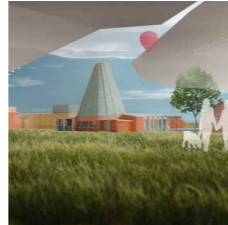


PORTFOLIO.



Uthpala
Dayarathna

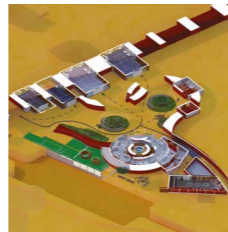
CONTENT.



MEMORIES OF THE PAST

Preservation and Regeneration

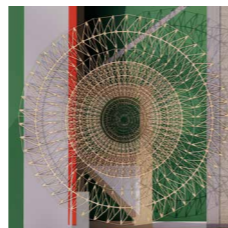
04



SILOS IN THE CITY

Ownership and Transition

08



COFFEE TREE

Parametric Design

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ELEMENT

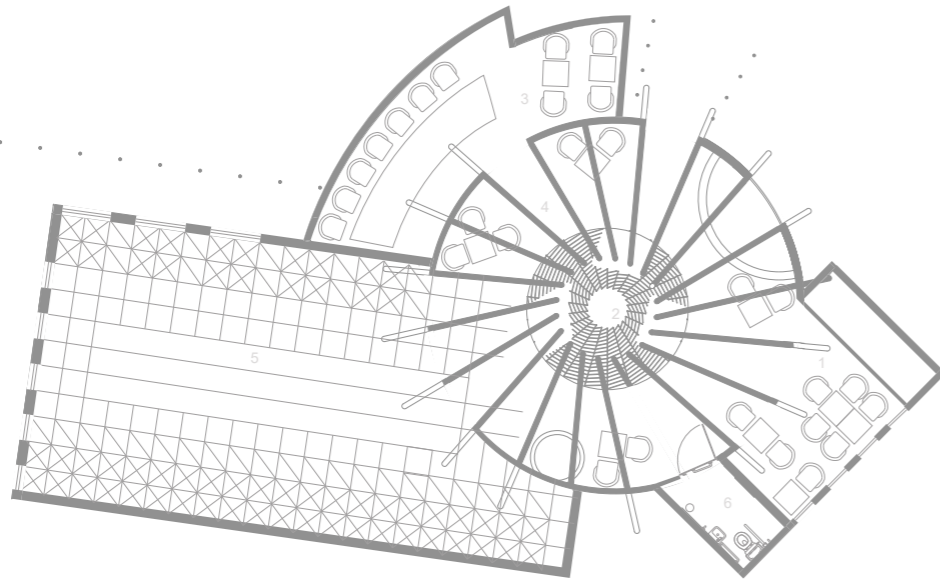
Construction of Design

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SILOS IN THE CITY

Ownership and Transition

Woolwich is experiencing a transformative phase with the new Elizabeth Line connecting it to central London, attracting professionals due to reduced travel times and the rise of remote work post-COVID. This space draws inspiration from office design history, aiming to attract remote workers who lack adequate home workspaces. The café features an indoor garden that encourages social interaction and ties into the 'Green Link Masterplan'. As users move deeper into the building, they transition from a dynamic work area to a quieter, fully customizable space, inspired by the Action Office layout and origami, allowing for personalized work environments.



Ground Floor

Refolding Transparency



1. Cafe/ Dynamic Working Space
2. Indoor Garden
3. Computer Room
4. Transitional Working Space
5. Flexible Working Space
6. Disabled Toilet



Best wall design from the study as it packs down to a tiny footprint when not in use and the folding pattern will help absorb sound increasing the closed-off atmosphere.

Green Link Masterplan

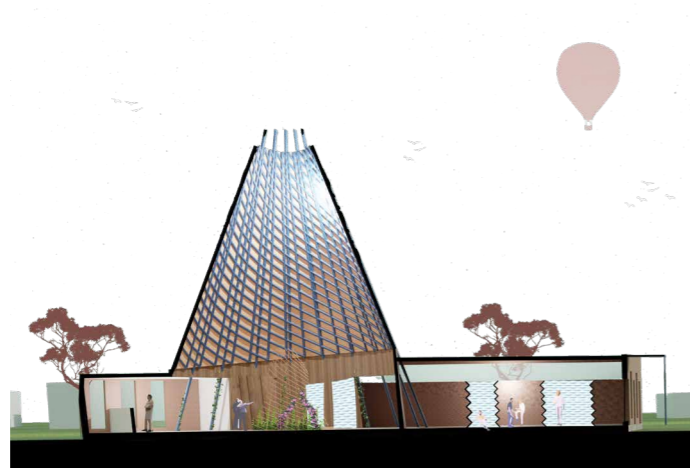
Masterplan

There has been a significant influx of working professionals moving to Woolwich, likely driven by the construction of the Elizabeth line and the increased normalization of remote work due to COVID-19. These factors have reduced the need for daily commutes. The masterplan aims to prepare Woolwich for the future by creating architecture that connects the current residents with the new professionals and mitigates the effects of gentrification in the area.



Co-working Cafe

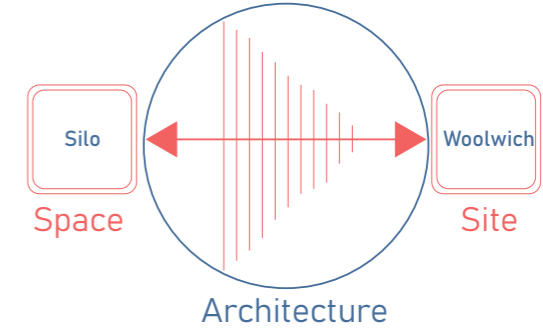
With the large number of new professionals in Woolwich, there is a growing need for a coworking space, as many people are unable or prefer not to work from home. The coworking space will serve as an additional gateway to engage with the larger masterplan, encouraging professionals to explore the area during their breaks.



Design Overview

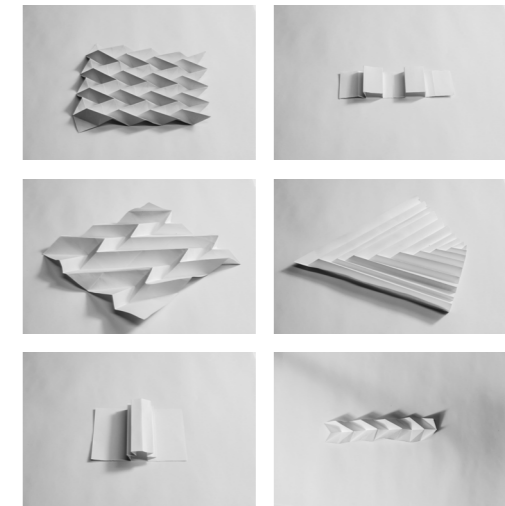
Concept

The key driving concept behind the design is understanding the gradient of transition to ownership of space. As customers first enter the building, they are welcomed into an indoor garden and dynamic work environment that encourages both social and active meetings. This design maintains a connection to the broader masterplan, promoting seamless movement between the architecture and the surrounding area.



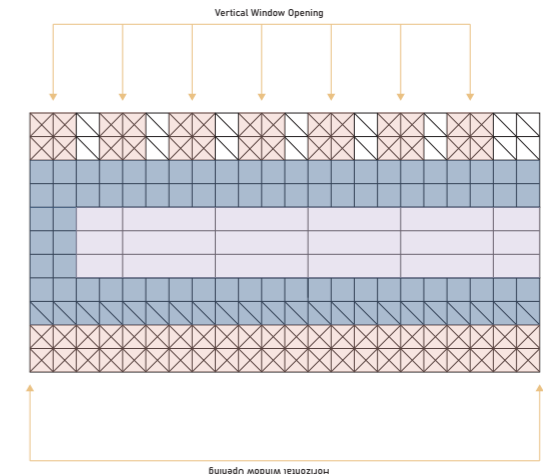
Folable Walls

To give users ownership of their space, origami-inspired folding panel designs were created. These panels allow for customizable visual and acoustic separation, adapting to users' needs.



Concept

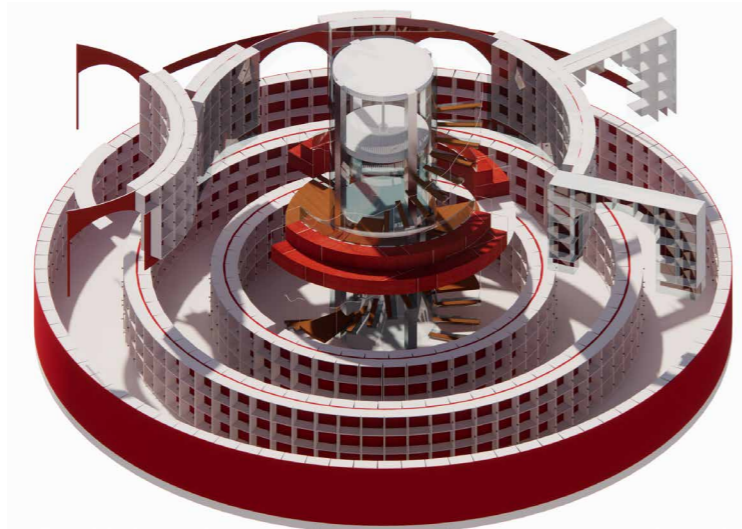
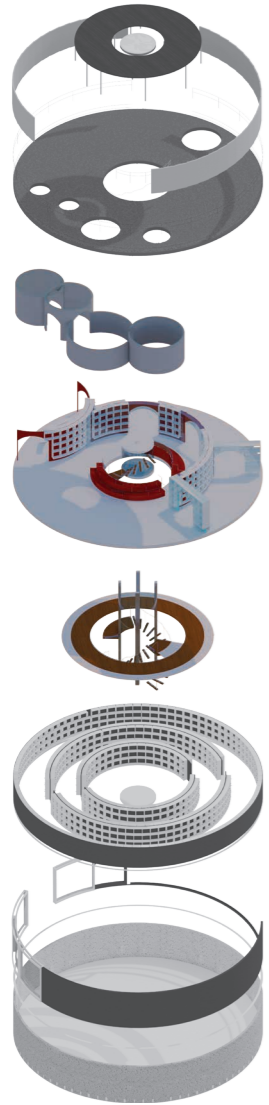
The final design draws inspiration from the Seagram office, emphasizing increased customizability of levels radiating outward from the center. Recognizing that users prefer working near windows for natural light, this approach encourages filling the grid from the periphery inward. Consequently, this strategy helps maintain a clear central area, enhancing overall circulation.



MEMORIES OF THE PAST

Preservation and Regeneration

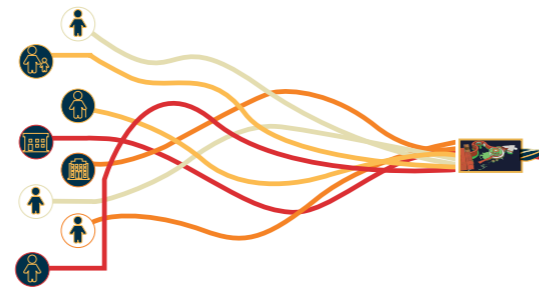
As a library, the Preserving Potential project aims to strengthen the local Eldonian community by offering new learning opportunities while also highlighting and preserving endangered manufacturing techniques. In today's society, Britain is increasingly adopting uniform manufacturing methods and importing a vast array of products to relentlessly cut production costs. This shift is causing the nation's once-proud artisan culture to rapidly decline. The Preserving Potential project seeks to counteract this trend by providing education and raising awareness about the importance of maintaining traditional craftsmanship.



Design Overview

Concept

The focal point of the project lies in the library/vault space. On the ground level, an informal study area is designed for use by local students from the four neighboring schools. As students move through the space, they will be surrounded by capsules containing various items from the design studio. The concept of preservation is most evident underground, as the space functions as a vault aimed at preserving the processes of different vernacular crafts. This serves as a reference point for bringing back these practices if they cease to be passed on in the future.



Site Considerations

During the site analysis for the area, it became evident that while the new regeneration project for the Liverpool docks will benefit the city, it is also contributing to the gentrification of the local Eldonian community. Recognizing the inevitability of the docks project's construction, my proposed design focuses on providing tools for the community to adapt and evolve alongside the changes brought by the docks.



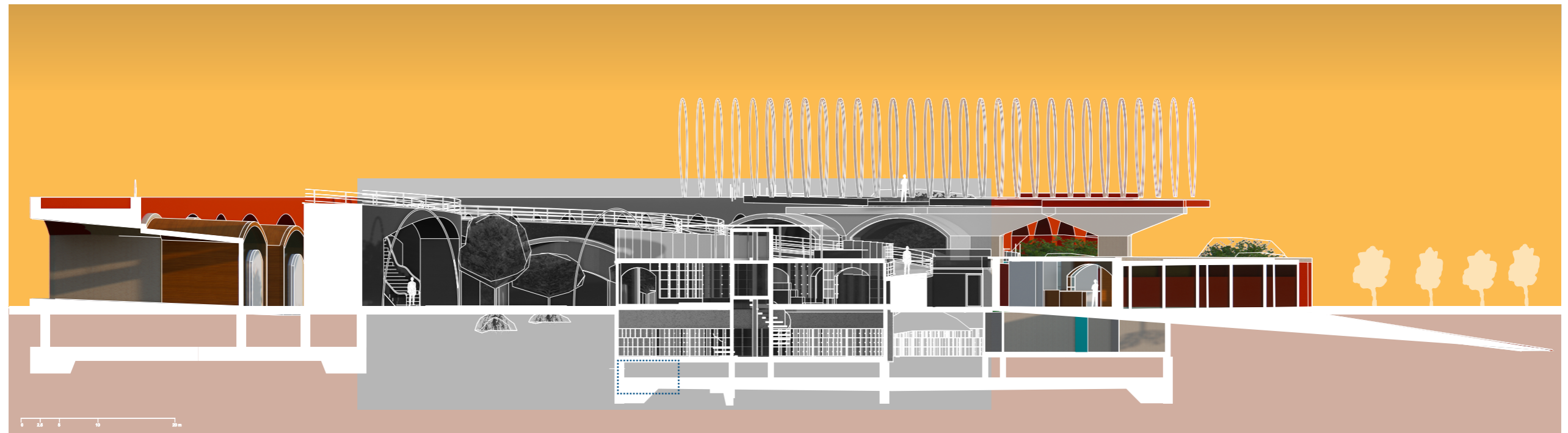
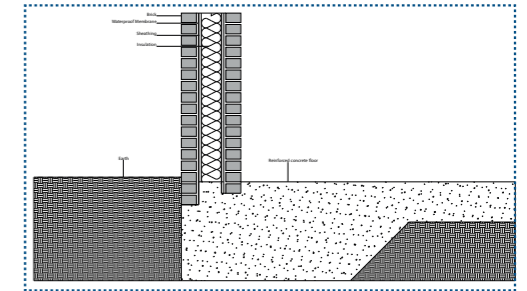
Functions

The Preserving Potential project aims to achieve its goals through four main strategies. First, it seeks to make the library self-sufficient to prevent closure due to funding issues. Second, it aims to strengthen community ties and attract tourists to generate new income. Third, it draws on the city's manual crafts heritage to create unique revenue streams. Lastly, it advocates for a nearby train stop to improve accessibility and connectivity for the community.



Design Detail

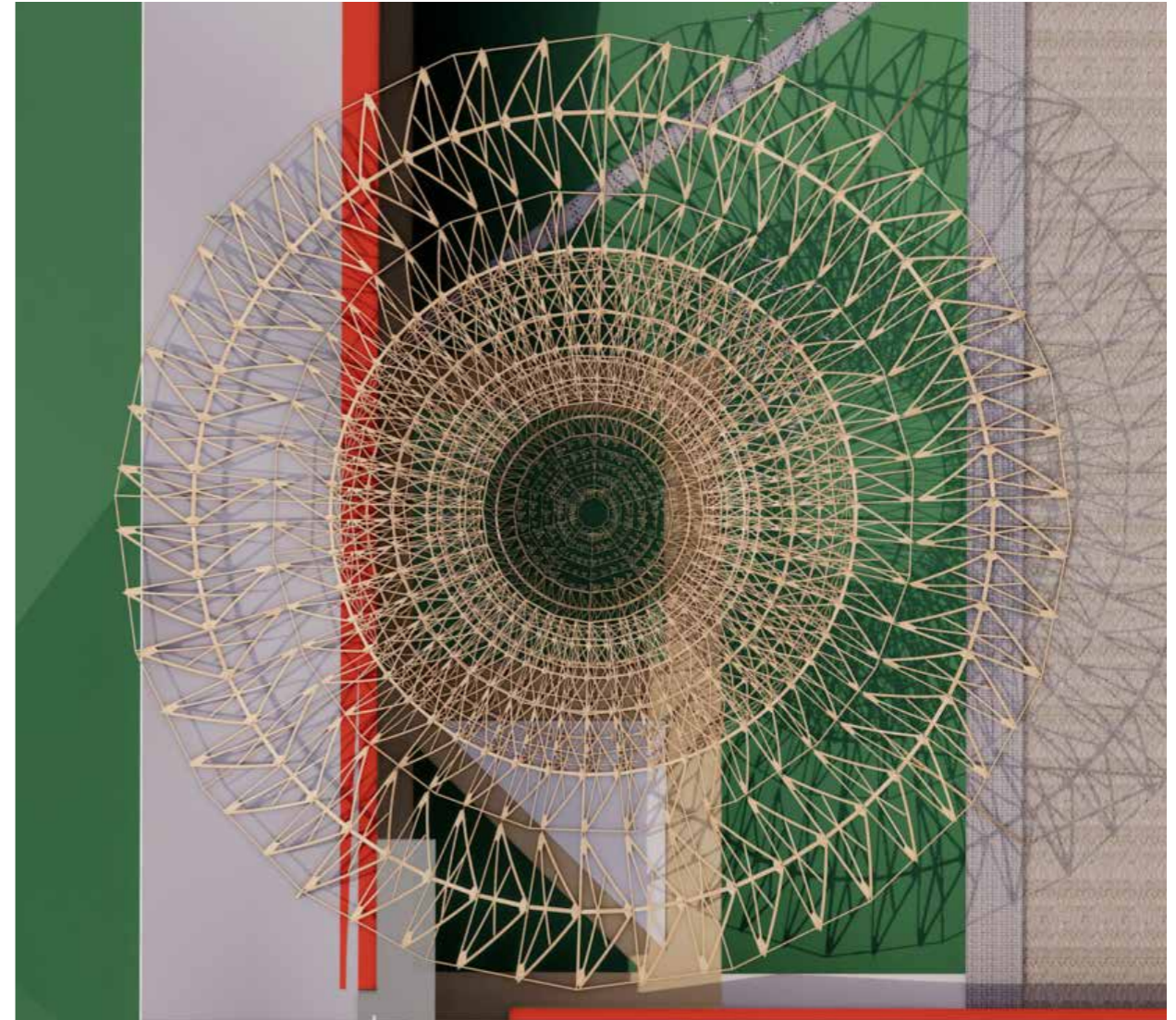
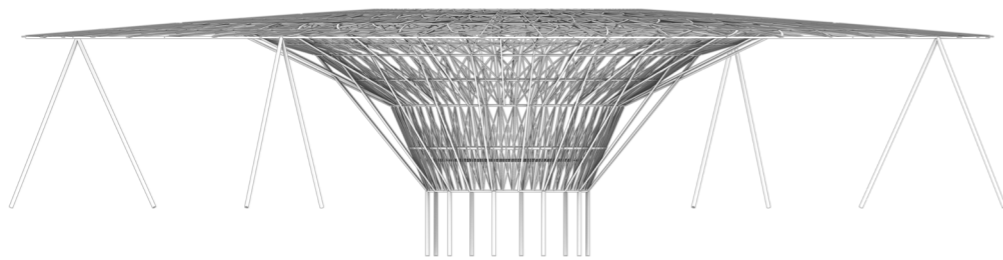
The architecture proposal features four main design studios built into the viaduct, aiming to teach handmade crafts and raise awareness of the artisans. A large ramp stretching 150 meters, with 10-meter breaks to showcase the different items made in the studios, connects all the separate buildings. This ramp leads to a new railway station, serving as a connection point for the city.



COFFEE TREE

Parametric Design

The proposed design serves as a partial shelter for people outside the café, fostering community connection, particularly post-pandemic. The primary structure takes inspiration from a distorted and rearranged coffee cup figure, linking back to the café. Additionally, schools such as Civil Engineering, Science, and Architecture host events like the end-of-year Architecture evening. This structure extends the available area, providing a sheltered green space for private events, enhancing the overall event experience.



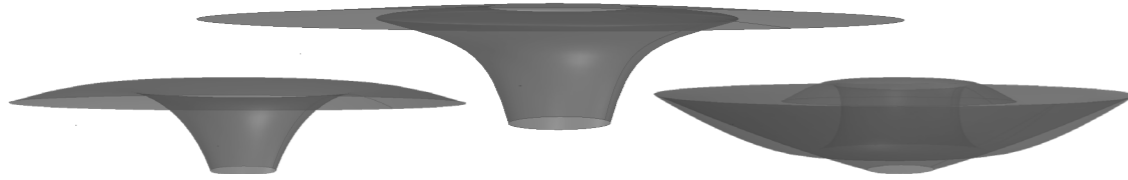
Primary Form

Concept

Since the architecture was closely connected to the café, intended as an extension, the primary form drew inspiration from a coffee cup. Initially, I crumpled, twisted, and deformed the cup in various ways to explore multiple potential forms. The diagram above illustrates some of the shapes I selected to progress in the design process.

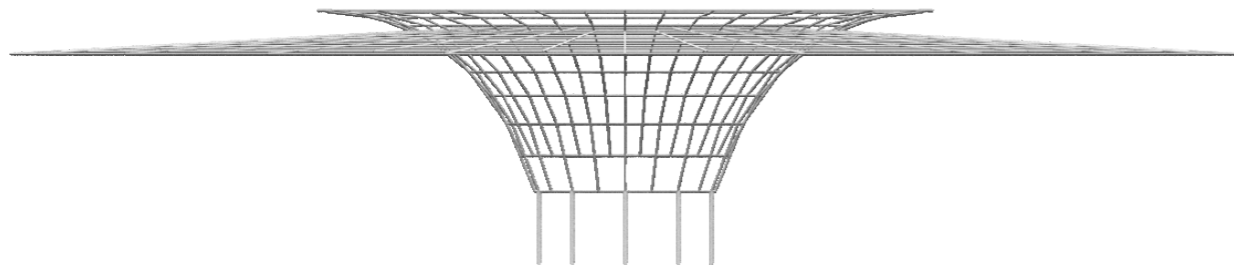


Loft Iterations



Subsequently, I took the newly generated forms and started blending them together to produce a range of potential canopy geometries using the Grasshopper plugin for Rhino3D. While iterations one and two appeared promising individually, they didn't integrate well when placed on a 3D model of the site. However, iteration three proved successful with some adjustments. This lofted form was then refined further through additional coding to generate a scaffold for the secondary element.

Primary Form



Secondary Form

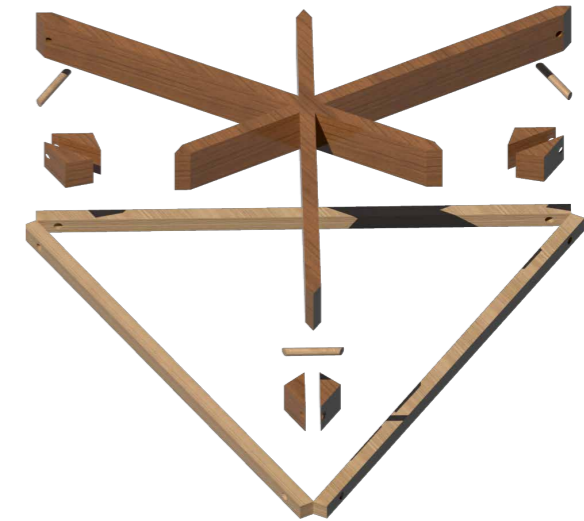
Concept



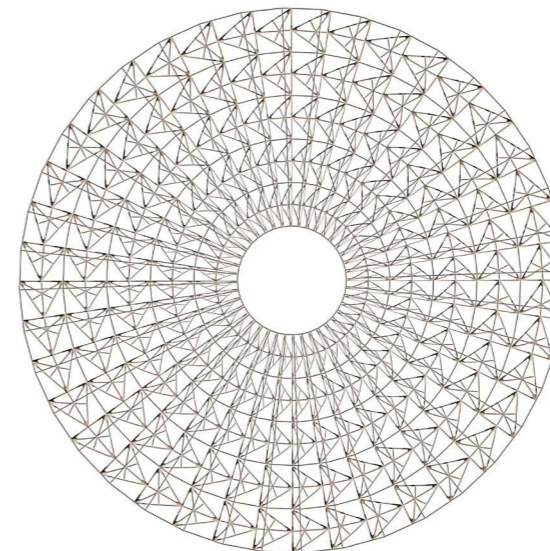
Form

The design concept aimed to evoke the feeling of a starry night during the daytime. To achieve this, a conventional star shape was deconstructed into multiple components and then reconfigured into a new geometry, forming the basis of the design.

The designed element would incorporate two distinct types of wood: one light for the triangles and one dark for the stars. Both components would be coated in a watertight clear gloss finish, enhancing their durability and highlighting the natural beauty of the wood grain.



Application



The second variation stemmed from the frequency of triangular pattern projections onto the surface. If the frequency was too low, the structure appeared unrefined; however, if it was too high, as excessive amount of sunlight would be blocked. Through multiple solar simulations, an optimal range of 200-350 projections was determined—a Goldilocks amount that allowed for an ideal play of light without obstructing too much, especially when the bench roof was installed.

ELEMENT

Construction of Design

From the year group, an Element was chosen and a primary form was created, similar to Coffee tree project but as a collaborative project. For this project, I mainly worked in the group to design the primary form pre-construction. The design was linked to the site by constructing it around the tree seen in picture 1. Once construction started, I worked on folding some of the elements but mainly to construct the primary form.

