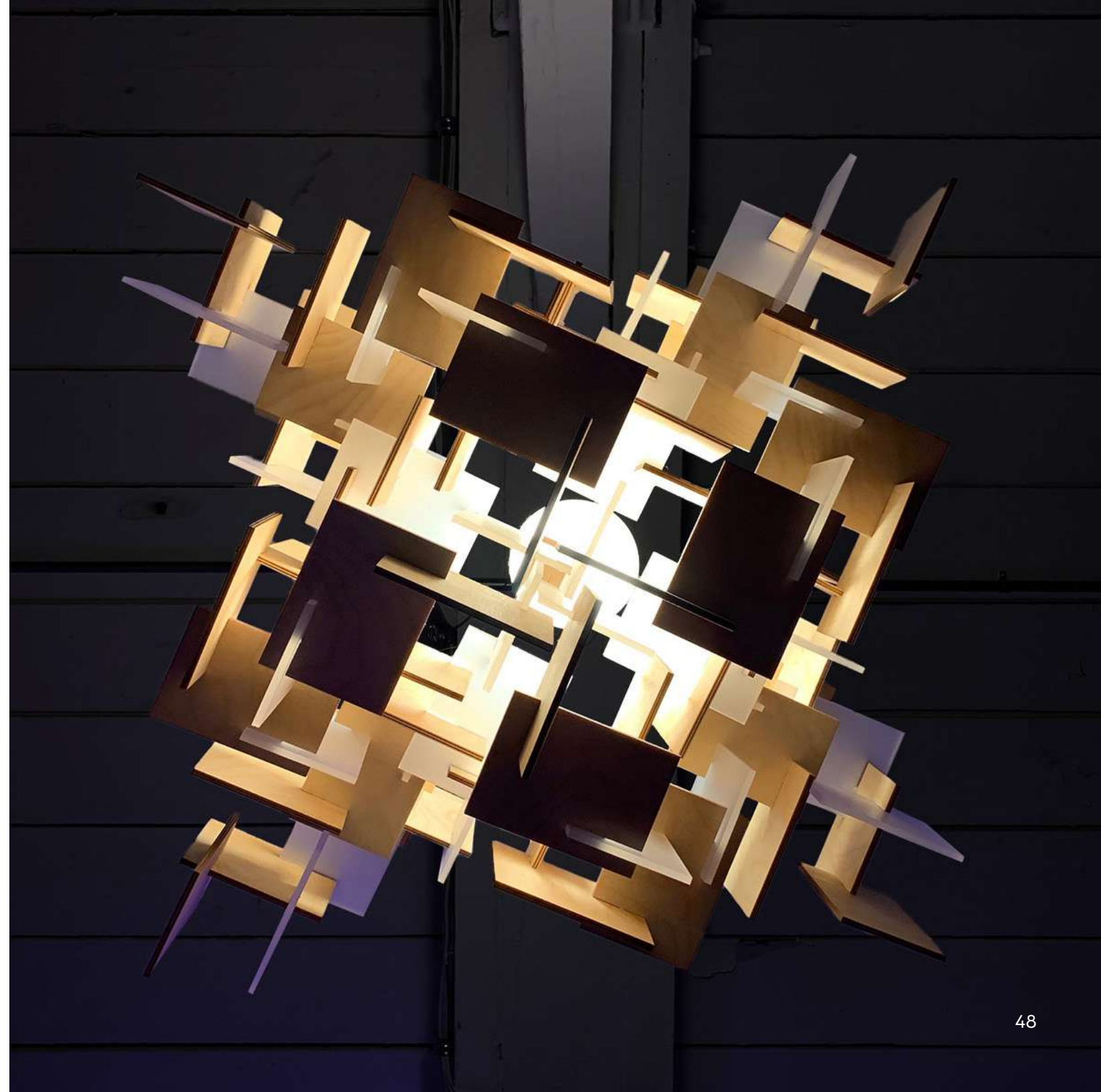


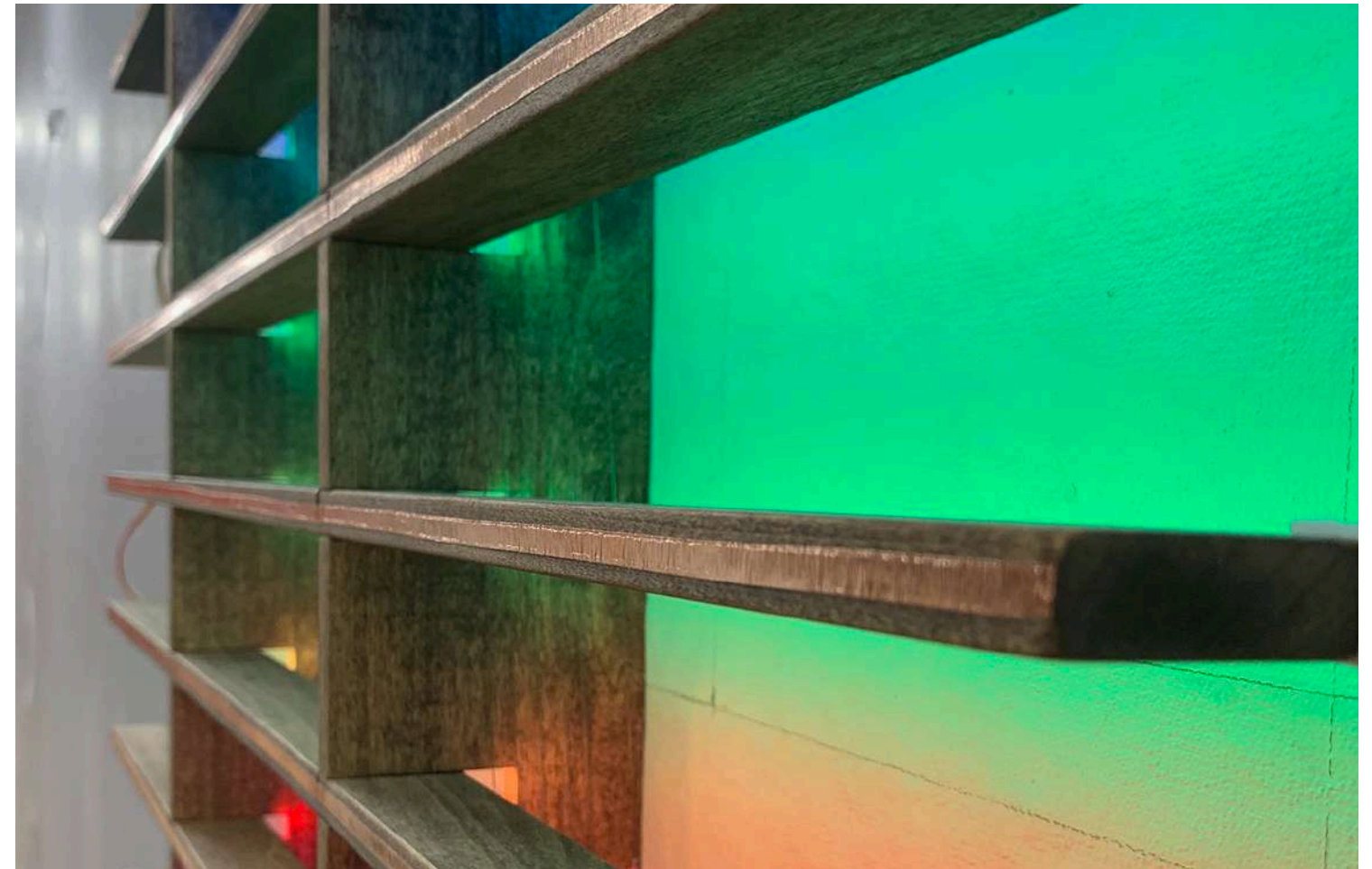


Final Testing

Full-scale model with light source

At this point, only one fourth of the model had been fully built tested for modularity purposes. The final result consists of a three segment design, repeated and rotated five different times to create a quadrant, and lastly repeated four times to complete the structure.

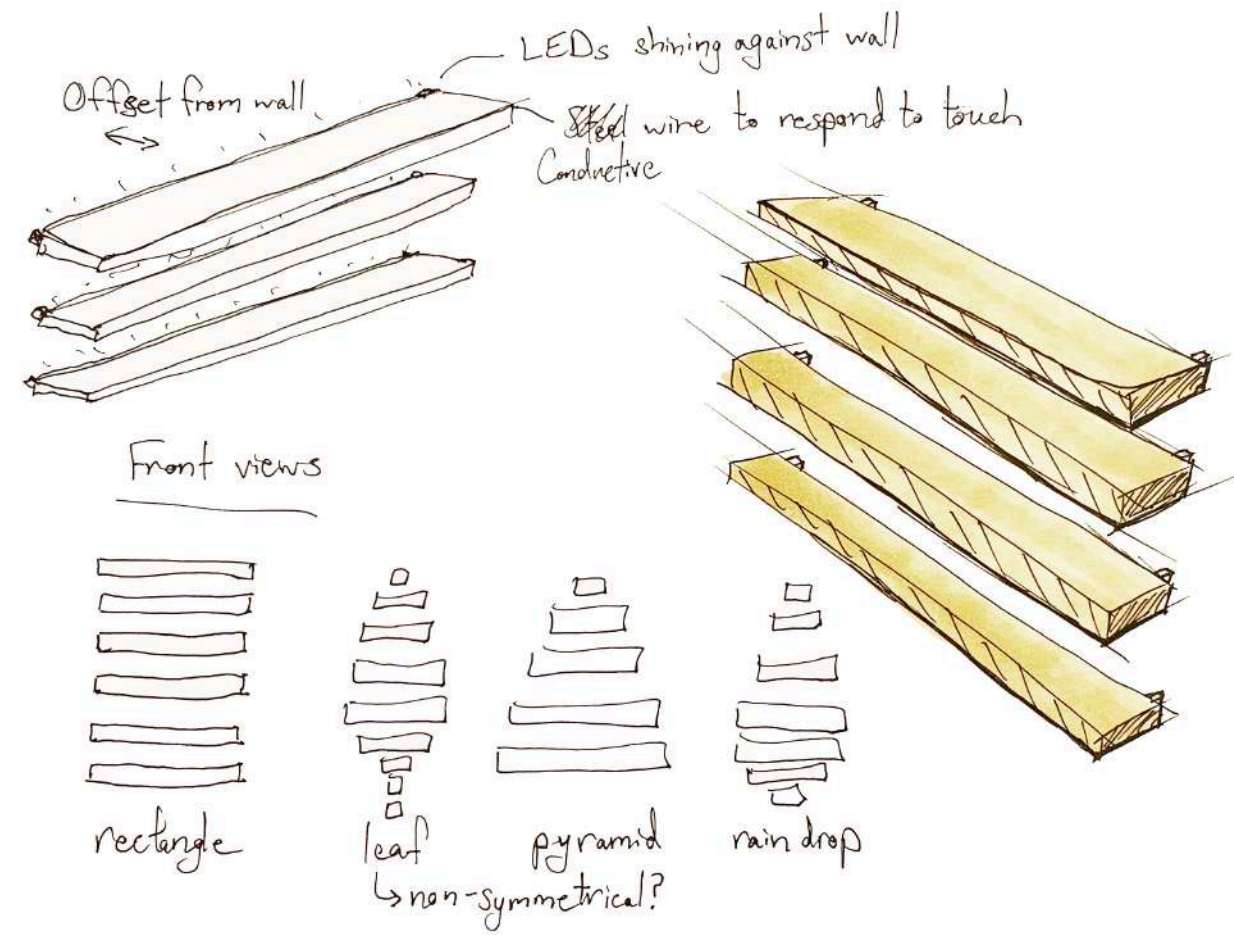




UNTOUCHED

**Course: PIC, Surfaces with
Joseph Morris**
Fall 2019

Untouched is a sculptural lighting piece designed to recreate a mesmerizing effect, analogous to that of Earth's natural world. It invites viewers to interact with the piece through touch, and quickly responds by showing the consequences of said interaction.



Initial Concept

Solid medium

To convey a message related to the urgency of the climate crisis and additionally not distract from it, a simple form and medium were chosen.

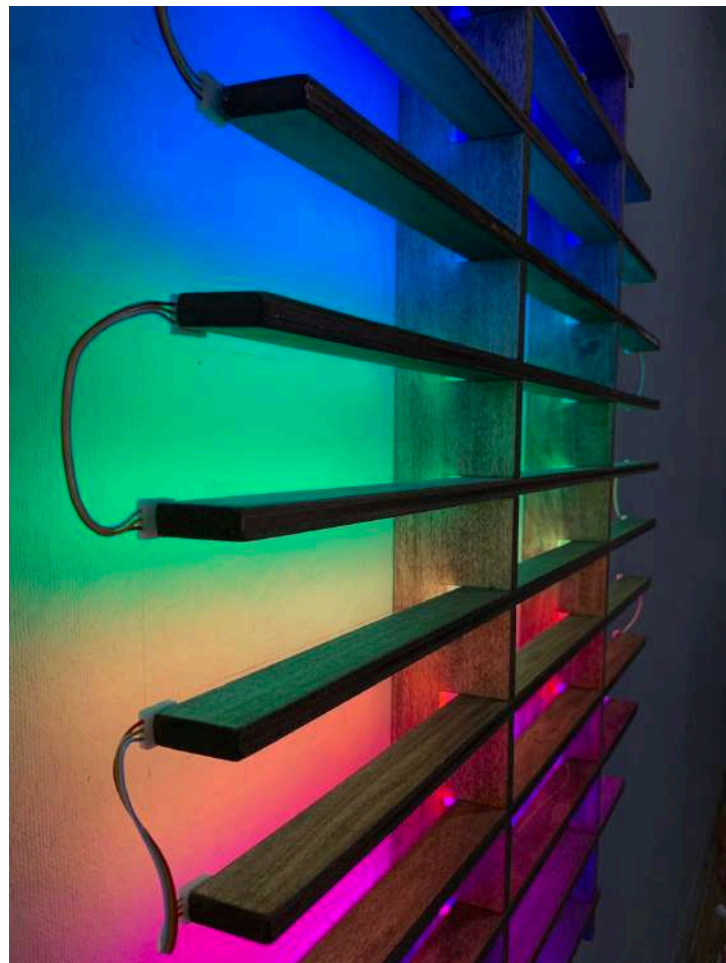


Basic Programming

Arduino

A simple Arduino circuitboard was used to code the LED lights to react to touch stimulation. Copper tape was used as the conductor for the stimuli, intending for viewers to interact with it.





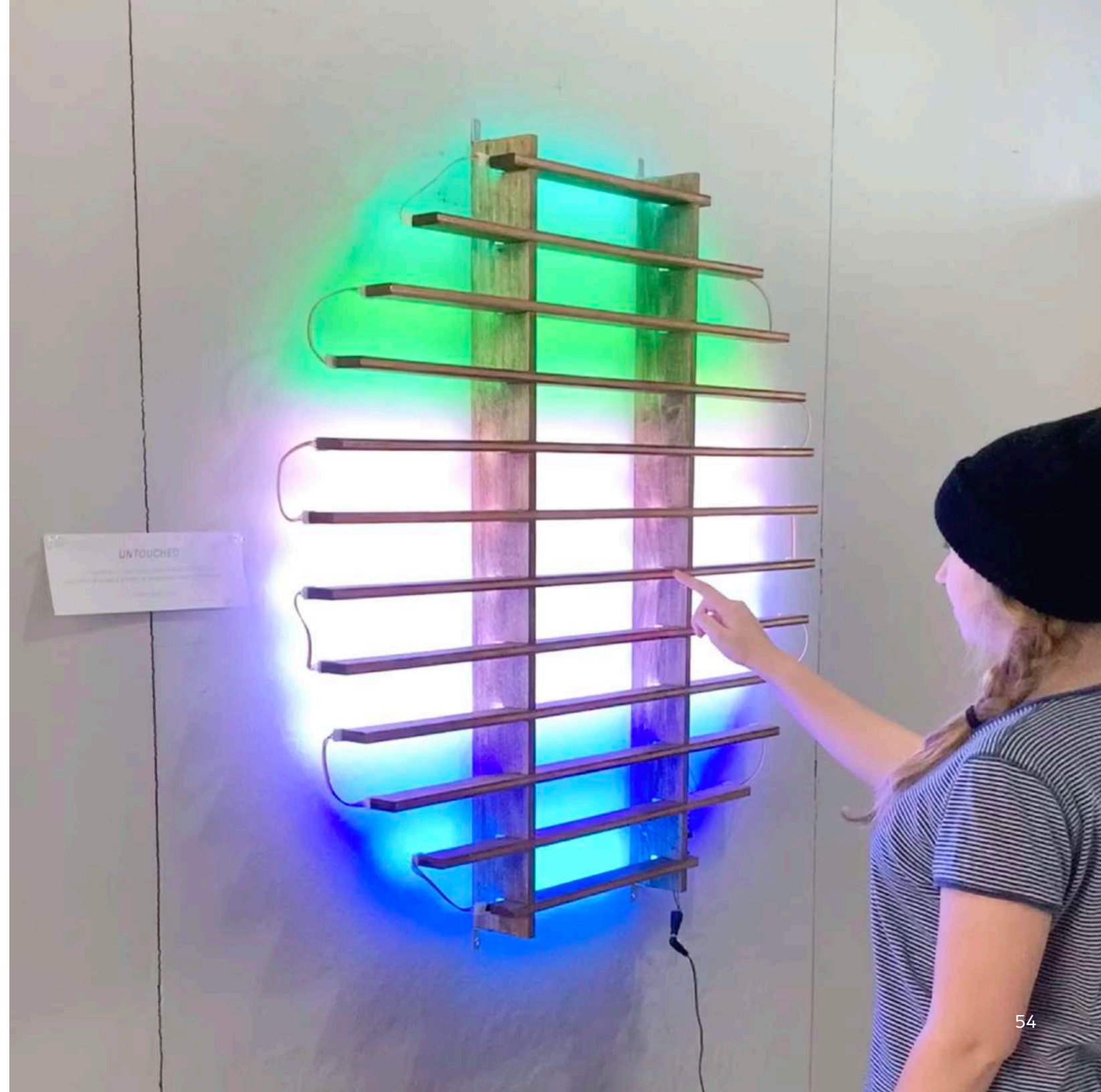
Final Model
Sculptural Lighting

The result of a simple form and coding became a mesmerizing cascade of colors. The LED strips shine a rainbow against the wall, slowly changing and moving its colors in a hypnotizing effect.



Interactive Nature
(reference picture to the right)

The piece invites viewers to interact with it, asking them to engage with *Untouched* and see what happens. When touched, the rainbow quickly disappears while a wave of white washes over the once-beautiful scene, representing the destruction that humankind enacts on our precious Earth.





ROOTED

**Course: Lighting Design with
Michael Sarno**
Fall 2019

Rooted is a wall-mounted lamp
designed to bring nature's forms
into the household through
shadows.



Initial Inspiration

Shadows

Houseplant shadows gave excellent inspiration for creating a lighting effect that grabbed people's attention.

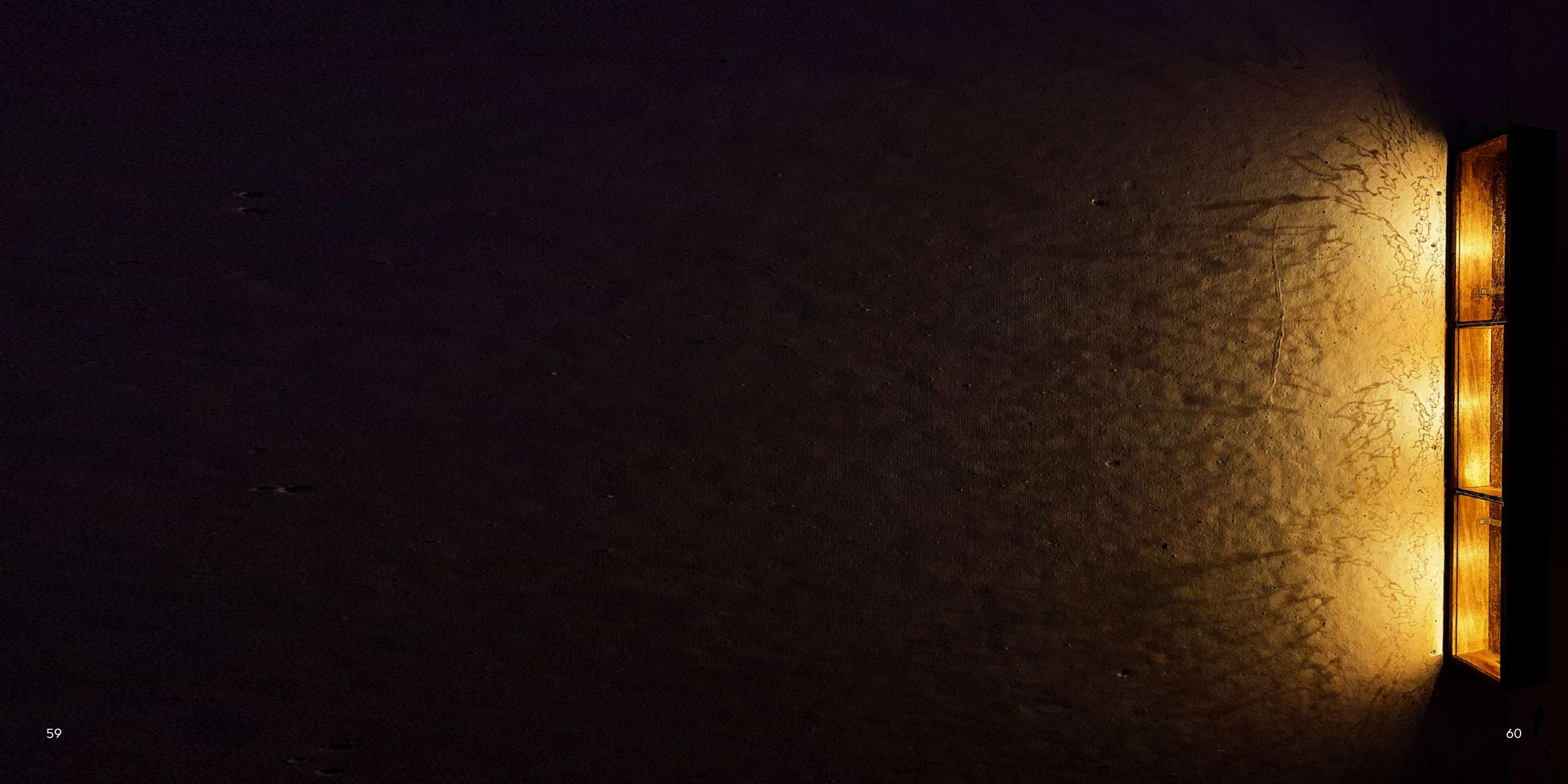


Construction

Materials

The final prototype consists of a wooden box with three sections, each with an acrylic pane covering one side. The panes each have a laser-etched branchlike pattern that, when combined with the internal LEDs inside the box, create an intricate canvas of shadows across a surface.





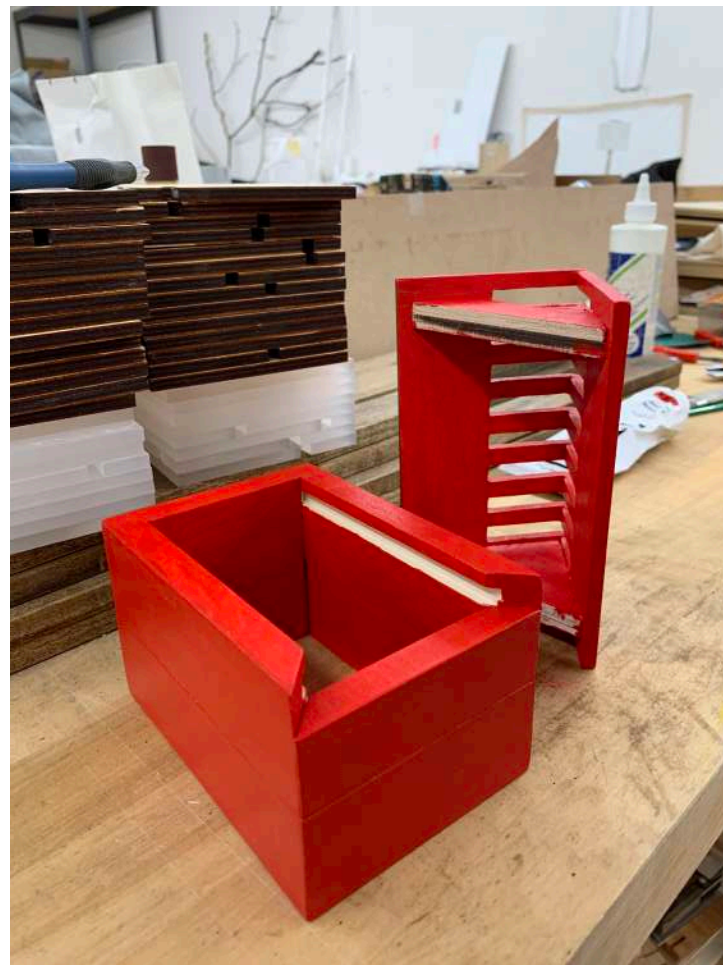
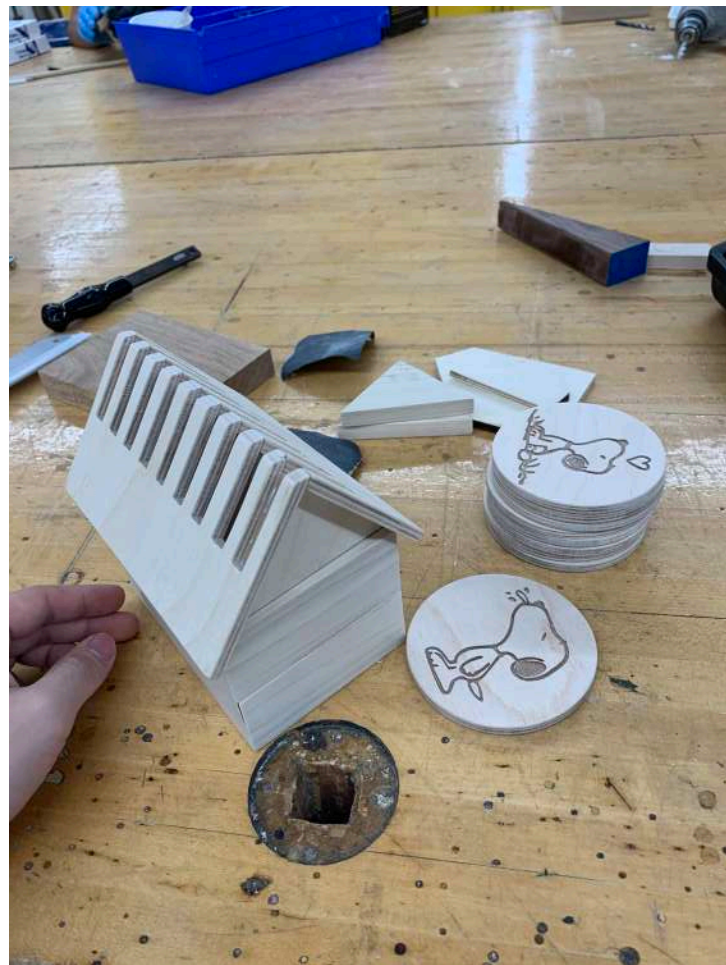


SNOOPY COSTER SET

Christmas Gift

Fall 2019

A Peanuts-inspired Christmas gift showcasing nine coasters, each with a laser-etched iconic Snoopy scene.



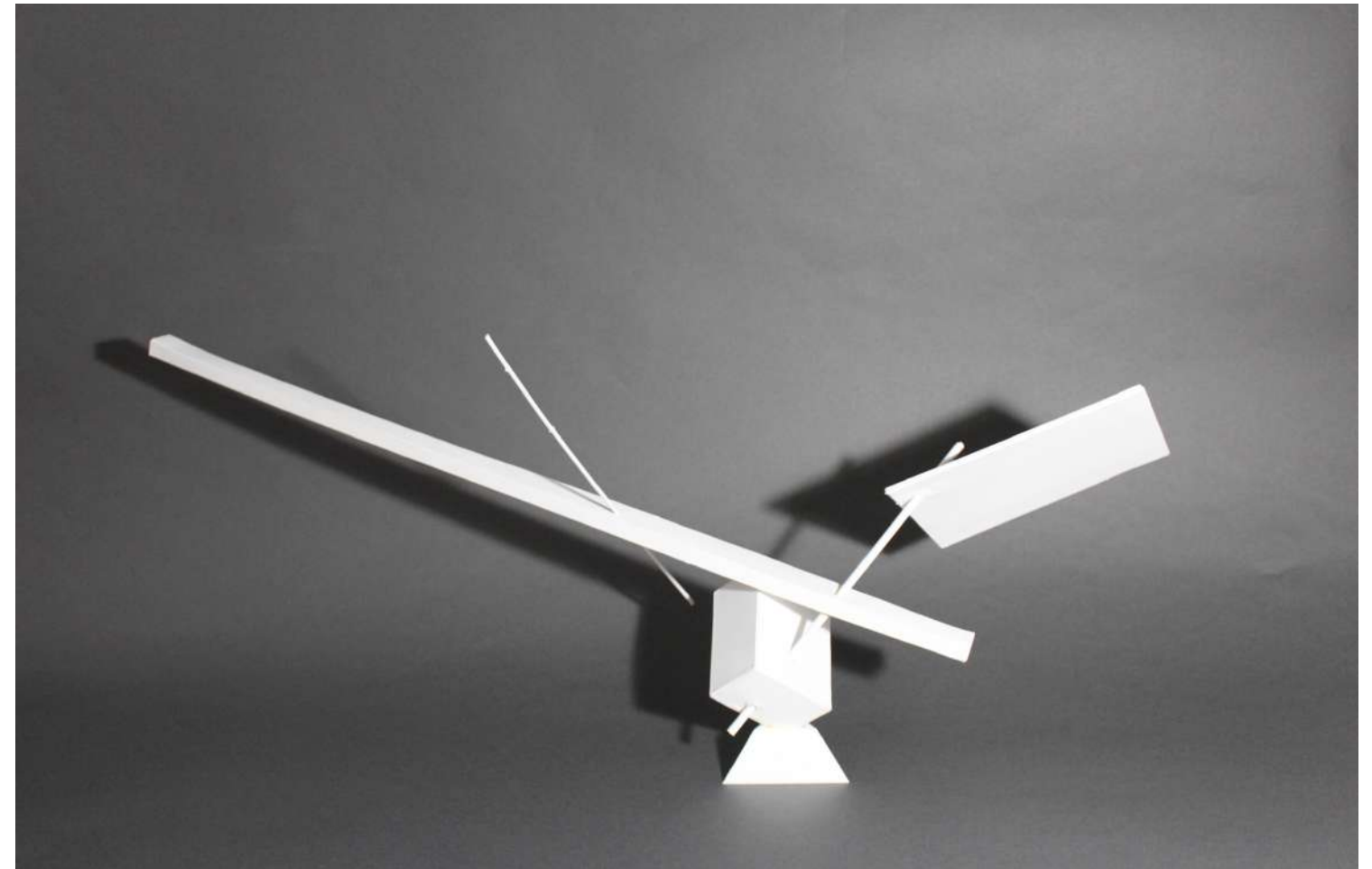
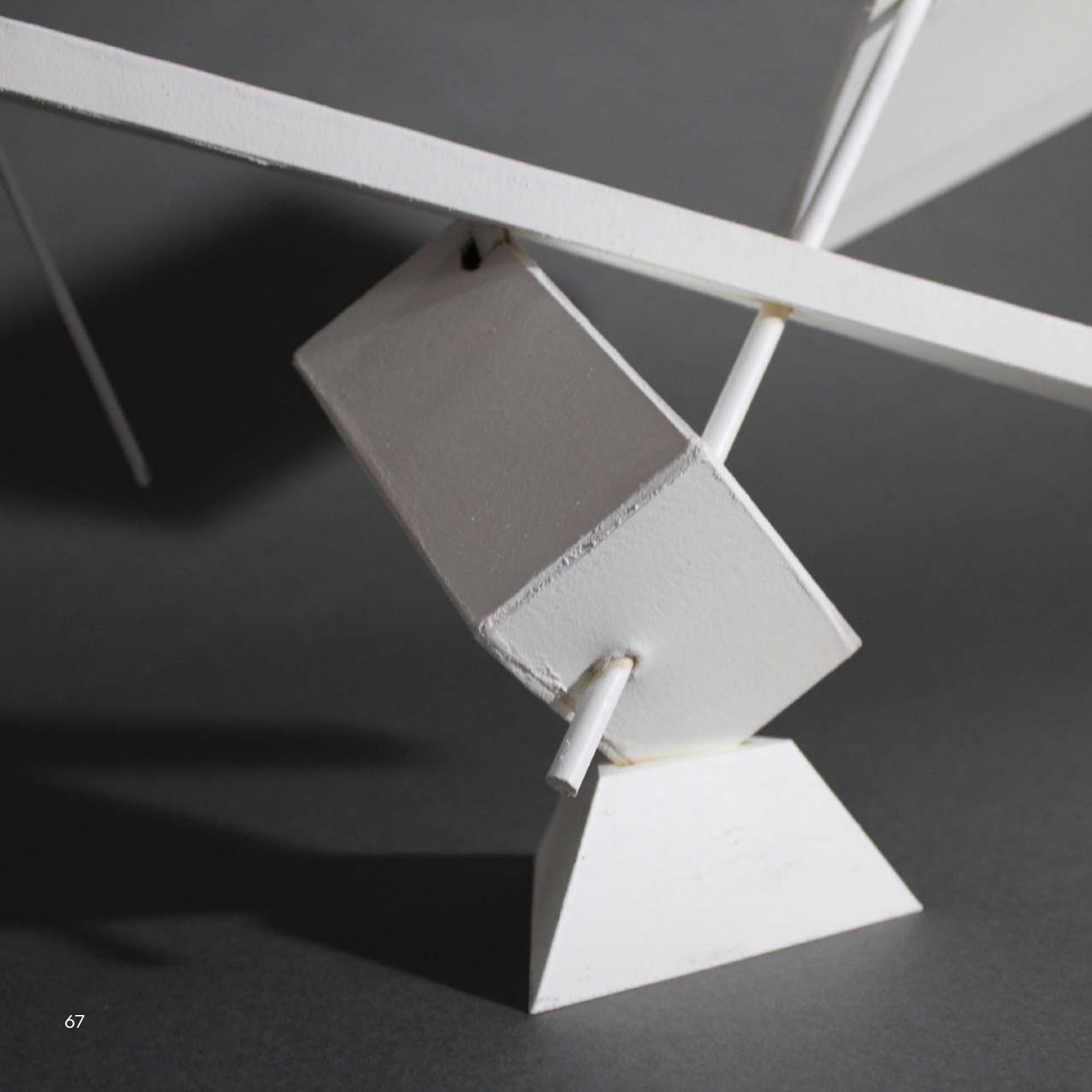
Construction

Materials and Purpose

The entire piece is built from 1/4" birch plywood, either painted or beeswaxed. The bottom of the "doghouse" coaster rack slides open to reveal a storage space for all nine coasters.







CORNERSTONE

Course: 3D with Karen Stone
Fall 2019

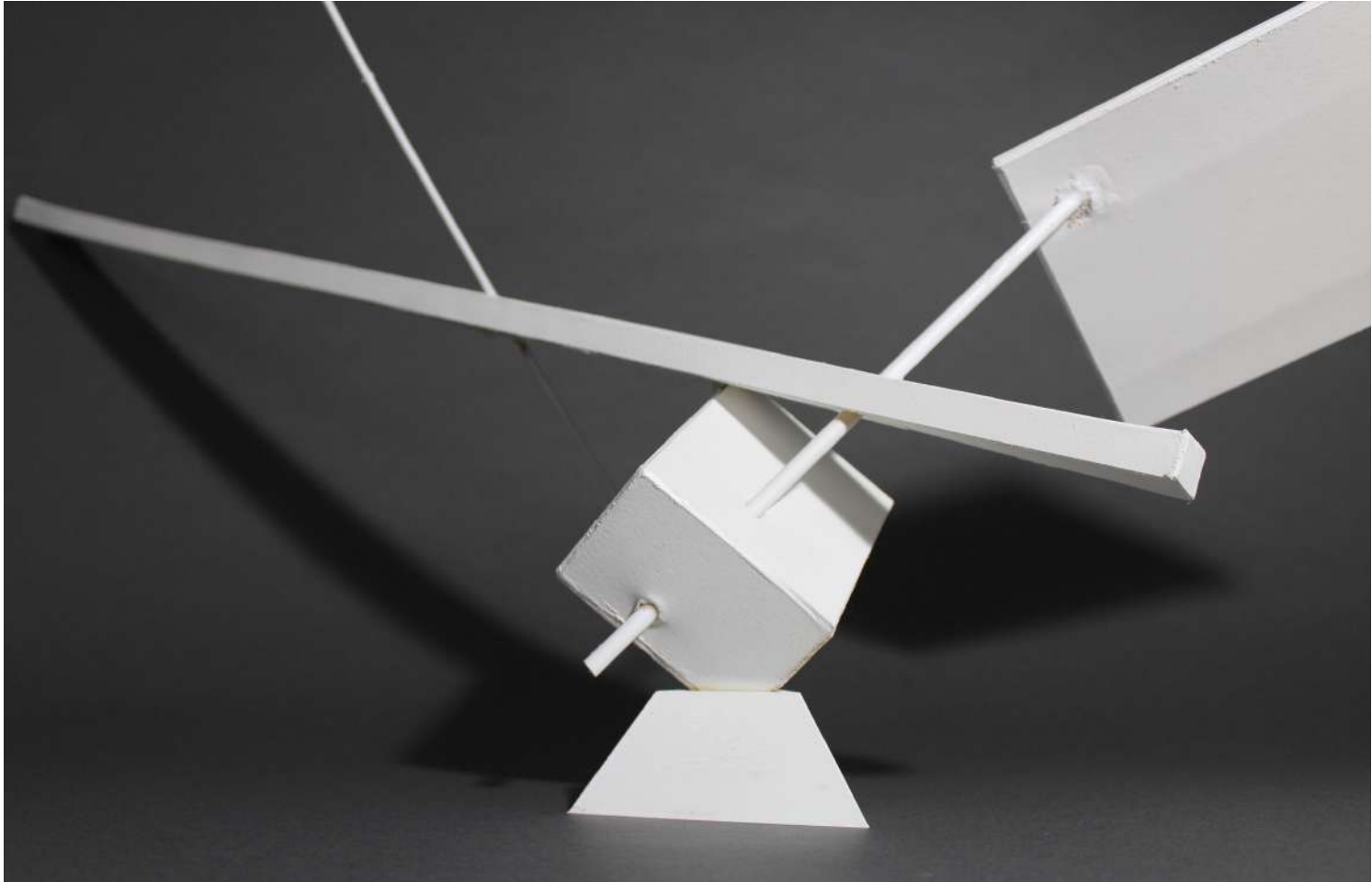
A composition of volumetric,
planar and linear elements



Initial Inspiration

Found Objects

The original composition was constructed from common trash and found objects.



Final Model

Volume, Plane, Line

After multiple iterations, a final model was built out of Bristol paper, wooden dowels, and a 3D-printed triangular base, as per project requirement.





TEMPLE

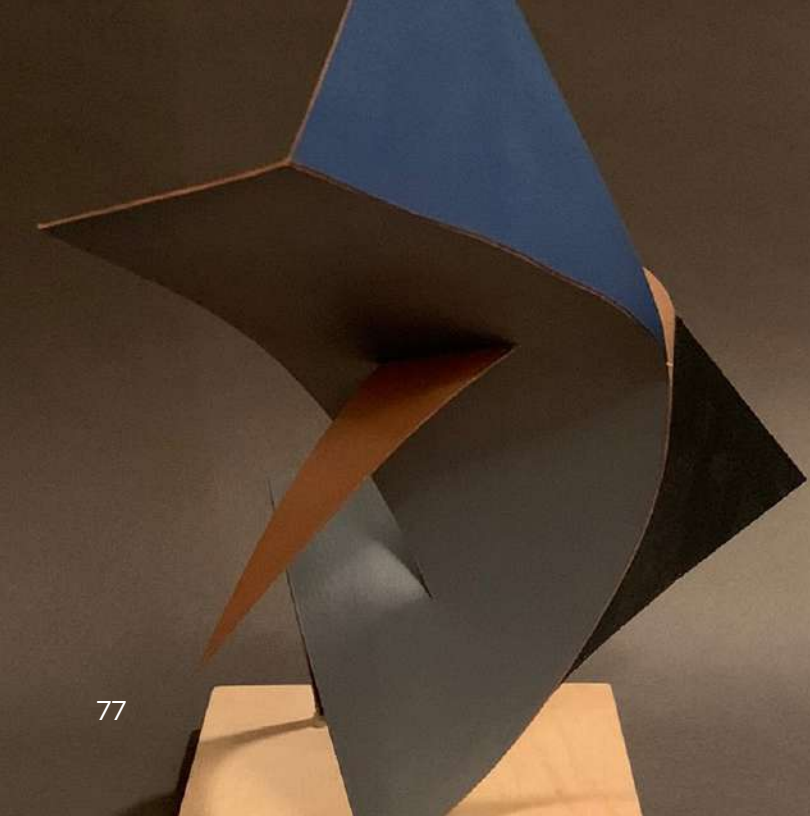
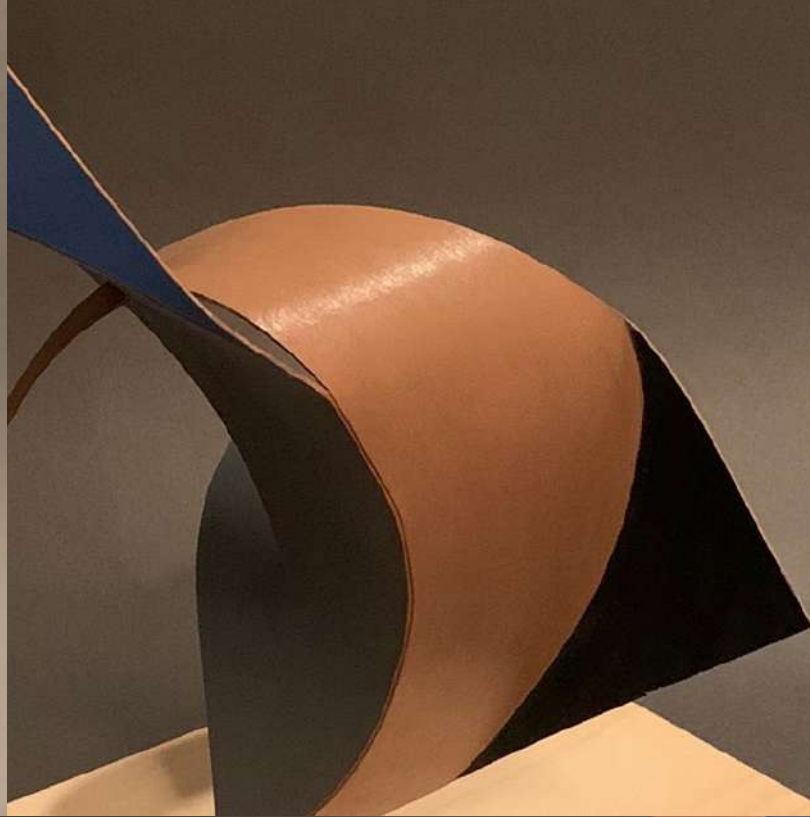
Materials: bass wood, nylon string, Bristol paper
Spring 2020



CONVEXITY

Materials: plaster, plywood base
Fall 2019





PLANAR STUDY



Materials: Bristol paper, acrylic
paint, plywood base, hot glue
Fall 2019

THANK YOU

*to all my friends, family, professors
and colleagues that supported
me throughout my journey so
far. I could not have achieved my
success without you.*





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