B.15 MODELMAKING AWARDS 2024

MANCHESTER SCHOOL OF ARCHITECTURE

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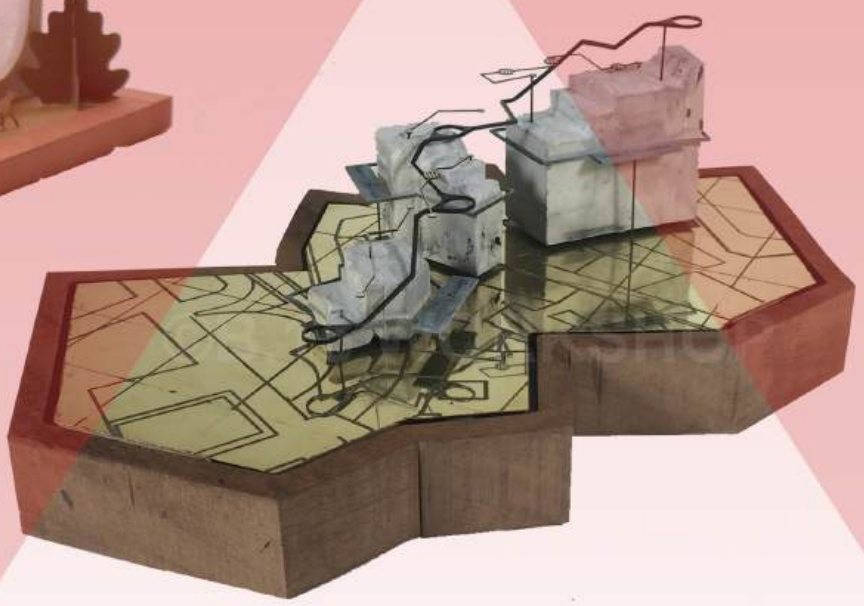

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B.15 MODELMAKING WORKSHOP

MANCHESTER 1824
The University of Manchester

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Auri Gomez

BA(Hons) Architecture
Year 1

The proposal for Habitat C (01-06) is a parasitic micro home. It latches onto the facilities hut in Cotton Field Park. The site is located in New Islington A key feature of this living unit is how customisable it is in terms of the interior. The floor plan majorly consists of a flexible space, keeping partition walls to an absolute minimum. Most pieces of furniture can be moved, and the bathroom and kitchen have been placed against the walls. The reasons why this design choice was made were constraints stemming from the brief in terms of dimensions (15m2 was the approximate net internal area the living unit had to accomplish), and also the importance of being able to tailor a space to one's preferences. The users are considered to be two homeless people who will temporarily live in the micro home as they look for an alternative, more suitable home. Six possible example users were outlined in order to derive some needs that later informed the design, all from different age groups and backgrounds (including dog owners). Preferences in terms of the layout of beds and furniture will differ across individuals. And so, by having a flexible space, we can give them the possibility to adapt the space to cater to their vision of an ideal living space: a home. Even if it is a temporary one. Due to this, I chose to make the walls see-through by only including the timber frame, rather than the total thickness of the wall. This was also done so that one could rearrange the furniture and explore different layouts for the flexible space.

The Swiss School of Engineering for the Wood Industry (07-10) was the case study we were given for the materials assignment on timber, which was given to us during the first week. Although I made the model, my peers (Jessica Angeline, Regine Salido, Ilhan Mohamad Bin Azlan and Alexandra Davies) helped with the research. It is a structural section model showing the fake ceiling, service gap and other key elements of the construction.

The models were mostly made with recycled materials from the scrap items area of the B15 workshop. This was not only to minimise costs, but also as a challenge and to avoid wastage. Making these models helped familiarise myself with the equipment and the process of architectural model-making.

Auri Gomez

BA(Hons) Architecture
Year 1

"Image 01: The timber framing of the northern wall is exclusively represented, as opposed to a solid wall. This is to facilitate visual access to the interior, as shown here. Image 02: process. Image 03: photo of the materials used. Image 04: close-up focusing on the curved stairs. Image 05: responding to the uneven ground. Image 06: top view depicting parasitism."

"Image 07: Swiss School of Engineering for the Wood Industry, 1:50 construction model. Images 08 and 09: close-ups. Image 10: process."

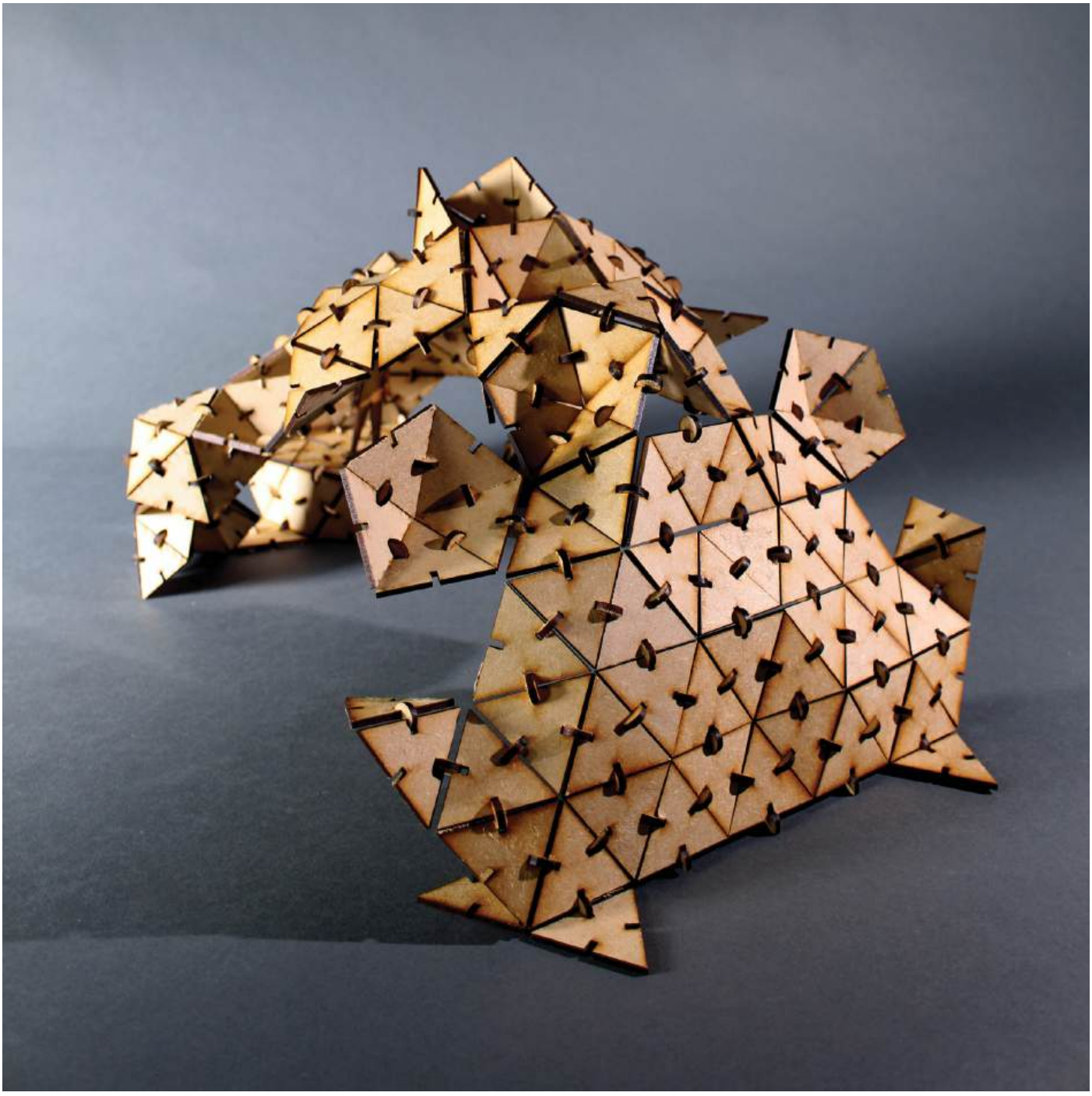
Erin, Ishmeen, Byungwook Jeon, Parth & Ece

BA(Hons) Architecture
Year 1

This modular pavilion exploration sited next to the University Place aims to stretch design and construction principles to maximise flexibility of architectural variations composed of only CLT. It tackles key challenges including minimising noise disruption, preserving natural light flow, and developing an adaptable multipurpose space.

For prototyping, we built various physical models to thoroughly evaluate resilience to force, friction fit, and stress transfer characteristics. We examined a selection of shapes from quadrilaterals such as rectangles and rhombuses to triangles to advance the angular fluidity of the pavilion for modelling. We learned that the simplicity of triangles welcomed a wider set of combinations, encouraging us to discover the mobility created by the diverse units. Our strategies surpassed individual application of triangles and reached a more complex approach including pentagons and hexagons made of the unit triangle that can be easily assembled and disassembled using a variety of interlocking angles depending on the desired curvature. Through efficiency tests, we identified the most advantageous junctions and configurations for the panels to optimise modular CLT performance. Using circular joints, we achieved complete revolution range around the connections and composed a structure with sudden escalations as well as smooth curves.

The base of the structure is stabilised by semi-circular joints that adapt to floor, and the surface panels' flat orientations deliver maximum ground contact and friction. A strategically contoured noise barrier confronts Oxford Road, notably blocking traffic noise and heightening the acoustics within the pavilion. Moreover, the stage connected to the barrier supports the structure's overall integrity by participating in load distribution beyond solely being a performance area. Reflecting on the horizontally extensive form, we placed structural columns on opposite sides of the pavilion to transfer loads smoothly and maintain its rigidity. Additionally, we imitated the vertical zigzag dynamism of trusses in our roof design, providing higher support to unite the two ends of the structure while ensuring stability through curves and openings. Overall, we managed to refine physical and functional principles for our pavilion as a result of iterative design and practical testing allowed by the modular panels and circular joints.



This photograph shows what the pavilion would look like from Oxford Road. The frog-like structure is the noise barrier, designed to mitigate noise disruptions while events are held inside. The "arms" on each side of the "frog" act as signage, welcoming visitors towards the pavilion.

Erin, Ishmeen, Byungwook Jeon, Parth & Ece

BA(Hons) Architecture
Year 1

The left photograph reveals the complex plan of the pavilion. The details on the right depict the hexagonal and pentagonal approaches used on the pavilion's roof and columns.

The interior stage sits on the other end of the pavilion, sheltered under the structurally supportive "tail." The side elevation reiterates the organic curvature we achieved despite the geometric module through space frames illustrated in the top right image.

Carla Pagliari Madruga

BA(Hons) Architecture
Year 1

As a year 1 student, I am only becoming familiar with design development, and this year I have found the B15 model making workshop an important tool in understanding form, material and structure. Using model making as a tool in the design process for my studio 1.2 project allowed me to turn an imaginary idea into physical form, using modelmaking in the first couple stages of design meant I could take a more creative approach to model making, using abstract materials and experimenting with shape to further develop the structure. In my design proposals there is a always a priority to minimise waste and use recycled materials, and so I carry this thinking through to their models, spending no money on any of my models this year through the use of scrap materials or ones I found from our natural environment. This is not only for the purpose of expenditure, but also because 'mimicking' material instead of 'copying' allows for a more fun and creative aesthetic.
For example, using cardboard to show insulation, wood-dyed saw dust for soil and twigs for trees is all an example for how we can use alternative materials in real life architecture.

This is a conceptual model of a rammed earth house, with layers blocks of scrap wood showing the aesthetic of rammed earth. The main goal for this conceptual model was to figure the shape of the green roof, how it would fit onto the building and how it would come down to the ground. I learned that angles are tricky and not to be taken lightly, it may look a certain way in your head but in reality has a lot of technical difficulties.

Carla Pagliari Madruga

BA(Hons) Architecture
Year 1

A rammed earth section for the same project, using all scrap or natural materials to mimic a real life section.

Detail on the gravel drainage and stone foundation.

Joshua Wilde

BA(Hons) Architecture
Year 1

Project: Community Living Space
In Studio 1.2, the project brief involved working collaboratively as a group to develop a housing scheme on a site approximately 60m x 80m in Hulme, Manchester. This site became the context for our individual single-family dwellings. The second part of the project focused on refining the design's architectural qualities, considering materiality, environmental impact, and structural performance.

My final proposal was a timber, box-framed construction using a variety of natural, sustainable, and locally sourced materials to create an energy-efficient dwelling. The 1:20 section model highlights the main circulation spaces on both floors, including the front entrance, stairwell, dining room/hallway, and mezzanine.

I began constructing the model by measuring and cutting 120mm wooden dowels for the building’s frame, then assembled and glued the ground floor’s frame. After erecting the frame, I installed wooden flooring (water-coloured balsa wood) and terrazzo tiles (colored pen on brown paper stuck onto grey board). I made the door from balsa wood with drawn-on panels, fitting it to the doorway, and created windows with a thin cellophane layer glued to the balsa wood frame.

For insulation, I used two layers of corrugated cardboard (220mm), then applied thinner cardboard cut into strips and rolled tissue paper in a recurring pattern onto the back of a painted grey board wall (for interior walls—the exterior walls used the same method minus the tissue paper). For the first floor, I made a grey board base, installed painted balsa wood flooring, then attached joists and timber panelling (balsa wood) underneath for the ground floor ceiling. Once the floor was fitted, the first-floor frame was attached. The roof components included an MDF base, layered cardboard for insulation, joists at either end, and a layer of grey board for the exterior roofing. Underneath the MDF was thicker balsa wood representing the first-floor timber ceiling, wedging the components in place between the timber frames. The model purposefully leaves the frame exposed on the top floor to illustrate the structural design, whilst the roof components are detachable.

Section cutting through the house laterally, showing the front entrance.

Joshua Wilde

BA(Hons) Architecture
Year 1


Image 01: Frame construction (ground floor)

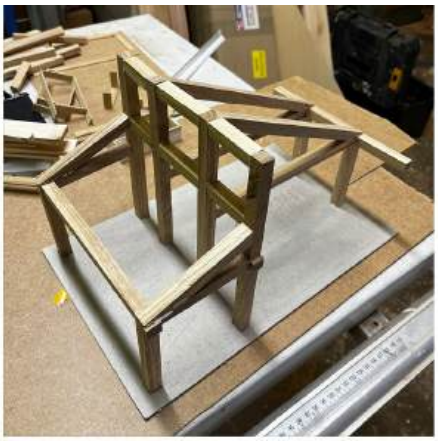


Image 02: Frame construction (first floor)


Image 03: Frame detail


Image 04: North-west side (no roof)


Image 05: Roof components


Image 06: South-east side (no roof)


Image 07: North-west side


Image 08: Roof detail


Image 09: South-east side

These pictures show the process of the model being made, from frame construction to the application of the roof components.

Image 10: Ground floor interior

Image 11: First floor interior

Image 12: First floor ceiling

Image 13: Ground floor ceiling

Image 14: Mezzanine and stairwell

Image 15: External wall section

Shots showing the interior of the model.

Laura Calin

BA(Hons) Architecture
Year 1

The following envelope model explores the tectonics strategy behind a residential unit hosting a family of 4 in 85m2. From insulation to cladding, it reflects the structural integrity and potential for optimum thermal comfort under Manchester’s climate of this unit.

Envelope model, full assembly

Laura Calin

BA(Hons) Architecture
Year 1

Model detail of the family hosting this unit.

Real life measurements of each element,
represented in 1:20 scale

Seoyun Chloe Chon

BA(Hons) Architecture
Year 1

The journey commenced with a swift ten-minute scratch model fashioned from foam board, envisioning a pavilion concept for Stevenson Square. This design, intended for stand-up comedy events, evolved into a 1:20 site model with context made from greyboard, revealing how its curved shape seamlessly integrates with the surrounding environment. This pivotal moment solidified my decision in favour of this design over others, a choice based on its contextual harmony and strategic fit.

Transitioning to the next project, I endeavoured to design a tiny house for a couple expecting a child, juxtaposed between tall modern buildings. Incorporating existing site features like a central tree, I designed the house's facade with a tall curved window, symbolising an embrace of nature. Precision was essential in bringing this vision to life, achieved through meticulous laser-cut assembly of materials.

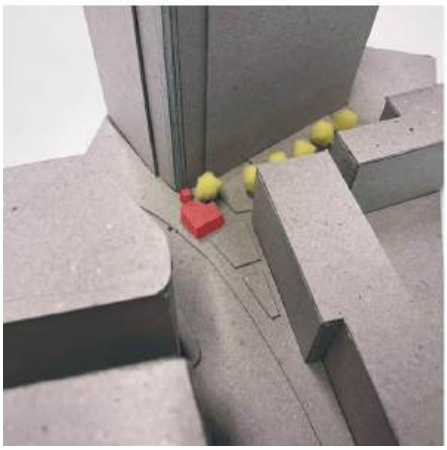
Finally, my exploration culminated in the creation of my first section model, carefully crafted by hand to challenge my creative abilities. The selection of materials became crucial, with elements such as fake grass, wooden dowels, and balsa wood representing various layers within the structure. This project not only honed my technical skills but also fostered critical thinking and precision in material manipulation, a testament to my creativity and resourcefulness.

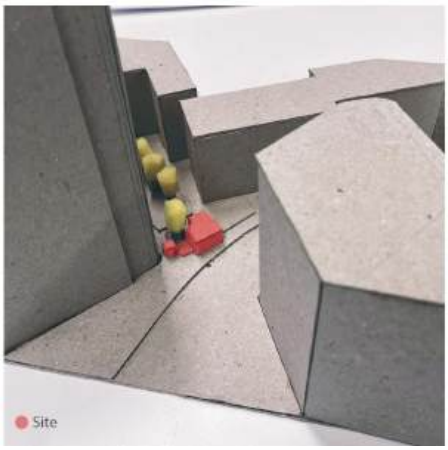
Each model represents a significant milestone in my architectural journey, showcasing my growth as a designer and maker. From initial sketches to intricate constructions, these models embody my passion for exploring design through tangible mediums, each telling a unique narrative of exploration and innovation.

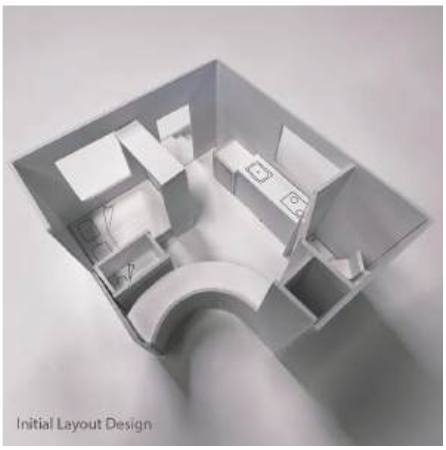
From scratch to structure: My journey unfolds through swift foam board models to envision detailed pavilion designs, capturing the essence of contextual integration.

Seoyun Chloe Chon

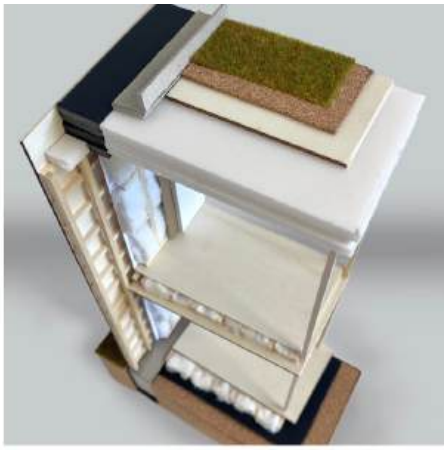
BA(Hons) Architecture
Year 1

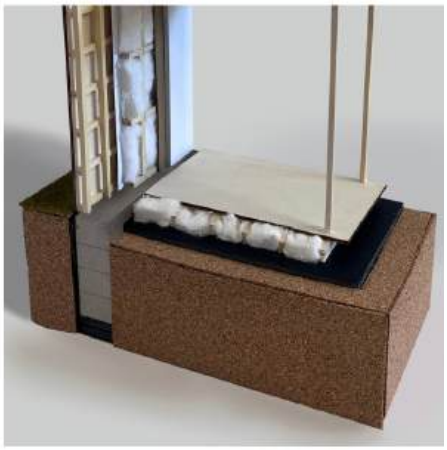






Embracing nature's embrace: Crafting a tiny house amidst towering structures, each curve and window a testament to harmonising with surroundings, blending urbanity with tranquillity.





Precision meets creativity: Handcrafted section models reveal the intricate layers of architectural design, exploring materials and techniques to sculpt narratives of innovation and expression.

Tehreem Javaid

BA(Hons) Architecture
Year 1

Sectional Model, 1:20, built in B.15

Situated on an underutilised field opposite the Hulme Arch Bridge, me and my cohort worked mutually to deliver a proposal for a co-housing scheme, an intentional community, where we decided upon guiding principles and the layout of houses. We were then each delegated a dwelling in the scheme, to individually resolve further with respect to a bespoke client family.

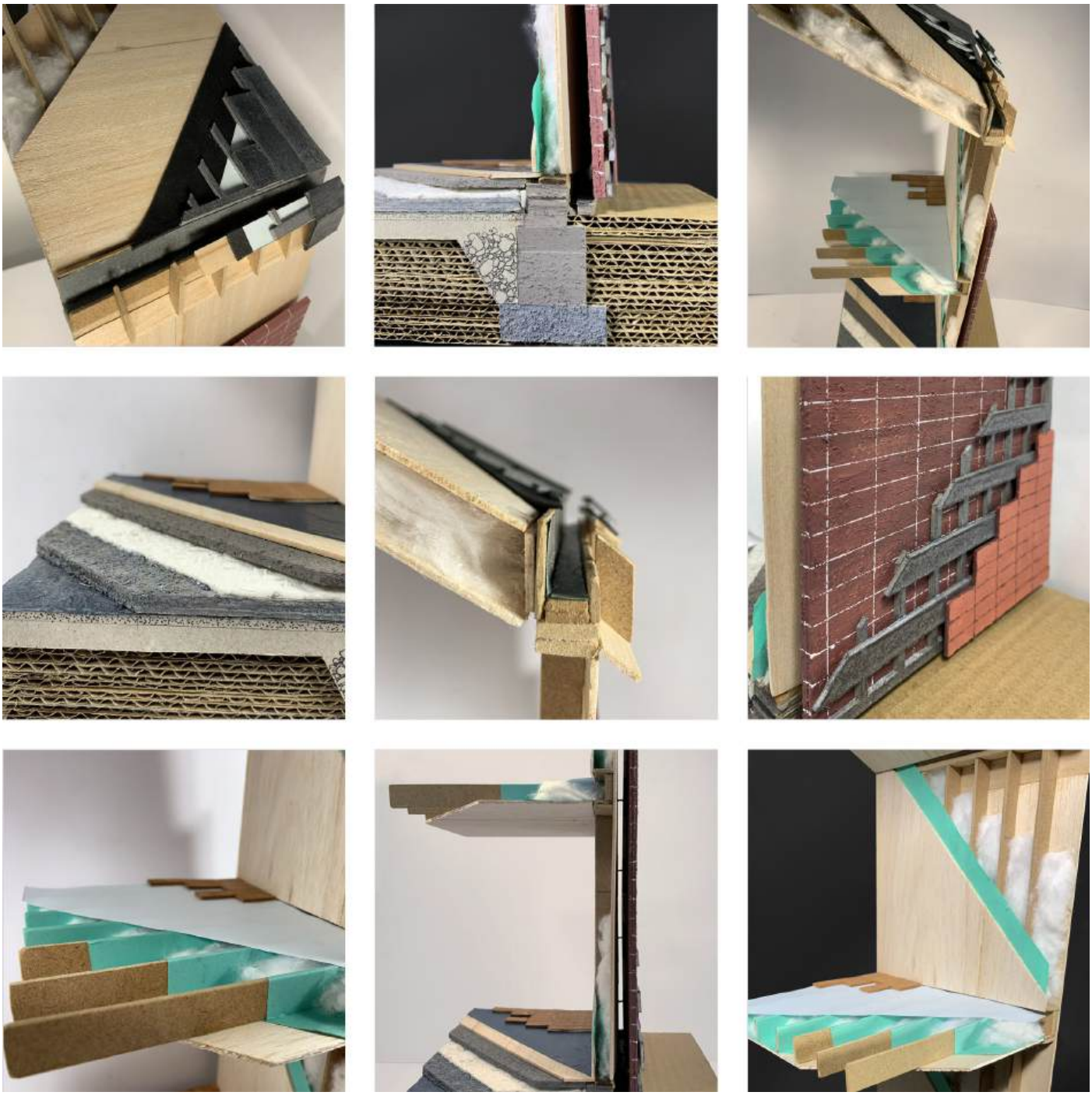
My proposal focused on integrating the new housing into the surrounding residential strips and urban fabric through judiciously choosing materials both sustainable and visually appealing. The vernacular materiality played a role in my chosen cladding, as the terracotta cladding resembled a modern, more sustainable version of redbrick. To meet PassivHaus standards, the aim was to provide sufficient thermal comfort and ventilation by 185mm hempfibre insulation within a timber frame and rainscreen cladding. The air circulating in the cavity between the internal and external blocking would yield an added layer of insulation, improving the energy efficiency of the house. I created a sectional model to allow me to explore this further. The 'timber frame' was made by cutting each joist out of 2mm MDF with a bandsaw. To emulate insulation, I pulled apart cottonwool balls and placed them between timber joists, effectively giving the same appearance. I utilised layers of cardboard to simulate the ground. Acrylic paint mixed with sawdust on greyboard served as the concrete strip foundation, the sawdust creating an engaging texture. Various layers such as the vapour barrier and slip sheet were simply coloured paper, and the exterior and interior sheathings were 2mm balsa wood sheets. To create the aluminium frames for the rainscreen cladding, I cut out strips out of greyboard and spraypainted them silver.

This model allowed me to practice and employ real-life construction techniques, such as carefully wrapping each joist with a vapour barrier to constructing the timber blocking for the concealed gutter. It was made entirely out of scrap materials, improving circularity, and manual techniques as there was no laser-cutting involved, further emphasising how this model taught me to combine the layers of a building together realistically.

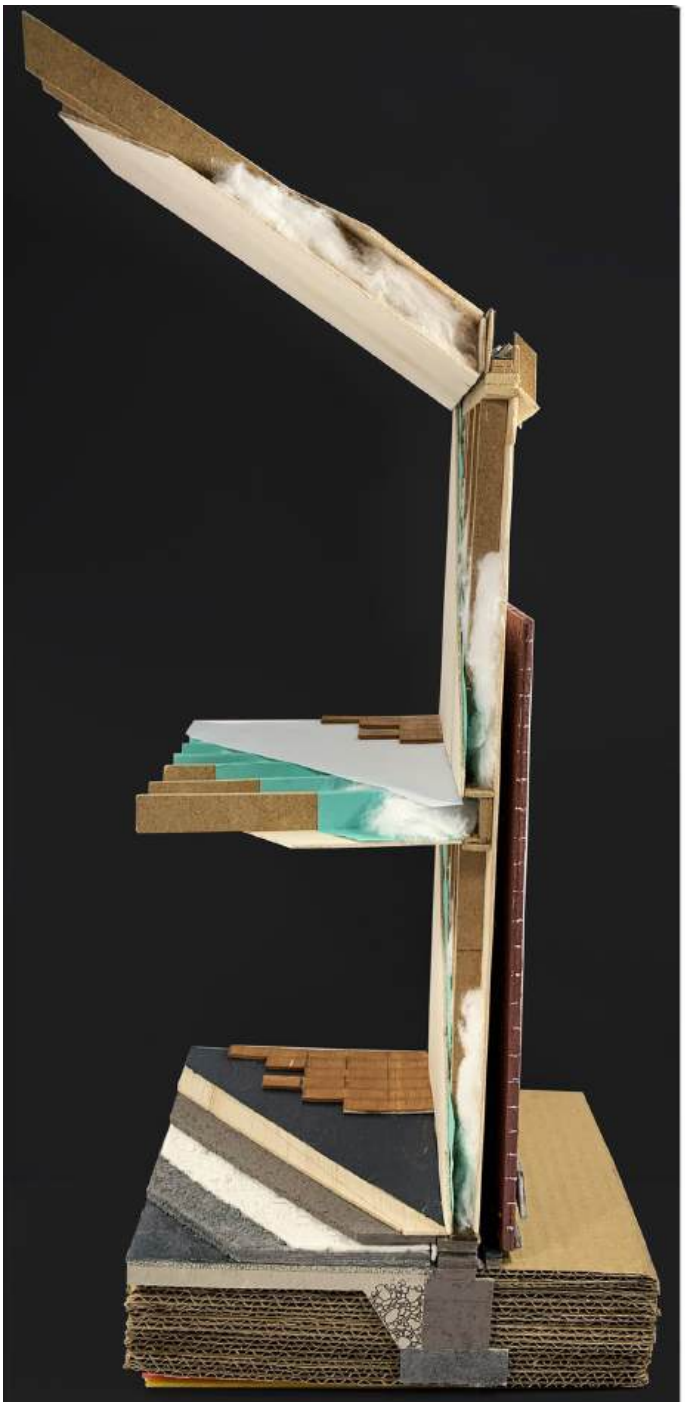
Sectional Model, 1:20

Tehreem Javaid

BA(Hons) Architecture
Year 1



Closer details of the model, including the concealed gutter, insulation, wall ties, rainscreen cladding and the concrete foundation.



Left: Model in Elevation, Right: Process images of gluing the joists down, and assembling the pitched roof.

Zixuan Zhang

BA(Hons) Architecture
Year 1

The objective of this project is to enhance the design of living spaces by creating an individual building design for a single-family dwelling based on the master plan determined by the group. My design principle aimed to establish a connection between individual houses and the community while maximising interior spaces. Using large triangular windows and glass and steel staircases outside the building enhanced this principle. Instead of concealing the steel structures, I chose to expose them to highlight their appearance and maximise interior space.

The project brief also required consideration of the building's material composition and the link between building components and systems, such as walls, partitions, openings (e.g., doors and windows), structure, and roof. Sketches and drawings of the building structure and layer were first made to help understand how to make the building structurally stable and thermally efficient. After creating a detailed section drawing of the building, I decided to create a 1:20 building envelope 3D section model to visualise the materiality and construction strategy of the building. The purpose of the model was to showcase the layers and materials of the building envelope in a simple and aesthetically enjoyable manner. The most prominent features of the section model are the triangular windows, exposed steel structures, and the green roof. The selection of materials to make the model was through careful consideration. I used Balsa wood strips coloured in grey to represent the steel beams and columns, corrugated boards to show the insulations, and grey boards to indicate the exterior and interior finishes with mineral render shown by painting with gouache mixed with sawdust. The green roof was made at last after the whole structure was complete. The thickest part represents the soil and drainage system.

The 1:20 envelope section model of the proposed house design

Zixuan Zhang

BA(Hons) Architecture
Year 1

The process of making the model

The final product and details

Alex da Cruz

BA(Hons) Architecture
Year 2

The following models explore and communicate the design for a Ecology laboratory and public engagement space to educate the public on biodiversity loss and re-wilding. The facility is located on the banks of the River Goyt in Stockport. The models explore the arrangement of separate modules of space for each programmatic requirement to minimise the facilities visual impact on the site. A palette of naturally sourced materials, including native Russet Sandstone and Larch Glulam is represented by cardboard or cork and balsa wood. The models also explore atmospheric qualities of promenade and enclosure inspired by limestone landforms in the Peak District.

River Elevation modelled at 1:100.

Alex da Cruz

BA(Hons) Architecture
Year 2

"Top. A development model at 1:100 determining the position of modules of space to provide visual connection to the riverscape and transparency from the street to the river through circulation space. Middle Row/ Bottom Left and Middle. A 1:20 detail model communicating low carbon Glulam, CLT and local sandstone Construction."

Serial visions along the promenade from the street, through a courtyard garden to the riverscape. The courtyard provides protection from the overstimulating road and acts as an area for contemplation. The promenade then continues through a gap in the walls towards the expansive riverscape. Modelled at 1:100.

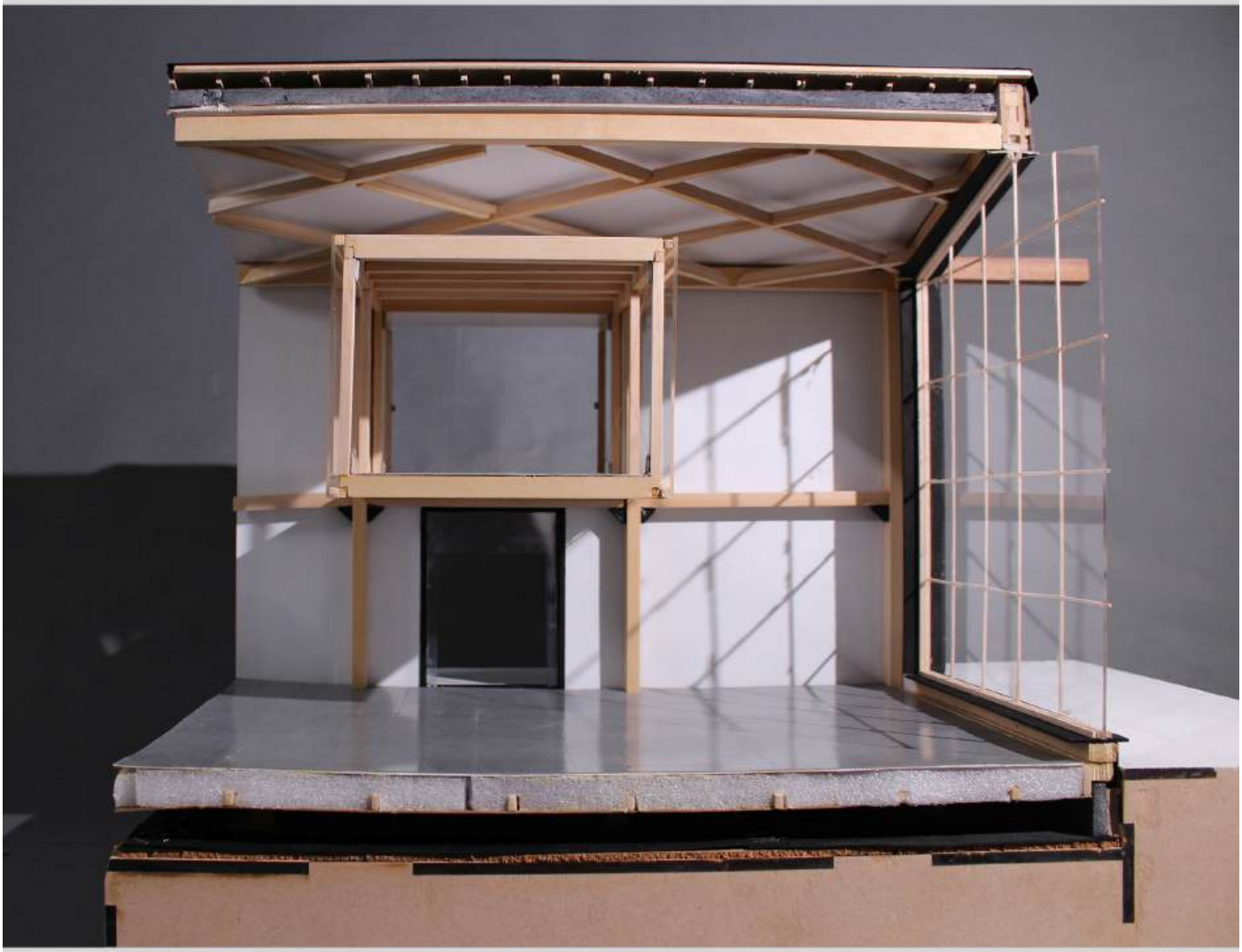
Da Lan

BA(Hons) Architecture
Year 2

This is a 1:20 sectional model of my studio design, the site is located at the bank of Goyt River near the Reddish Vale Park in Stockport, the main programme of this architectural design is a research station of local species and plants, with office space accompanied with it, other programmes include greenhouse which supplies fresh plants, flower shops that sells plants, plant sitting service; plants museum and cafe on the ground floor, around buildings are promenade that are suspended by concrete pillars.

P1.1/2/3:The roof and the floor of the model are designed to be removable.
p1.4:Invisible gutters are made with plastic board, bent into shapes.
p1.5:Diagrid roof beam is part of the design.
p1.6:Burnt wood cladding on the main office building, concrete pillar which supports a suspended promenade, and a green roof on the skybridge.
p1.7:Fully insulated skybridge.
p1.8:Construction detail of the floor-wall joint
p1.9:Construction detail of the wall-roof joint

P2.1/4/7:1:50 Greenhouse built with timber structure, mixed clear and frosted glass, the concrete pillar that support the suspended promenade.
p2.2:1:100 massing model of the whole design, made with laser cut MDF boards, office space with skybridge crossing them.
p2.5:Massing design of greenhouses.
p2.7:Street view.
p2.3/6/9:Suspended promenade held my concrete pillar, wavey railing design. The model is balanced by an invisible string.



This is a 1:20 sectional model of my studio design, withing the skybridge is the office space, underneath is a cafe space. the model is built with small timber rods, roof;wall;and floor has all the stud struction with insulation filled in, dyed MDF boards are used for the cladding.

Da Lan

BA(Hons) Architecture
Year 2

Details and different perspectives of the office design.

Other models that used to physically demonstrate
my studio design.

Elliot Summons

BA(Hons) Architecture
Year 2

This Model is a final piece for my studio 2.2 project: Guardians of the Goyt. It is a 1:50 Sectional Model of the gallery space within my design. An MDF mould, which I designed to the angles and wall thicknesses of my design, was filled with layers of a Builders Sand and Quick-Dry Cement mix to replicate the processes used when constructing Rammed Earth walls. This form, once removed from the mould, was added to with Clear Acrylic, Stained Wood Veneered MDF, Black and printed Card and scale figurines to replicate the rest of my materiality at scale. Every piece of material, expect the Sand and Cement, used throughout the entire model making process were pieces of off-cuts from models made previously by other students in the B15 Workshop and the excess Sand and Cement can be used by anyone in next years models. I aimed to use as little new material as possible as to limit my own wastage, use of natural materials and cost while producing as high a quality model as possible. I thoroughly enjoyed the model making experience within B15 and I am incredibly pleased with how my model conveys its scale, materiality and aesthetics for my project.

1:50 Sectional Model - North-Eastern Elevation

Elliot Summons

BA(Hons) Architecture
Year 2

Model Making Process

1:50 Sectional Model - Perspectives and Detail
Close ups

James Pound

BA(Hons) Architecture
Year 2

This model serves as the final representation and visualisation for my studio 2.2 project, "Branching Out." It features a sectional cut through the site, emphasising the laboratory and its associated observation spaces. The brief for the project required us to design a space for ecologists to study on the site, an public educational space and promenades passing through the site.

The initial modelling was done digitally in Rhino to accurately measure the site and create the correct terrain using digitally generated contours. The physical model itself is constructed from a variety of hand-cut materials: corrugated cardboard forms the base and contours, Modroc is used to shape the terrain, balsa wood constructs the buildings and timber shingle cladding, and painted sticks represent the surrounding trees.

The selection of materials was inspired by Peter Zumthor’s design development models for his Zinc Mine project. Although Zumthor did not use the same materials, he employed colour to highlight specific elements of his design. Similarly, I chose to highlight my designs by limiting the site context to a single colour and making the interventions stand out. My colour palette consists of white for the context, the natural light brown of balsa wood, and copper leaf on the roofs to accentuate the buildings.

The use of copper leaf symbolises the proposed corrugated copper roofs of the designs, making the model visually striking. The copper leaf was particularly effective after numerous trials to overcome its fragility. It perfectly captures and reflects the spotlighting, enhancing the model’s visual appeal.

Final model for Studio 2.2 project, representing a sectional cut through the site. The model highlights the laboratory (foreground) and transitory observation stations (further buildings).

James Pound

BA(Hons) Architecture
Year 2

Highlighting the construction process of the cardboard contours and timber shingle cladding.

Showing close up detailing of the model, looking at changing promenade levels and experimenting with artificial lighting.

Nicolas Ho

BA(Hons) Architecture
Year 2

Modelmaking was used extensively throughout my Studio project which saw the development of a public promenade & research laboratory centred around the narrative of flow on a river site. My interest was in analysing the flow of the water, nature, the urban & humans along with the harmony between hydrology & ecology in developing a proposal that encompasses these transient elements as layers of movement. Hydromorphology was the chosen area of study as it is the understanding of how the river shapes the land and vice versa; a research topic that commonly uses physical models to analyse the impacts of flood risks and intervening measures.

Within my project, I was curious in exploring how ‘derelict’ migratory & nesting patterns through the river Goyt could be restored through a new natural weir (water control infrastructure) with a proposal that explores the architectural opportunities & environmental implications centred around it.

The site itself sits on complex topography that is a mix of both natural & built land above and below water, which I felt was best explored through modelmaking.

This project was an opportunity to experiment with new techniques, such as CNC work or running water systems with gravel used to visualise flow that I had not used prior as well as applying familiar techniques in new ways - applying cross stitch to metal mesh as a means to explore textures of a sloped landscaped path. It was always the aim to explore through a variety of additive, subtractive & formative processes - laser cutting, plasticine forming, card sketch models, etc. the development of conceptual ideas into physical manifestations of flow.

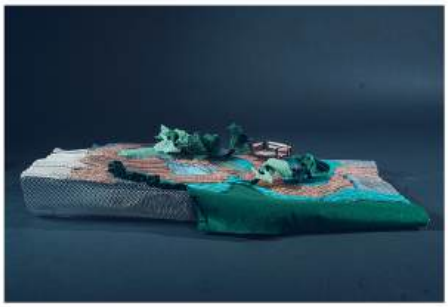
When it came time to resolve this proposal, it felt natural to develop a model and even more important to encapsulate the amount of testing conducted with flowing water. Although integral, the proposal represented by the model at this final stage was not more important than the finish of the model. The functional aspect of exhibiting flowing water through a model required brainstorming & troubleshooting which ultimately led to a system that I believe encapsulates the core principals of my Studio 2.2 proposal.

Final 1:200 site model that focuses on the interaction between proposed lightweight built elements and pockets of nature that coexist on site enabled through reshaping the flow of the river; the natural promenade that links the elements of the proposal together is a reflection of the river Goyt.

Nicolas Ho

BA(Hons) Architecture
Year 2

Explored within the study of Hydro morphology, physical models can accurately be used to reproduce full scale hydraulic effects; applying this embodies the brief within the process of design development - to highlight the control of fast turbulent water streams, to slow gentle waves that allow wildlife to reclaim the river.



Sketch models were used throughout in the development of this proposal at different scales to test how the elements interact on a macro scale, to how water can be softened to harbour a healthy habitat, to how the structural system functions within built elements.

Ella Cowie

BA(Hons) Architecture
Year 3
Continuity in Architecture

The model shows the corner of the new Todmorden library which houses the archive space and the main entrance cantilevered area. It aims to convey the materiality, structural, and lighting effects of the buildings form to highlight the translucent qualities of the facade. The timber structure cantilevers above the ground and provides a sheltered direct entry pathway into the library. One of the objectives of the model was to explore how structurally the large cantilever is constructed, building the model helped demonstrate the spans of the beams and columns needed as well as how the stone wall supports the structure. It illustrated my structural strategy development, exemplifying how the loads of the timber beams are transferred into the walls and through to the ground.

Throughout the design process, I have used model making to resolve issues and work through iterations within my design and communicate my ideas and discover the qualities of space. Whilst developing my final 1:50 corner model, I tested a variety of different techniques to help convey the desired materiality effects for the façade materials in the model. I mainly used the technique of vacuum forming to replicate the texture of the translucent glass panels which are wrapped around the exterior façade. In combination with this I experimented with using different types of materials including plaster and jesmonite to cast the stone elements of the ground floor façade. There were limitations to the construction of the model including how I managed to get the corner cantilever to structurally stand up. By building the timber structure from 8x8 mm timber columns which went through the MDF floor plates this allowed the model to stay standing.

Final 1:50 corner model illustrating the section cut and the relationship between the interior and exterior spaces of the chosen corner. The structural strategy of the facade and floor build up is visible with indication of some interior spaces.

Ella Cowie

BA(Hons) Architecture
Year 3
Continuity in Architecture

Final 1:50 corner model illustrating the main entrance of the library when you enter from the main high street in Todmorden. The cantilevered aspect creates a direct sheltered entrance with newly pedestrianised spaces. Acrylic is used to create the glass wall.

Model making process, testing materiality representation through various ways of casting the stone and how the combinations look with the vacuum formed translucent cladding.

India Salter

BA(Hons) Architecture
Year 3
Continuity in Architecture

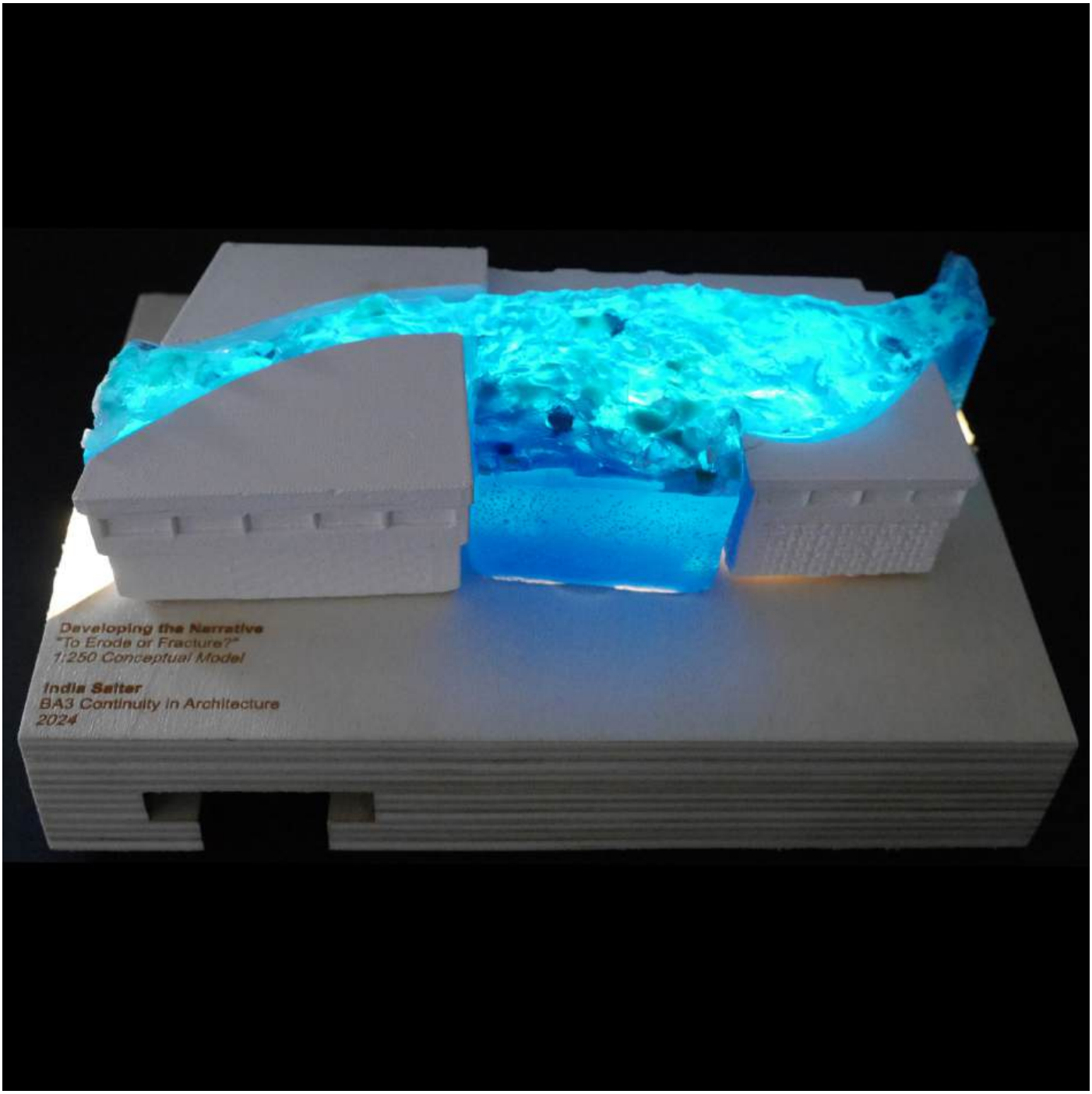
The Bramsche Exchange is a proposed library development in Todmorden, Calderdale, designed to honour the town's rich history and vibrant community. Reflecting Todmorden's tradition of storytelling, this library will serve as both a "Keeper of Memory and a Teller of Stories." The design treats the existing building like the town's native stone, with the movement of people carving out pathways and outdoor spaces, mirroring the town's stone marked by history.

These architectural models vividly capture the essence and evolution of the Bramsche Exchange project, each illustrating different facets of the design and its integration with Todmorden's historic fabric.

Model 1: Plaster and Resin Intervention
The first model is a cast plaster representation of the existing structure, fractured and intertwined with a resin intervention symbolising water. This model, illuminated from below by an LED base, transforms the resin into a shimmering flow, echoing water coursing through rock. The textured water surface and embedded fish within the resin bring life and movement, representing the new vitality infused into the old building.

Model 2: 1:5 Detail of Curtain Wall System
The second model, at a 1:5 scale, demonstrates the intersection of the new curtain wall system with the existing masonry. It juxtaposes the modern, low-profile aluminium frame and triple glazing with the robust, cast plaster brick wall. This model, with its 3D-printed frames and precise materials, shows the seamless integration of the new intervention, preserving the building's character while enhancing functionality.

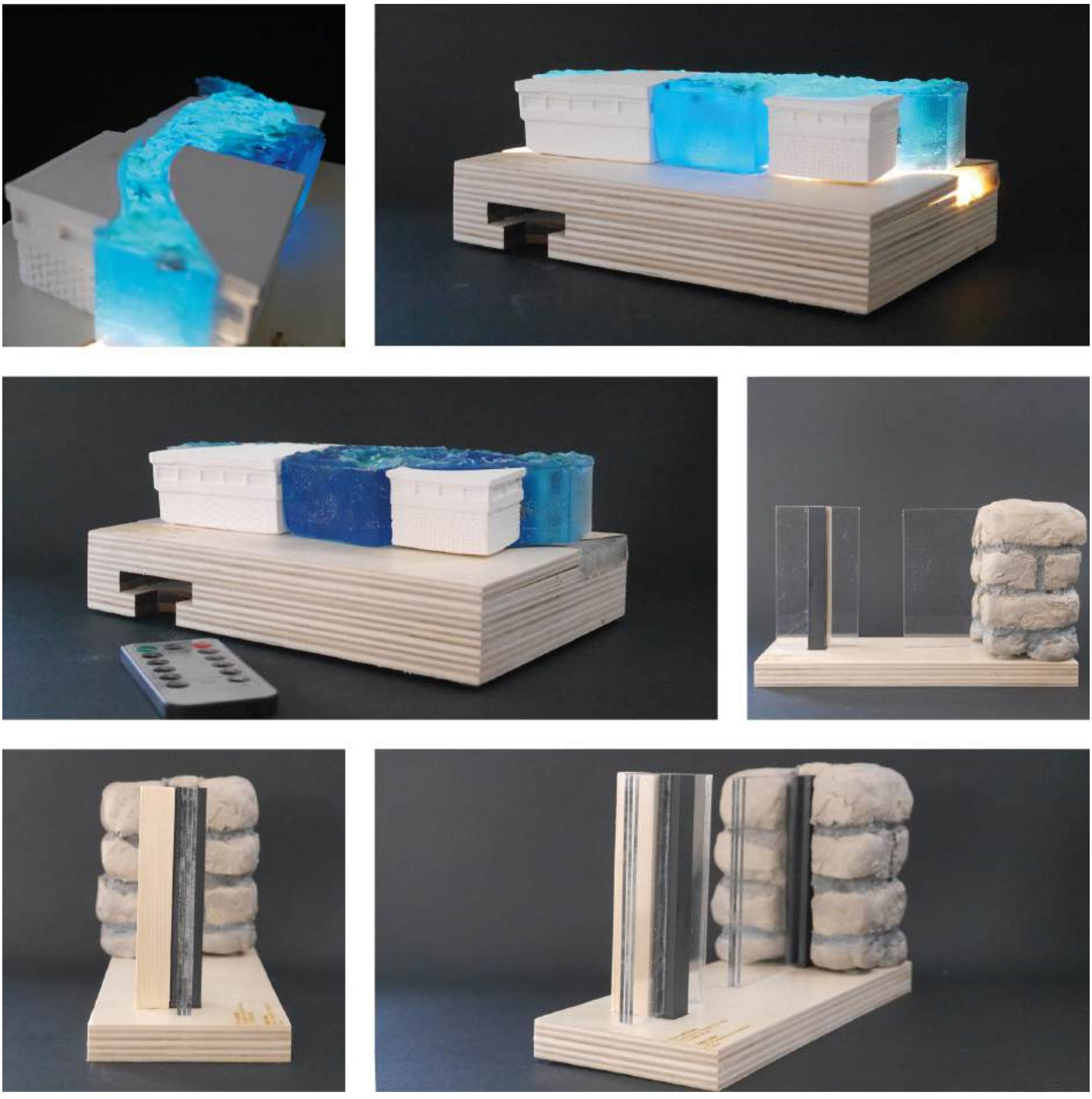
Model 3: 1:50 Corner Model
The final model, at a 1:50 scale, showcases the curved, new intervention meeting the existing masonry. It features detailed internal and external spaces with scale figures and a perforated, organic, parametric Corten steel sunscreen. The sunscreen, inspired by the varied hues inside a rock, provides functional and poetic elements. It filters light, creating dynamic shadows and reflections, much like the community's stories enlivening the town.



"""To Fracture or Erode?"" 1:250 Concept Model"

India Salter

BA(Hons) Architecture
Year 3
Continuity in Architecture



"To Fracture or Erode?"" 1:250 Concept Model And
""Greeting the Old with the New"" 1:5 Detail Model"

""Room with a View"" 1:50 Corner Model

Richard Power

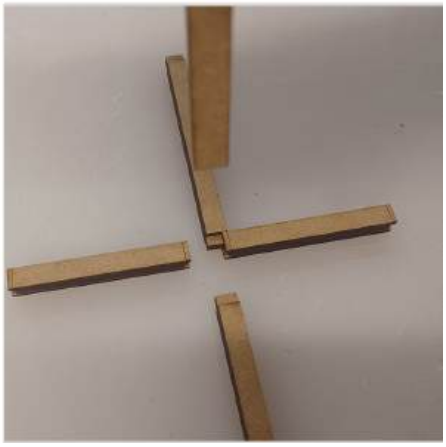
BA(Hons) Architecture
Year 3
Continuity in Architecture

The three models featured in this submission were all focused around my 3.2 work where I was creating a library in the centre of Todmorden. These three models aimed to show different purposes. The first model of a window detail shows a 1:5 detail of my ground floor openable windows. Here I showed the rotating rail system with materials I had to hand to demonstrate how this might work in practice. This model is also made to show materiality and the combination between sustainable materials of wood and stone in making my design. The second model shows a sectional model of my main hall where I was testing different louvres systems to see which was the most effective at regulating sunlight. Finally the third model is a corner model of my centre tower. This is created to demonstrate how the vernacular features of my building are combined with modern CLT system where I have showed how views out from the tower interact with the facade. the vast majority of these 3 models is made from recycled/ scrap material in order to prevent waste.

Image of my 1:5 ground floor detail showing how the buildings function can be changed depending open the weather through a functional model.

Richard Power

BA(Hons) Architecture
Year 3
Continuity in Architecture



This image shows the sectional model of my main hall 1:50 as well as process photos around how I used different construction techniques to demonstrate structure in the model.

This shows my 1:50 corner model of my tower and how the different spaces would be used and viewed by users through the use of the snippet images on the side. This was part of our 'A room with a view' task in continuity.

Shahd Salama

BA(Hons) Architecture
Year 3
Continuity in Architecture

This 1:50 corner model aimed to explore facade details on the rear corner of the library proposal produced to the brief of the Continuity Atelier for BA3. Situated in Todmorden, the context saw to the large presence of stone and so my proposal aimed to combine this with other facade elements such as zinc panels. Through the development of the physical model, the materiality of the building was explored with alternative materials that simulated the final finishes of the project at a smaller scale. When modelling in software, the language between the materials is often lost in the development of the project, but through the creation of this model, the communication between materials was reinstated. I used various processes in the making of this model for example, 3d printing, casting, laser cutting with the combination of these techniques helping to capture the more intricate facade elements.

"This 1:50 model was created to help understand the communication between various different facade components and determine whether the various elements harmonised together well. "

Shahd Salama

BA(Hons) Architecture
Year 3
Continuity in Architecture

The use of contrasting materials highlighted the intricate folds in the corner facade with the stone cladding presenting breaks in the constant rhythm of the zinc panels that were later continued by the glass openings, leading to a distinctive facade in the historic centre whilst aiming to maintain a visual balance in the context of Todmorden.

N/A

George Gooderham

BA(Hons) Architecture
Year 3
CPU(ai)

The mantra ‘Digital, Material, Hybrid’ was used in the development of my BA3 studio project / MAKERS. It refers to the complimentary pairing of digital and material (analogue) design techniques to inform experimentation/development of new architectural forms. All models shown were developed alongside a digital version. Physical material (analogue) modelling of concepts enabled fast testing/iterative developments of concepts during early project development where we were tasked with designing an environmental modifier to provide an architectural experience for users (during a stage where no site context was given).

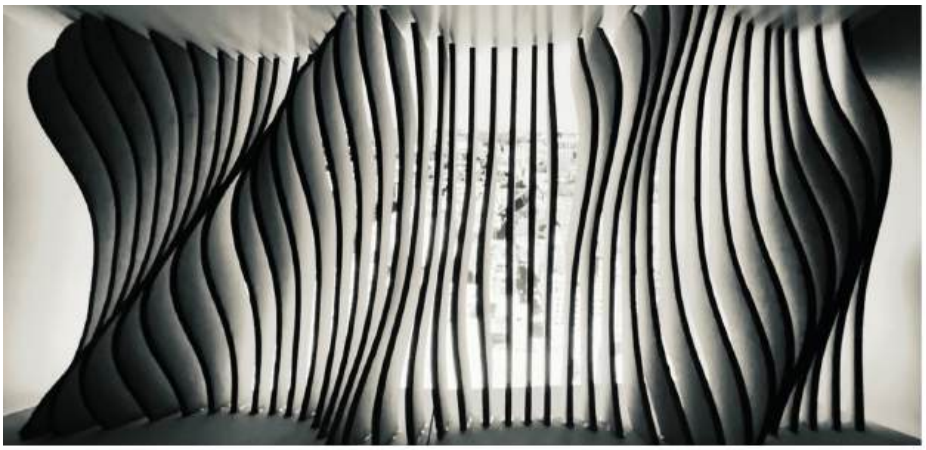
Three models shown explore the concept of AI sentience within future architectural spaces which has been experimented with in following models: (Laserboard ripple wave façade with AI sentience conveyed through projected light & sound), being inside a water droplet (visceral flow paper/tracing paper model with AI conveyed through light & sound projection), and being inside a rock eroded by the flow of water (clay, toothpaste & mountboard model with AI conveyed through light & sound projection).

Light & Sound projection conveyed by placing each of the models in front of a PC monitor in a dark room with a video playing on screen.
Making methods were quick and embraced imperfection using the following materials: mountboard, toothpaste as a sealant to bridge gaps between clay and mountboard, clay, paper, tracing paper, masking tape, white acrylic paint, laserboard. I wanted to discover how light & sound could be used to convey building AI sentience within an environmental modifier. Future architectural spaces could be sentient, and models attempt to explore how this sentience could look visually for users (within an environmental modifier concept). My favourite concept is the rock eroded by the flow of water as the caverns/tunnels create an intriguing environmental modifier space for user to explore.

‘Being inside a rock eroded by the flow of water’, a concept for an environmental modifier which explores the notion of AI sentience within future architectural spaces by conveying how sentience could be conveyed through light and sound projection.

George Gooderham

BA(Hons) Architecture
Year 3
CPU(ai)



Images of models for environmental modifier concepts. Following images show concepts for: a ripple wave façade, being inside a water droplet, and being inside a rock eroded by the flow of water. Made from laserboard, card, toothpaste, white acrylic paint, clay, paper, tissue paper, masking tape. Imperfections were embraced.

Models were raised in front of a PC monitor (which played a video projecting light & sound) in a dark room and the effects of light & sound projection were captured to observe how sentience of AI could be conveyed in future architectural spaces (e.g., through light & sound).

Dominic Edwards

BA(Hons) Architecture
Year 3
CPU[ai]

In the early stages of our 3.1 studio submission, the atelier engaged in a short research project to develop a spatial modifier that would help us to better understand the site and our own design position. I began by experimenting with wax, and the idea of trying to create order from something seemingly chaotic.

My initial tests were inspired by Iranian water candles, where one pours molten wax onto a plate and then dunks the plate into cold water. Upon contact with the water, the wax instantly cools forming a kind of sculptural tower in the centre of the plate.

Building from this initial round of tests, I decided to create more architectural forms by stacking ice cubes to create a mold. I then poured the wax over the ice which cooled on impact and hardened around the ice. The whole model then only needed to be left out at room temperature so the ice would melt, leaving a wax form that held space and could be interrogated for its qualities of light, colour and atmosphere.

At this point I engaged with Midjourney AI to try and visualise a building made from wax. By using a photo of my model as a base image, I experimented with various prompts to iterate architectural designs that would help generate ideas for the spatial modifier.

After some final tests with folding wax into structural vaults, I created my final spatial modifier. As my design developed, I regularly returned to the spatial modifier research for inspiration and ultimately found the wax manifested in the final design through the concept of sharing knowledge between different programme areas of my site. Transparency and opacity are representative of communal and private areas respectively, and how the thresholds of these areas can be blurred to allow passive learning to take place. In a more literal sense, the final form of my fabrication laboratory was directly inspired by the spatial modifier and the act of deconstructing a building envelope to place a rationalised laboratory inside a radical vaulted rainscreen that would attract the public to the site.

Final spatial modifier concept model. Made by dripping and folding molten wax over a metal support structure.

Dominic Edwards

BA(Hons) Architecture
Year 3
CPU[ai]

Wax model development images. (Top: Models inspired by Iranian water candles. Middle: Models made my pouring wax over ice cubes. Bottom: Models made my pouring wax onto a flat surface, allowing to semi-cool and then folding into self-supporting vaults while still mailable).

Generative architectural experimentation images created by combining photos of a wax model with Midjourney AI.

Ethan Hadfield

BA(Hons) Architecture
Year 3
CPU[ai]

Most model/maquette making was evident at the start of the design process within Studio 3.1, to allow me to start experimenting with simple materials to quickly construct some structural ideas. This method was the main reason for finding an interest in cubism which has shaped the whole of my project as the spatial modifier, looking specifically at how individual blocks can be placed with different orientations and elevations to create some interesting concepts for space, movement and views.

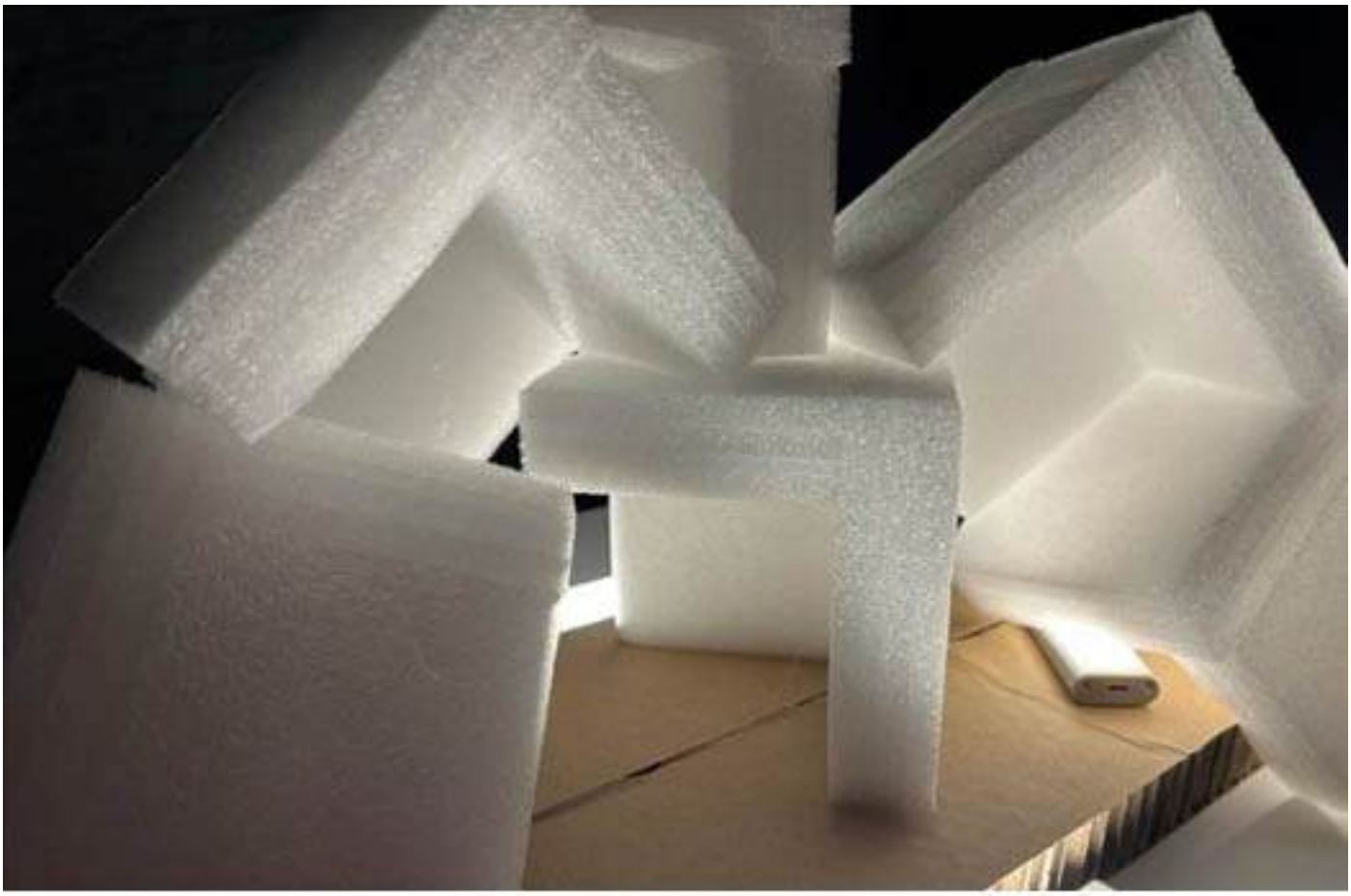
Using foam blocks that I had stored away made the model making process quick and simple due to the lightweight feel and flexibility. I was able to constantly stack the blocks in different orders with unique orientations to produce rapid iterations of inspiration that I could take further into the early design process within 3.1.

Alongside this, I was testing various lighting techniques by using small spot light bars to simulate how light would effect these blocks at different angles and what effect this had on shadowing. While the shape and orientation of the blocks had a greater impact on the look and feel, lighting had a significant impact on making the spaces more visible and appear more open-plan which is something I explored later on down the line.

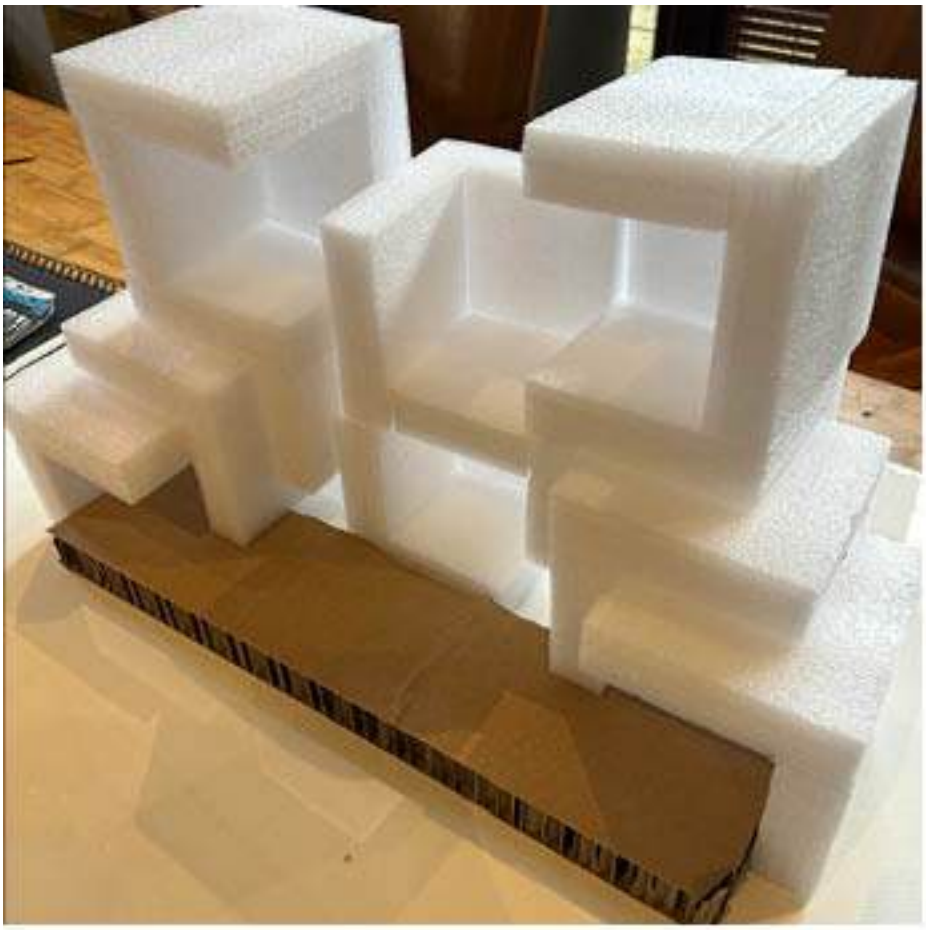
Hero image of the cubic model consisting of various foam blocks stacked and orientated to produce a basic structural form.

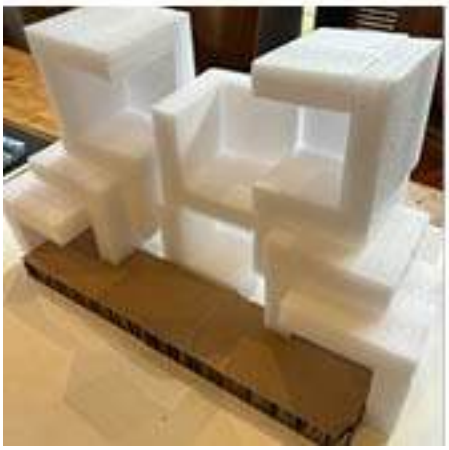
Ethan Hadfield

BA(Hons) Architecture
Year 3
CPU[ai]



Various angles of the cubic structural form, highlighting views through the blocks, including how lighting affects these various spaces through the use of artificial light bars.



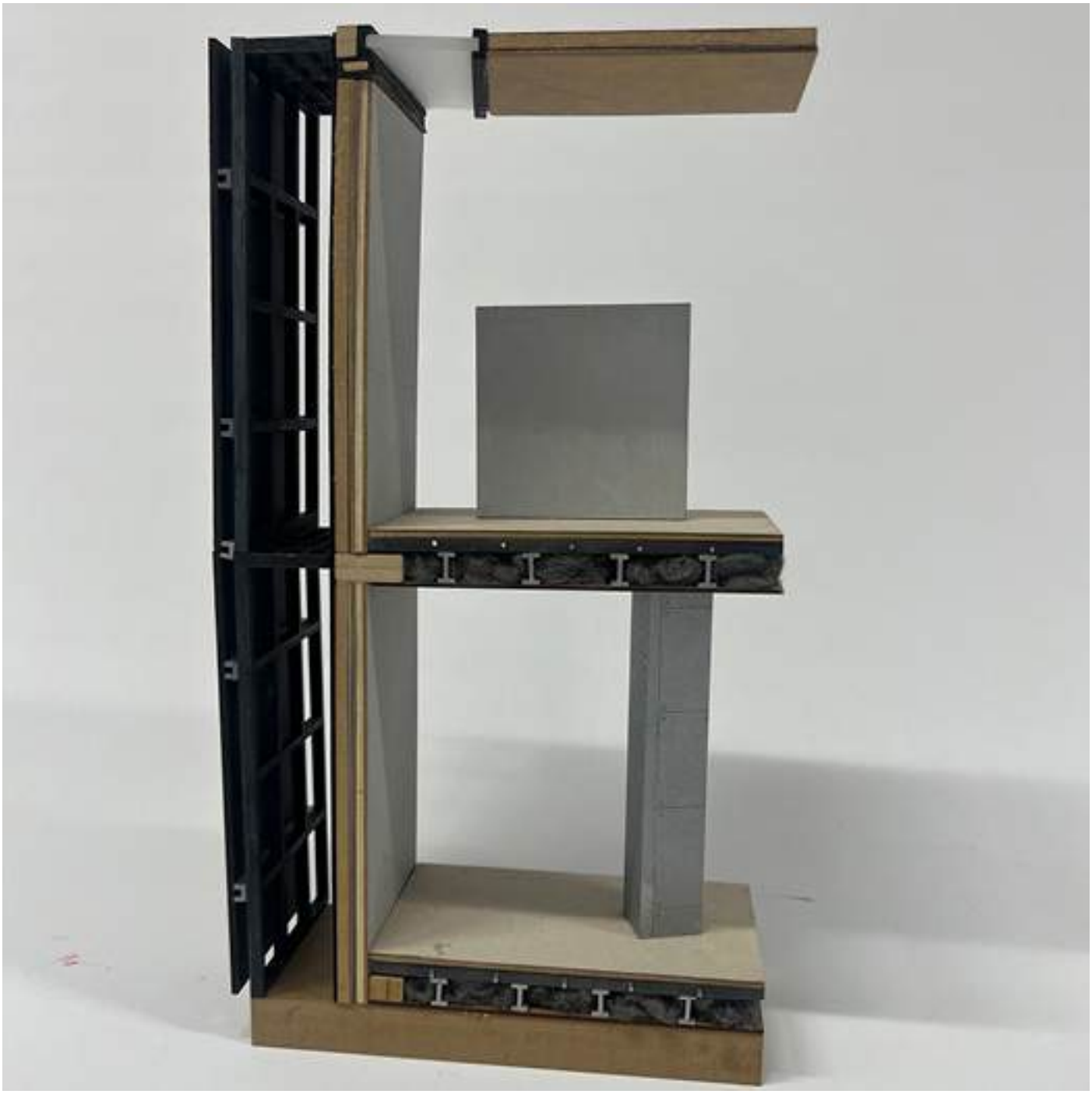
Original concepts for the cubism spatial modifier that would develop into more detailed concepts in the design process

Fiza Salim

BA(Hons) Architecture
Year 3
CPU[ai]

The Technologies project required to conduct a series of prototype tests implementing specific performance criteria's; enabling us to explore alternate design methodologies alongside assessing potential tactical improvements. The aims of the model were to focus on individual facade design; iterative modelling on the spot enabled me to evaluate these modular variations ease of operability (assembly, maintenance + repair), alongside record observations in alignment with my personal position through the creative potential and performative strategies of these designs.

Implementing the knowledge aquired from the Technologies project within the Studio design project (larger facade model) delivered greater understanding of functionality in the wider building system and produce more efficient operability, allowing for decreased environmental damage and efficient construction/repair.



"Studio Project - 1:20 Sectional Perspective with
Envelope Detail "

Fiza Salim

BA(Hons) Architecture
Year 3
CPU[ai]

Technologies Part C prototype testing

Studio Project - Exhibition + Installation spaces
level 1+2

Meena Abdula

BA(Hons) Architecture
Year 3
CPU[ai]

My project, titled ‘Building Prosthetics’, focuses on creating prosthetics from demolition waste and embraces physical disabilities by bringing together researchers, athletes, and technicians to innovate in prosthetic development.

I have 3 models on ‘Building Prosthetic’ but at different stages. Layout 2 begins at the conception of the form. Layout 1 translates the concept into architecture. Then finally the cover image focuses on resolving the original concept at a detailed level. Model making was integral to the project from conception to detailing. It facilitated the development of ideas and helped create a well-thought-out proposal.

In the conceptual model (see fig.1), I wanted to create a form related to Paralympic data on the medals won. I developed this with Rhino and Grasshopper but was struggling to imagine it as a space prompting me to physically construct it. The conceptual model illustrates the number of gold, silver, and bronze medals won throughout all previous Paralympic games, with 16 pieces representing all games since their inception in 1960. Each piece contains the number of gold medals across all years as well as that specific year’s total of silver and bronze medals. Gold is in the overall pattern while silver is in the maximum height and bronze is in the maximum width of the piece.

In the refining stage, I used laser cutting and assembly to transform the concept into a waffle structure. With the structure established, I could use the model to experiment with the interior floor layouts (see fig. 2). Finally, I explored how this structure would be constructed in real life, leading me to explore joinery options (see fig. 3).

Fig. 3 1:20 Exploration of waffle structure joints

Meena Abdula

BA(Hons) Architecture
Year 3
CPU[ai]

Fig. 2 1:200 Waffle structure with floor layout experimentation (on a part of the building)

Fig. 1 1:200 Conceptual model representing Paralympic data

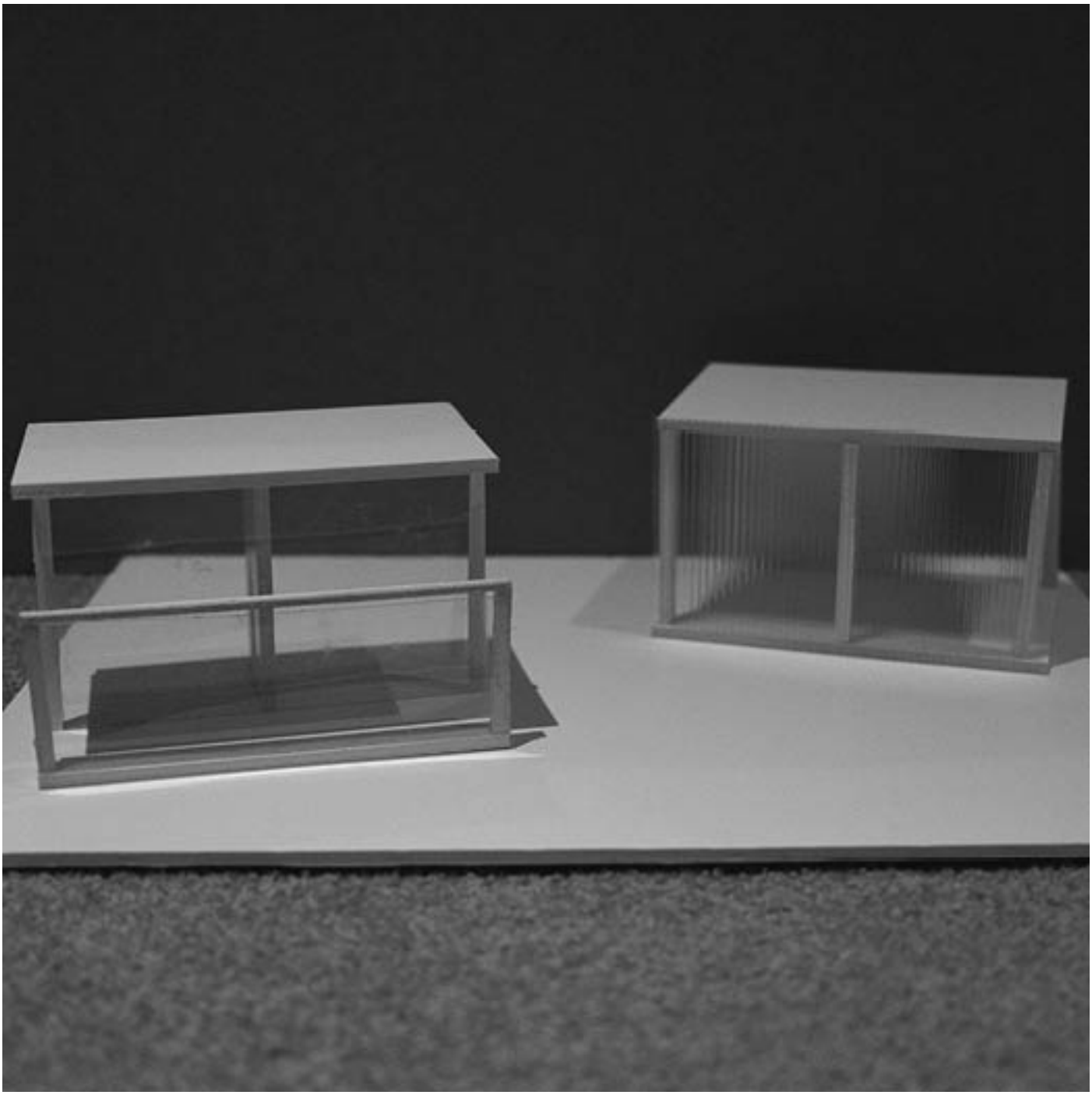
Megan Chan Yin Hei

BA(Hons) Architecture
Year 3
CPU[ai]

S.T.F.U. - Stockport Television and Film Universe
The S.T.F.U. project aims to spotlight Stockport through the medium of film, drawing on the town's rich history and artistic potential. Initially inspired by Stockport's rope-making heritage, the project began with exploring strings. This investigation led to the creation of physical models to test spatial qualities, eventually transitioning to digital modelling and rendering for a comprehensive structural understanding.

In the early stages, I utilised the AI tool Midjourney to generate conceptual ideas. While these initial designs featured imaginative, curvilinear elements, the practical demands of a film studio necessitated a shift towards more realistic structures. Despite this, the influence of the original designs is still evident, particularly in the ramp featured in the final renders.

By merging historical inspiration with modern digital tools, the S.T.F.U. project seeks to create a unique and functional film studio, bringing attention and creative energy to Stockport.



The model above helped me visualise and compare the impact of having a balcony instead of a winter garden. By shining a torch to mimic the sun, the model allowed me to understand the effects of natural lighting.

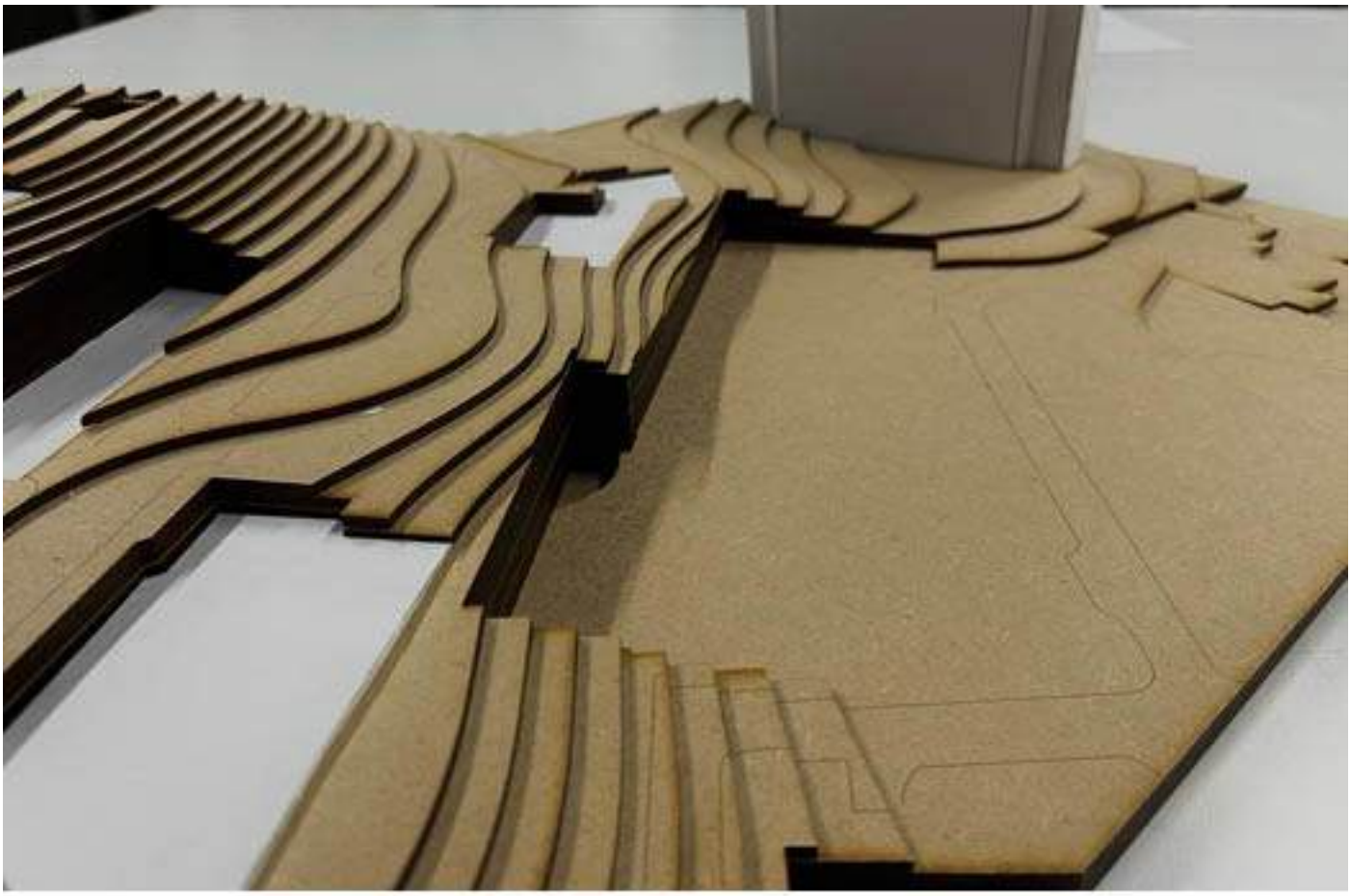
Megan Chan Yin Hei

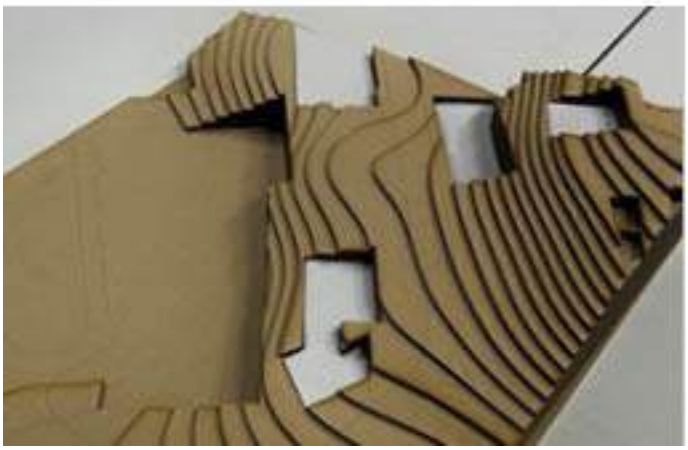
BA(Hons) Architecture
Year 3
CPU[ai]

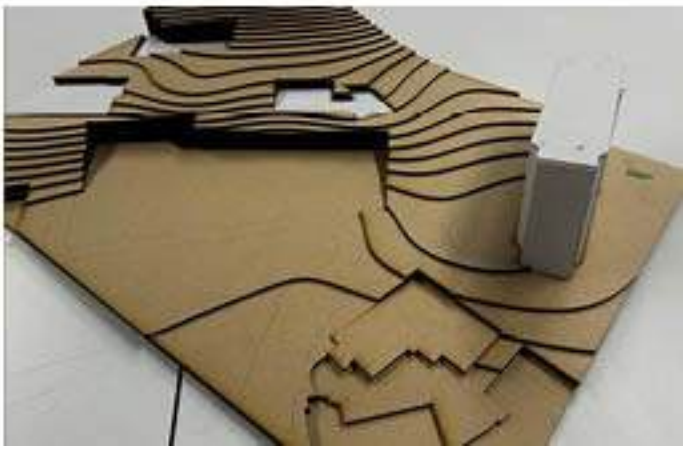





The model showcases the testing process of Studio 3.1. Initially inspired by Stockport's rope-making heritage, the project began with an exploration of strings.







The images show the site of Studio 3.1 and 3.2.
It is a group project involving laser cutting and assembling.

Saida Poci

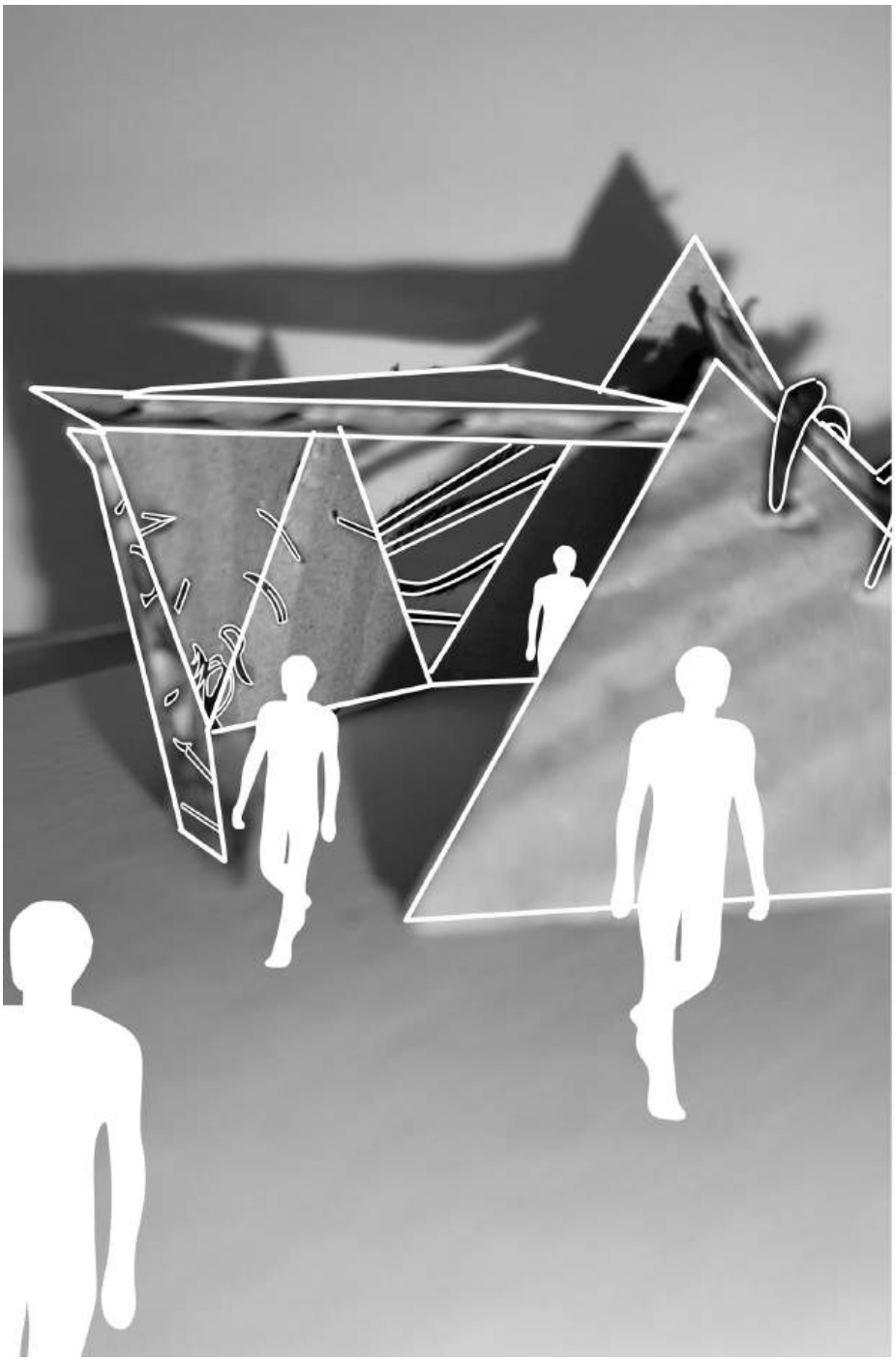
BA(Hons) Architecture
Year 3
CPU[ai]

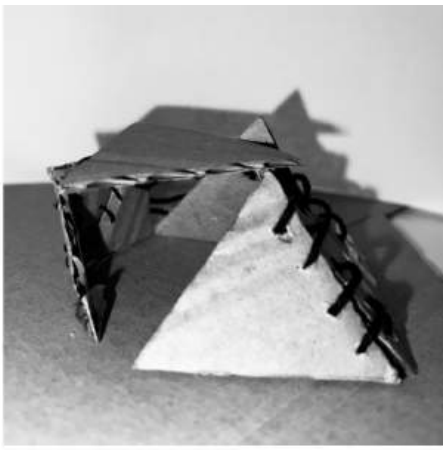
For this work, a spatial modifier was being created in order to test and iterate the internal quality of a space. To test various effects, a range of materials was used such as mesh and cardboard. Materials used were chosen to replicate real life effects. For example, when I wanted to control the amount of light, I used clear acetate to let in the most light but to create a translucent effect I let PVA glue dry on a plastic sheet and cut it to the desired shape after. A similar effect was also used with mesh where I controlled the lighting by having a larger/smaller mesh. In addition, I also experimented with different geometries, repeated ones/irregular ones, to see which created the desires and most applicable effect to my design. This in turn, helped influence the design decisions in my portfolio.

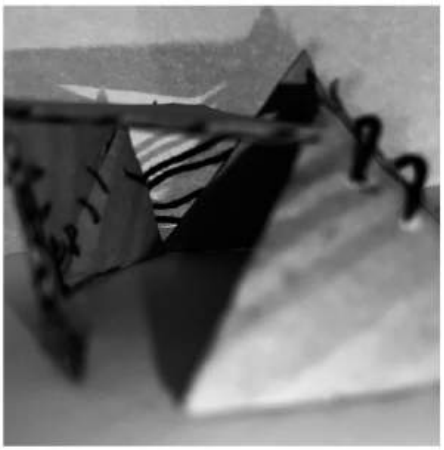
Creating a tactile pavilion

Saida Poci

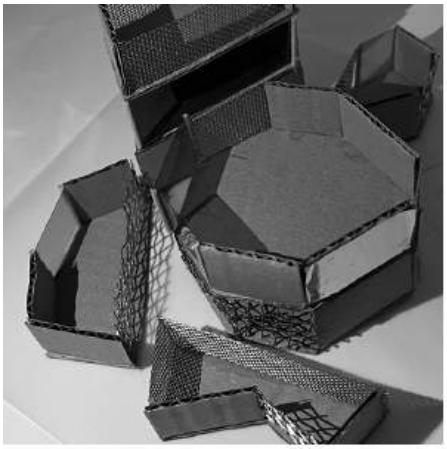
BA(Hons) Architecture
Year 3
CPU[ai]

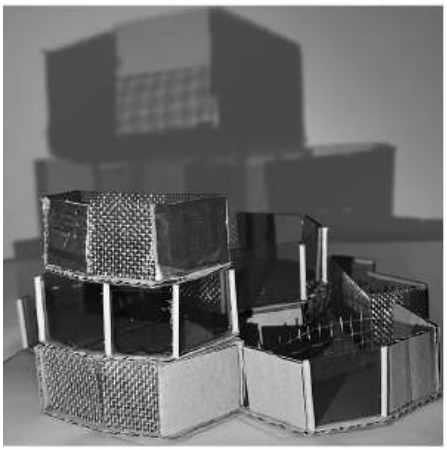


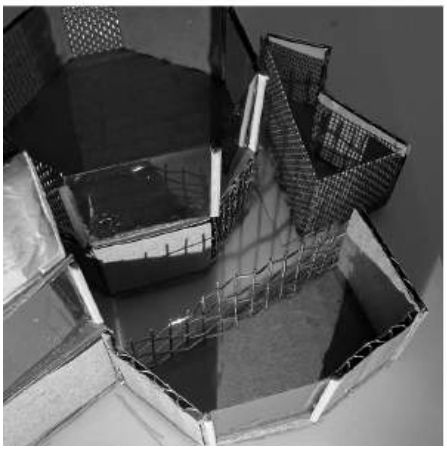




Experimenting with repeated shapes







Experimenting with textures and shadows

Xiuying(Tia)Tian

BA(Hons) Architecture
Year 3
CPU[ai]

This model represents the envelope fragment of my thesis project, SEEDESR (an Urban Farm Lab in Stockport).

The envelope gracefully reflects nature and echoes the craftsmanship of hat-making in the town. The support frames, like intricate weaves, seamlessly blend with the main Voronoi-shaped frame, inviting light to cast enchanting, poetic shadows within—a reminder of toiling under nature's canopy. The physical model investigates how architectural spaces can evoke naturalistic aesthetics while maintaining functionality and structural integrity.

Method and Process

Digital Modelling: The initial phase involved digital modelling to visualize the conceptual envelope. Various software tools, such as Rhino and Grasshopper, were used to experiment with organic shapes and their structural possibilities.

Material Experimentation: To bring the digital models to life, different materials were tested to achieve the desired colour, texture, and strength.

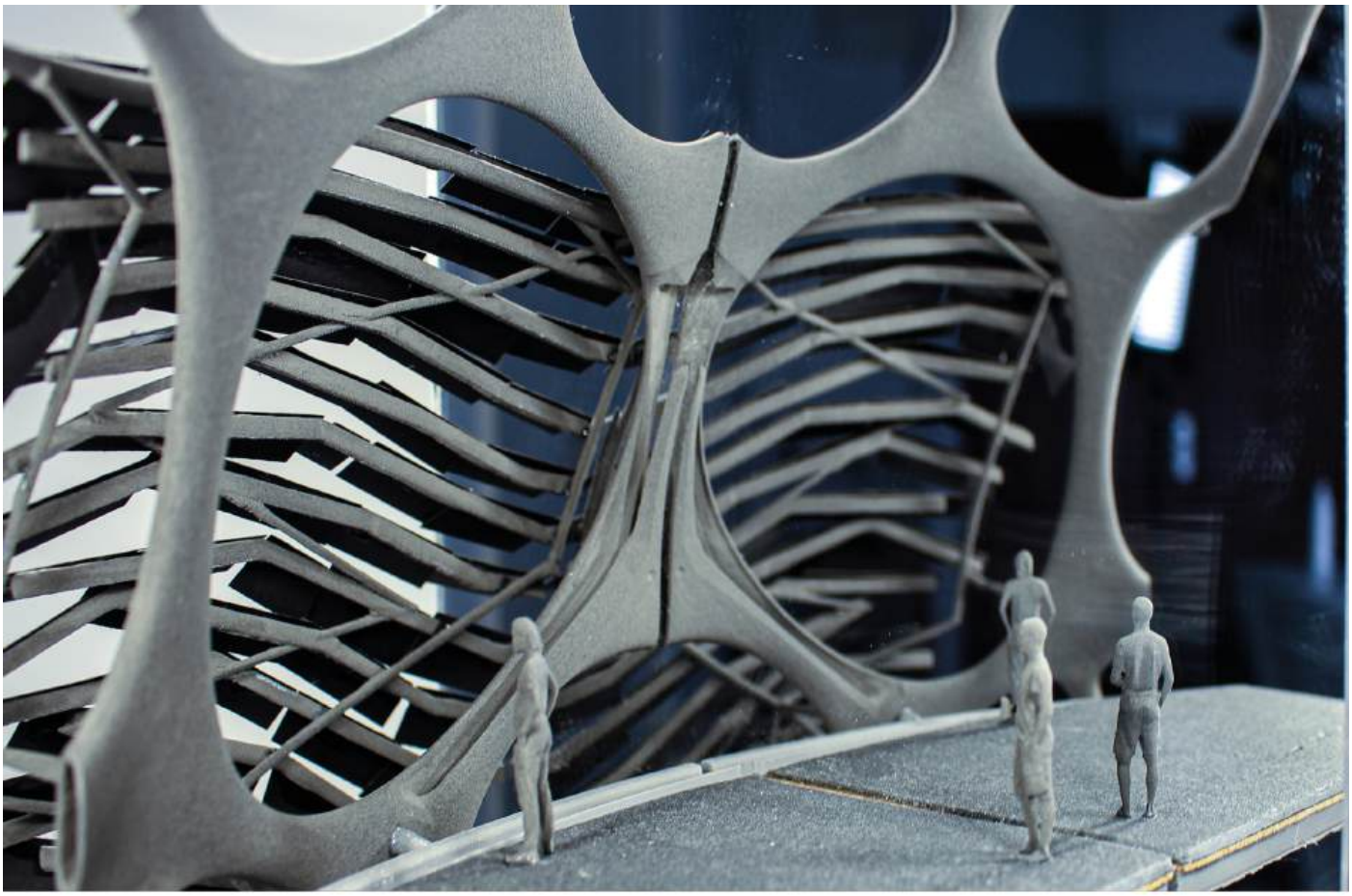
3D Printing and Assembly: The primary components were fabricated using 3D printing technology. This allowed for precision in creating the complex interwoven elements that characterize the design. The pieces were printed in segments and then carefully assembled to ensure structural stability and aesthetic coherence.

The use of digital fabrication techniques brings complex designs to life and pushes the boundaries of conventional design and model making. The process is time-consuming and often perplexing, involving effective communication with the team at B15 for final success.

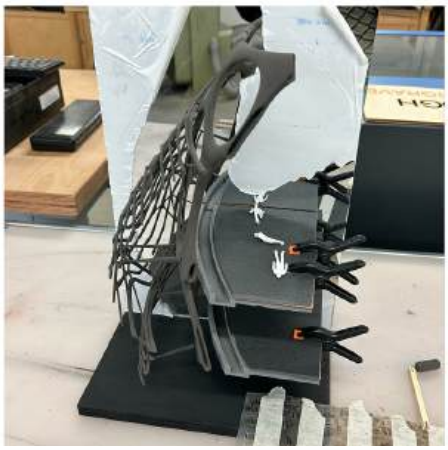
The completed architectural model, illustrating the integration of organic forms with structural design, is highlighted by the dynamic interaction of light and shadow. Attached to a mirror, the model creates an illusion of expanded space and a floating effect.

Xiuying(Tia)Tian

BA(Hons) Architecture
Year 3
CPU[ai]



A detailed view of the assembled architectural model, showcasing the intricate interplay of organic forms and structural design with miniature human figures for scale.

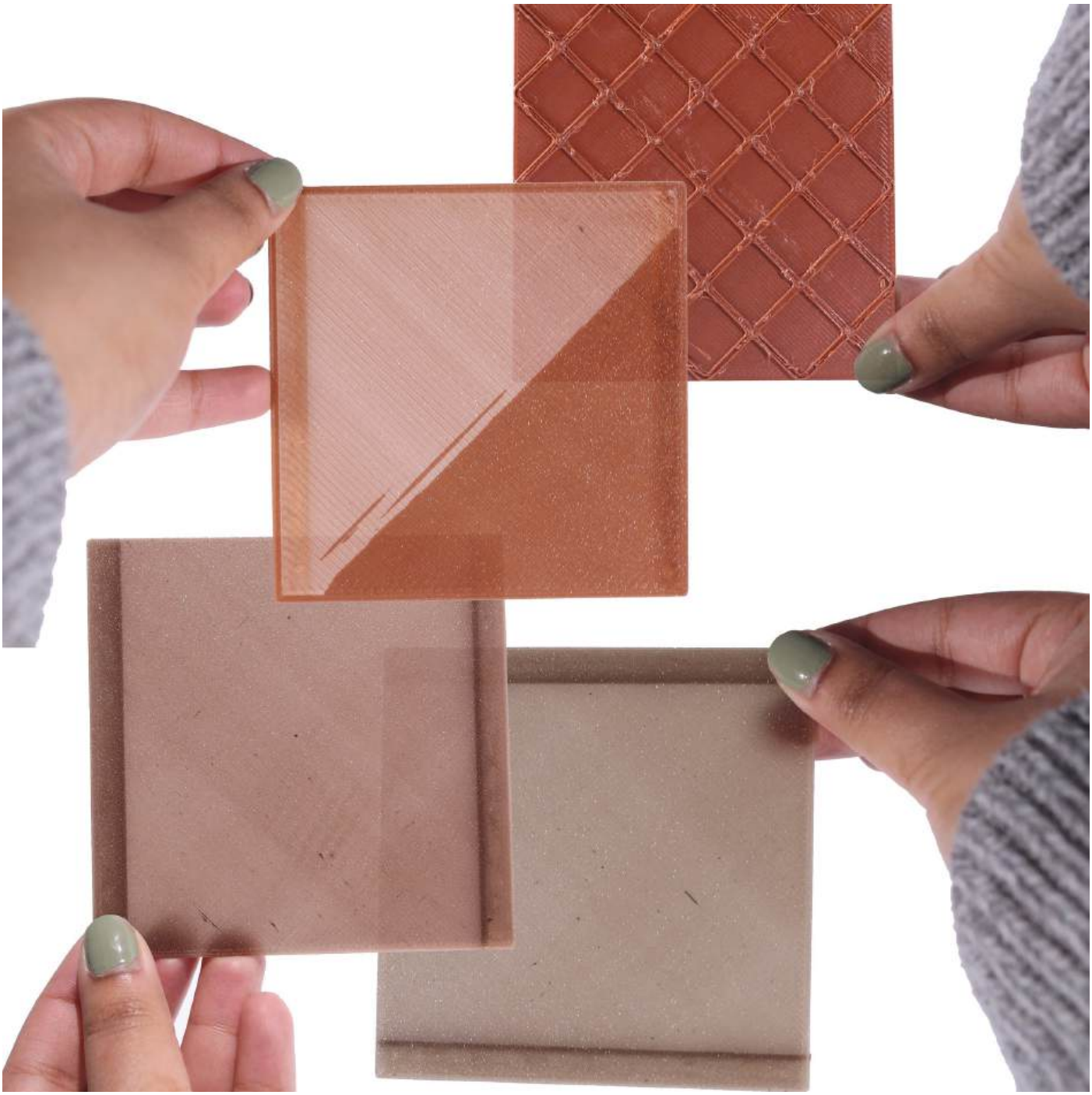


A behind-the-scenes look at the fabrication process, featuring stages of 3D printing, assembly, and material experimentation for the architectural model.

Yashwa Rajapreyar

BA(Hons) Architecture
Year 3
CPU[ai]

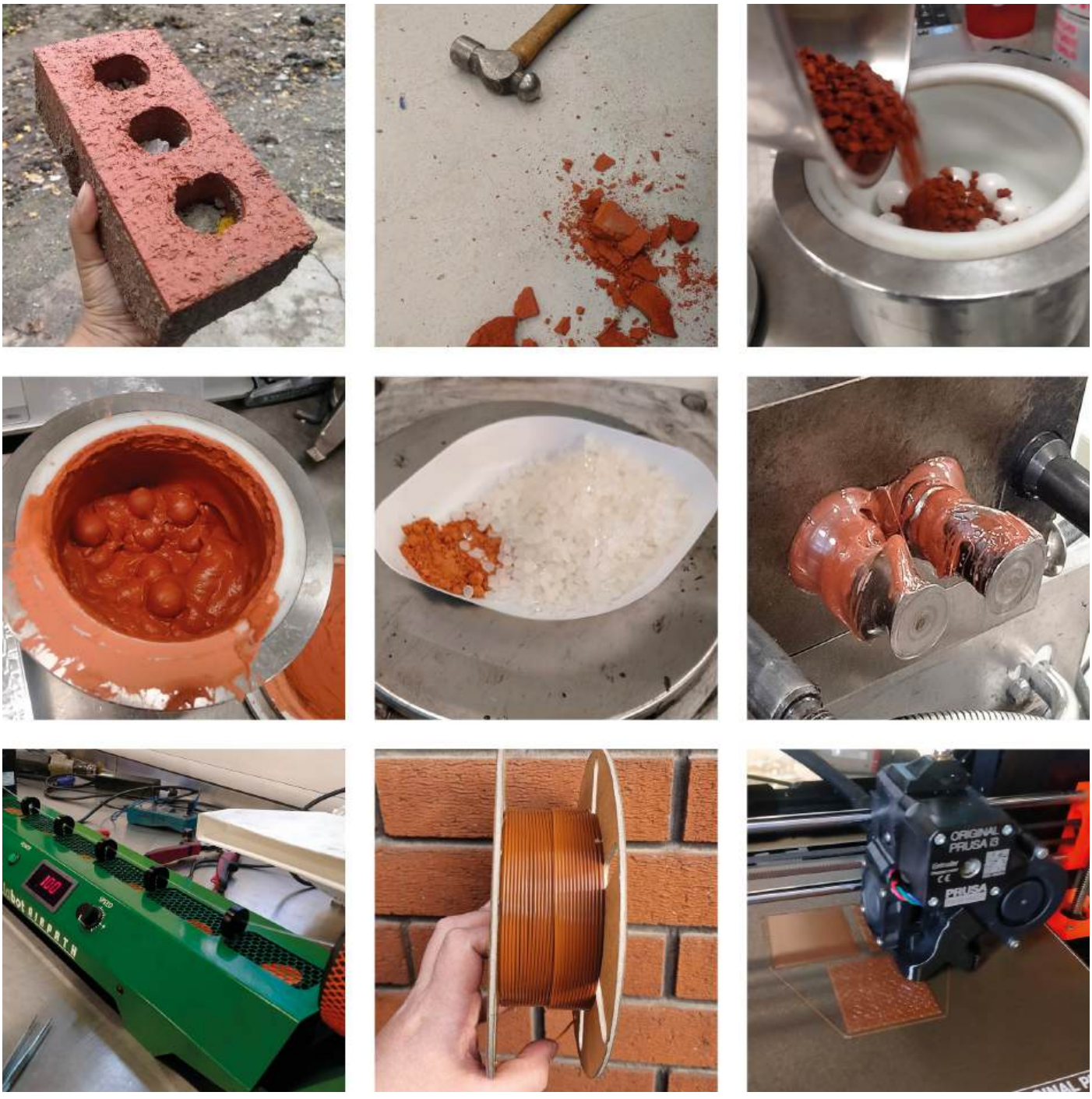
Observing the numerous abandoned buildings around the site in Stockport, inspired the idea of repurposing demolition rubble to reduce construction waste, by innovatively utilizing it in new buildings. Hence, I collected a brick from a demolition site, crushed it, ground it in the Planetary Ball Mill, mixed it with PLA (PolyLactic Acid made from recycled coffee cup lids) in the PolyDrive Machine, Shredder it and Extruded brick filament using the Filament Extruder Machine. This process was carried out in the Polymer Lab at MMU. Different types of filament was extruded with varying amounts of brick powder, to 3D Print façade panels and test the different transparencies using a Spectrophotometer. This experiment informed the façade design of my building. I then made a representational model of the 3D Printing process to demonstrate the stages of making the brick filament and to explain how it is printed in large-scale, as part of the programme of my building.



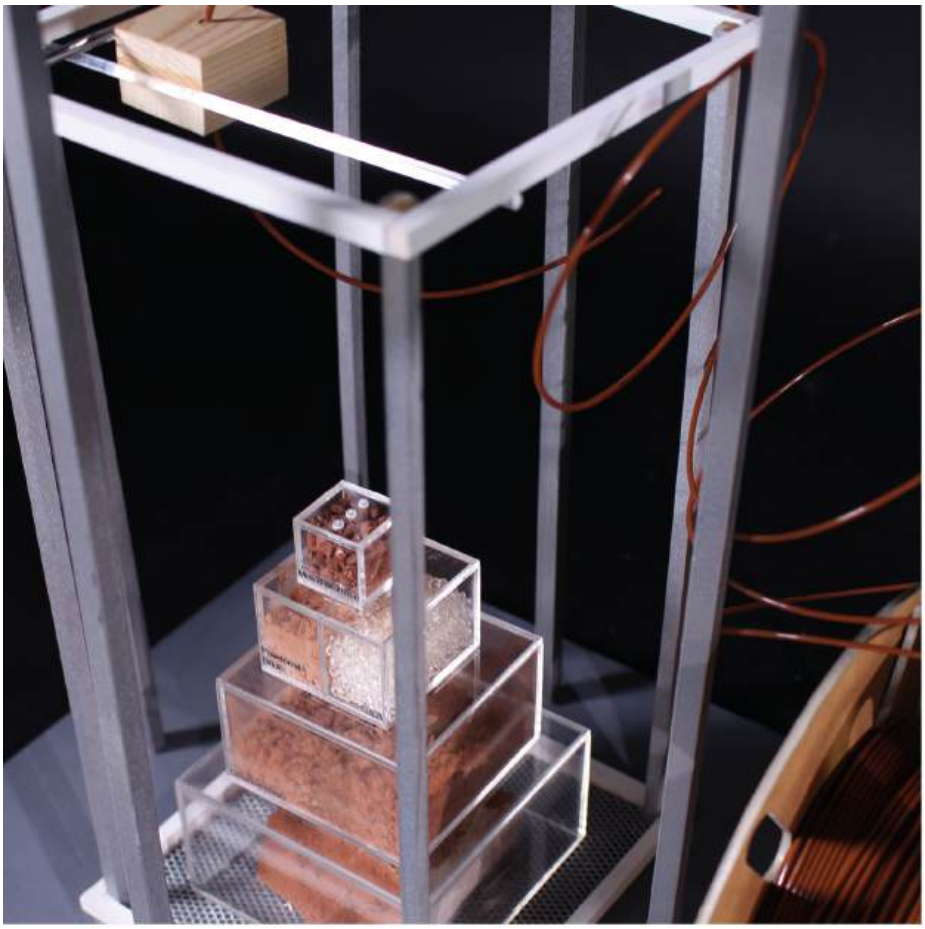
3D-Printed Façade Panels using 2.5%, 5%, 7.5%
and 20% brick filament

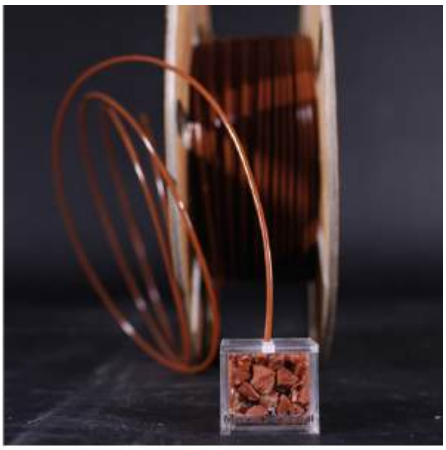
Yashwa Rajapreyar

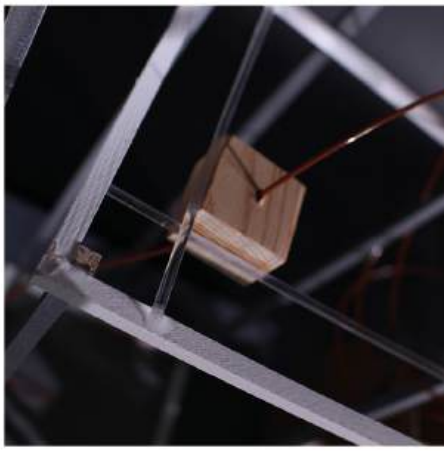
BA(Hons) Architecture
Year 3
CPU[ai]

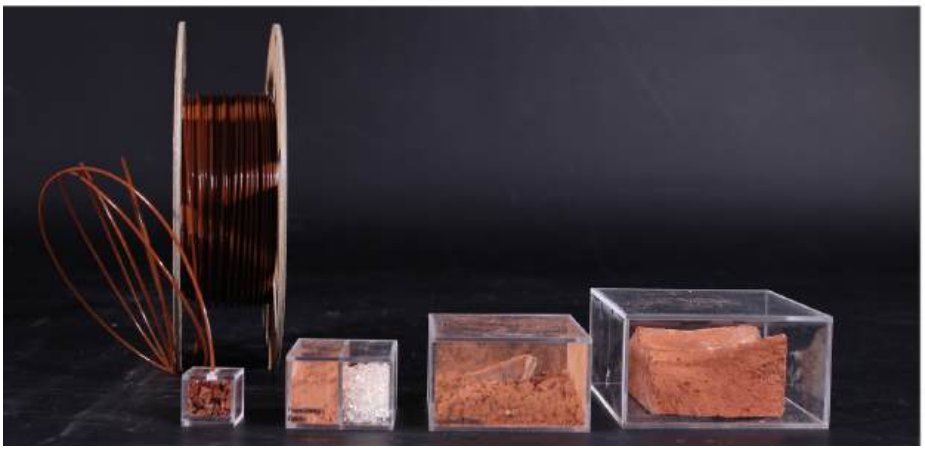


Stages of creating the brick filament in the Polymer Lab









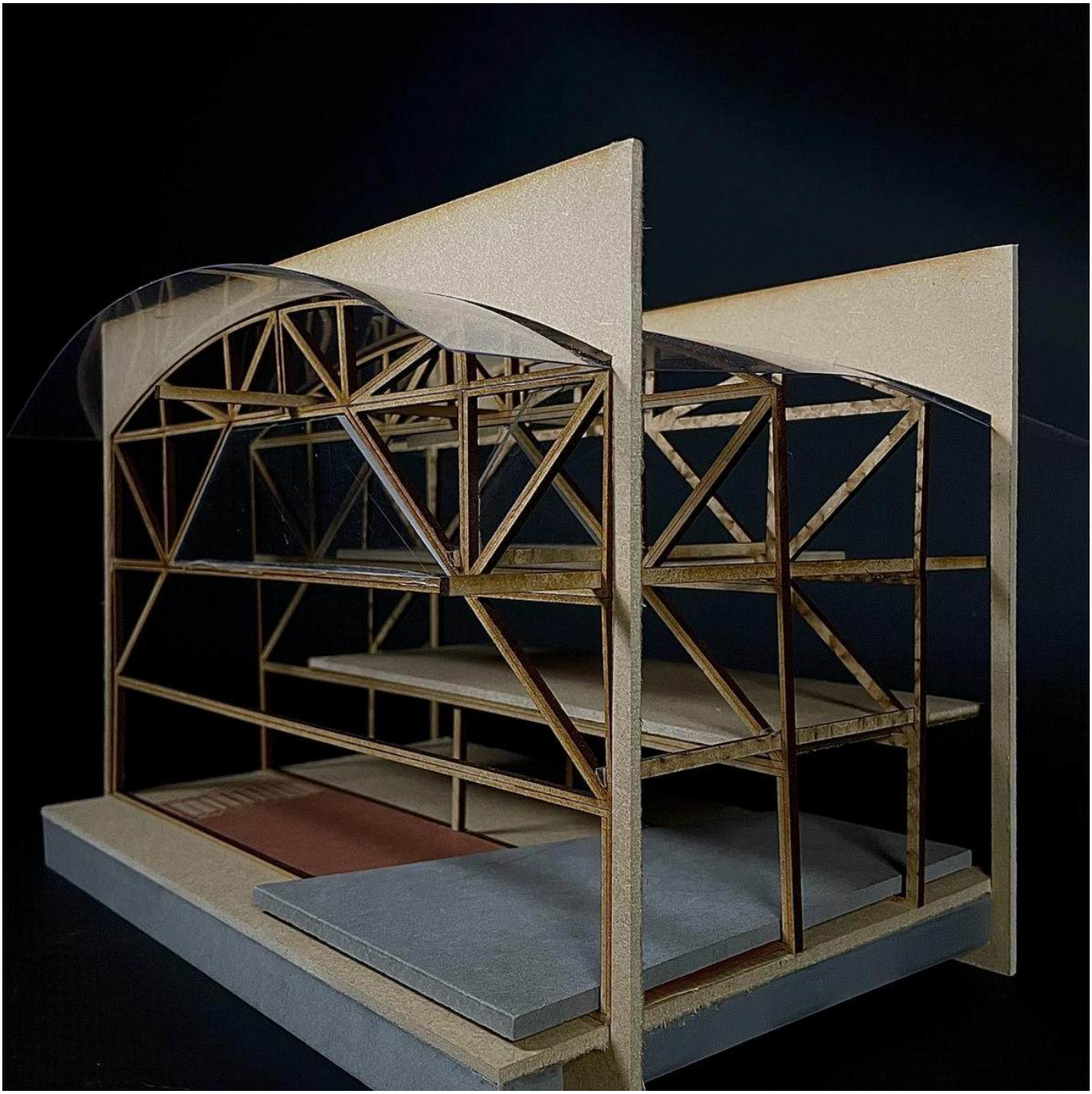
Representational Model demonstrating the stages of the process of how the filament is made and used to 3D-Print in large scale, within a part of the program of my building.

Nour Elzawi

BA(Hons) Architecture
Year 3
Flux

- The project explores how people interact with environments under repair, linking decay observed on the site with the decay of human memory.
- The proposal aims to celebrate both decay and memory within the warehouses and their surroundings.
- Inspired by the concept of wabi-sabi, it seeks beauty in imperfections like cracks, leaks, molds, and noises.
- After exploring the site and appreciating its form, the focus shifts to understanding its original construction, particularly the support structures for brick arches.
- Temporary timber structures were used during construction and later dismantled, but their preservation is seen as essential to appreciate the building's history.
- The proposal evolves to celebrate the decay of the building and the memory of its construction tools and techniques.

Implementation and function:
- The timber structures with trusses offer space for three platforms, accommodating repair shops, studios, and exhibitions.
- Within these spaces, repair shops mend clothes and exhibit repaired objects fostering a sense of preservation and innovation.



How do we experience environments under repair

Nour Elzawi

BA(Hons) Architecture
Year 3
Flux

Testing the strength of the truss

Mayfield Depot warehouse 6&7

Cameron Griffin

BA(Hons) Architecture
Year 3
Infrastructure Space

My main Studio design project aimed to revitalise Cleator Moor in West Cumbria by establishing a Hydrogen Long Distance Coach Transport Hub. This hub would connect Cumbria all the way to Birmingham, facilitating 100% green travel. The design consists of two structures: the renovated Celator Mill and the new construction, which serves as the main public hub. My model-making efforts focused on the main hub as my first model, capturing its unique double-envelope structural system and public interaction within the space.

To effectively showcase the structure, interaction, and movement within and around the spaces, I created a bay sectional model at a 1:50 scale. This approach allowed me to highlight the intricate details of the structural design and the dynamic nature of the public areas. The model was constructed using a combination of woodworking with MDF and concrete casting for the foundations along with relevant concrete parts of the ground construction. I also utilised 3D printing and laser cutting for the main structural and detailed components, ensuring precision by fully CAD modelling the design before fabricating the physical parts.

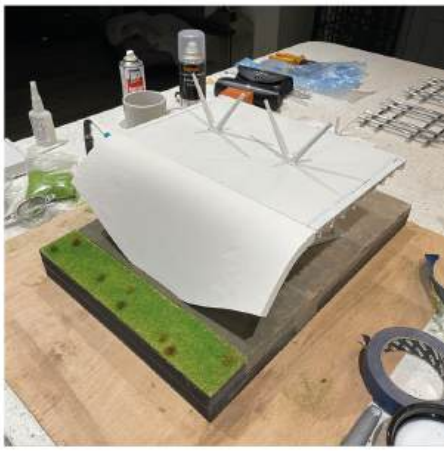
To enhance the model's detail and readability, I used laser cutting in B15 to engrave the front 4mm acrylic panel with detailing's. This technique enabled me to depict the intricate design elements that were too small for the 1:50 scale physical parts along with allowing me to annotate various details, ensuring that people can fully understand the model.

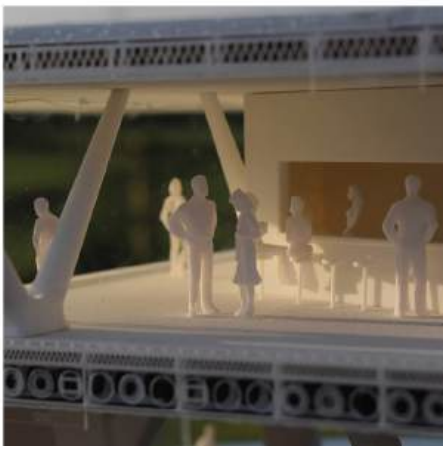
The second model is from my Technologies Part A work and is a 1:50 structural peeled-back sectional model of the Windermere Jetty Museum. We used this building as a case study for our Technologies assignment. Similar to my studio model, this model employs a mix of 3D printing, woodworking, and laser-cut acrylic to illustrate the intricate structural system of the design. The model represents a small section of the building, while still providing context for users interacting within and around the section's space. This approach highlights both the structural elements and the user experience, aiming to present a comprehensive understanding of the museum's design for the particular part of the building.

Studio BA3 1:50 Bay Sectional Model

Cameron Griffin

BA(Hons) Architecture
Year 3
Infrastructure Space





Studio Model Construction Process and User Interaction

Technologies 1:50 Scale Sectional Model -
Windermere Jetty Museum

Darshil Mistry

BA(Hons) Architecture
Year 3
Infrastructure Space

'A) 1:10 ‘Therapy Tunnel’
Our Technologies Part C brief set out to experiment and test iterations of design based on climate, constructability and building and life safety. I focused on internal natural light and its atmospheric effects on materials in changing orientations. The ‘therapy tunnel’ is a component in my studio project that links the entrance foyer to the counselling service. I wanted this space to be a threshold of experience, I wanted patients to be distracted and allured as they walked through this space as therapy can often be an uncomfortable setting. And so, the idea was to create a slate tunnel with apertures in both the walls and ceilings to play with the light. In order to model this and to test iterations I had to make 6 walls and 3 roofs each with different or no window placements. Moulds were made with MDF to cast the pigmented plaster to imitate the colour of slate. To create the shape of the slate, a sheet of clay was placed at the bottom of each mould and then individually pressed with stone (that looked like slate) until the desired pattern was achieved, this was repeated with the rest of the components to create the negative mould. Then, it was cast with pigmented plaster and left to set. Once dry, the MDF moulds were removed, and clay peeled off to reveal the result. I constructed a rectangular tube that could house the walls and roofs and be removed in order to test a range of combinations. Each iteration was photographed in a booth with controlled lighting to imitate daylight at certain times.

B) '1:100 Cantilever The final model of my studio project focused on the first-floor cantilever structure of my building that housed a café. I wanted to showcase a semi sectional model that showed the interior of the space as well as the structure and foundations. The bulk of the project was made with the laser cutter using 2mm, 3.2mm and 6mm MDF. Each thickness had to be taken into account when measuring and drawing the files on AutoCAD so that everything would fit together during construction. To showcase the raft foundations, the base of the model was made up of 6x6mm pieces of MDF, which had each been cut differently in order to create a negative mould to cast the foundations at the section cut. Once these pieces were glued together, it was cast with a grey pigmented plaster to imitate concrete. The tubular timber structure of the cantilever was stained with a dark brown to reflect the construction material and wire was used to showcase the bracing elements of the structure. The exterior is clad with charred timber, and this was reflected in etching of the MDF with the laser and staining it black. This element was particularly successful in showcasing the cladding. Finally, trees were added to the background. This is an important element of my project as the entire site is set to be forested and so the cantilever appears to be floating among the trees. Viewers would also be able to see the trees through the windows of the building to highlight this element. "

'"Cover Image A: The housing tube, cast walls and roofs during testing.

Cover Image B: View of the exposed structure of the cantilever revealing the bracing. "

Darshil Mistry

BA(Hons) Architecture
Year 3
Infrastructure Space

'"Image layout 1A: The moulding process for casting the plaster walls and roofs also featuring initial cast tests using clay and plasticine as a mould. Clay was chosen as it was softer (easier to press) and cheaper.

Image layout 1B: Views of the cast foundations and section cut with exposed timber structure. "

'"Image layout 2A: Final results of internal daylight tests at both different times and orientations of apertures.

Image layout 2B: Plan view showcasing the extent of the section cut as well as views of the cantilever above the trees and through the windows. "

Gordon Wu

BA(Hons) Architecture
Year 3
Infrastructure Space

The exhibited model is a representation of an abstract set of data mapping around Cumbria. The project explores the link between peatland degradation and social development, going through multiple iterations and evolutions to arrive at the final model. The project begins with a collage, physically superimposing the ecological and sociological changes of West Cumbria. Those research conclusions are then presented as 'policy blocks', hypothetical scenarios of remediation. The topography is then extruded as a grid, allowing these blocks to be plugged-in-and-out, physically representing the idea of masterplanning and decision making as a democratic process. Lastly, the research is presented as a board game to communicate the idea of moving across regions, and the idea of ecological remediation as a group process. Included are development models and 1:100 outputs relevant to the project. My preferred choice of medium is to experiment with paper- I think its an underused material that can really shine when folded and bent to create unique shapes. Its not a coincidence that the project has a 'toy-like' quality to it; I believe part of the duty of an architect is to communicate information in a way that is accessible to everyone, especially through modelling. Thank you for reading!

Hybrid model, superimposing the ideas and development from multiple past iterations.

Gordon Wu

BA(Hons) Architecture
Year 3
Infrastructure Space

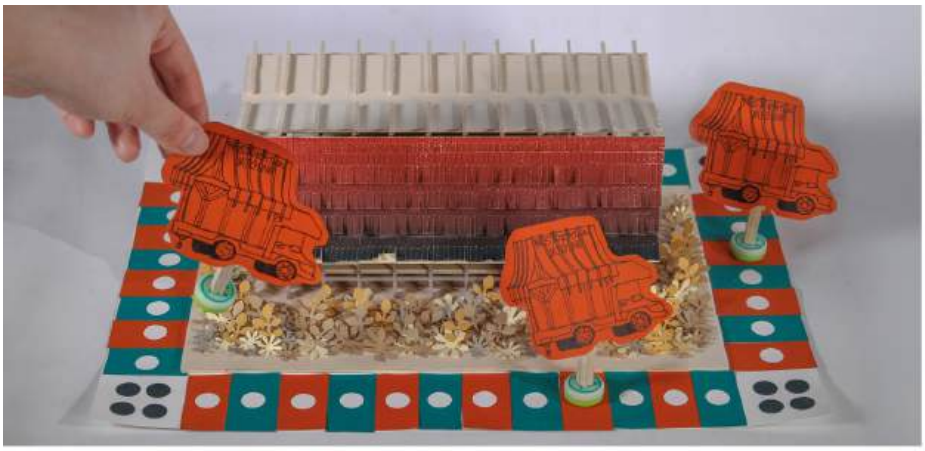
Creating this model:
Going through the layers.

1
The region of investigation, West Cumbria, is mapped through a collage by superimposing the change to the built environment over time.

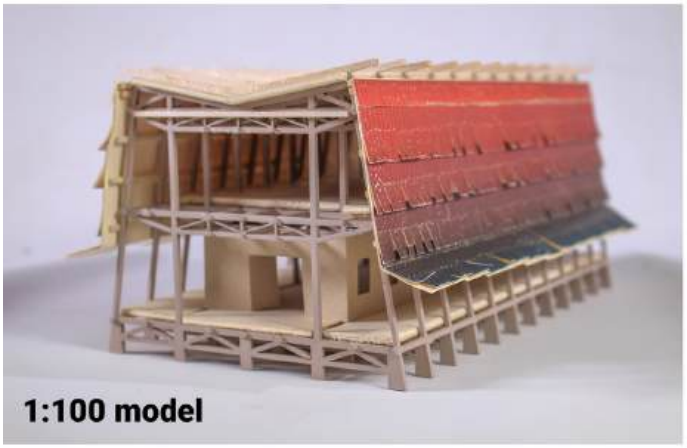
2
As a response to the data analysis, 5 distinct policies are developed as overarching strategies to approach ecological remediation. They are represented as 'building blocks'

3
A topography is extruded from the 2D map that expresses the geologic build up; the relevant 'policy blocks' are slotted in to create a customisable and 'plug-in' model.

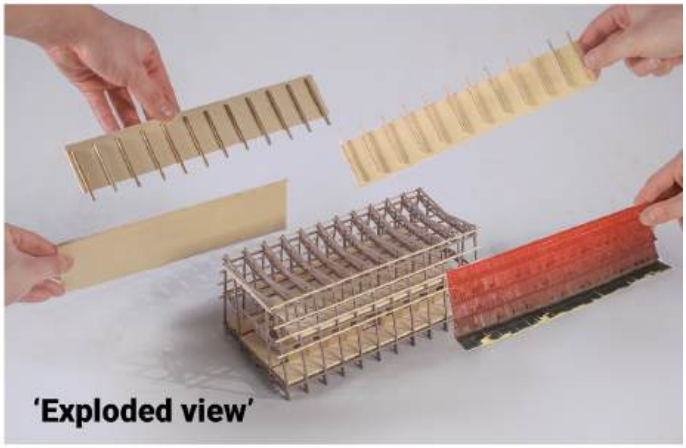
Caption in image



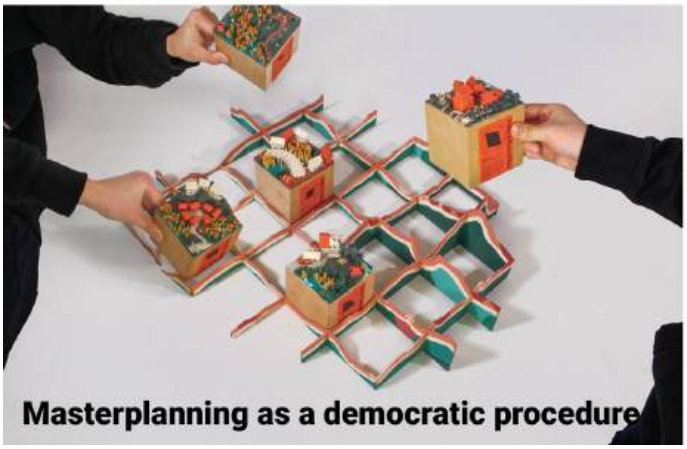
4
To express the idea of inter-regional development, the model is presented as a board game, with players moving around Cumbria. These ideas are all superimposed into one super-model that physically represents an abstract set of research.



1:100 model



'Exploded view'



Masterplanning as a democratic procedure

Design concept: analysing ecologies

Caption in image

Louis Eden Walsh

BA(Hons) Architecture
Year 3
Infrastructure Space

Set against the backdrop of a climate crisis, Food Yard proposes a sustainable parallel to the existing British farming infrastructure – improving food security by providing an alternate to mass-scale farming. At the root of the project is Silvopasture - an ancient practice of farming integrating the pasteurisation of livestock in forested areas – primarily used to combat methane emissions and improve carbon sequestration. Additionally, Not only beneficial to both forest and livestock health, Silvopasture also offers the opportunity for foraging and an improved biodiversity net gain.

In regards to the model, I wanted to explore the properties of MDF, finding different ways to work with a single material to produce a model that is varied and dynamic. I chiseled the base of the model, followed by sanding it. I then went back with a smaller chisel to add ground detail. This again was then followed by drilled holes for the addition of coconut husk for the representation of small shrubs. The roof was also chiseled using a smaller tool and different variation of MDF to give the impression of roof tiles. The cruck frame was lasercut due the the precision needed and the small size of the pieces. Except the frame and two of the walls, everything else was hand cut, sanded and filed.

There is also a conceptual model accompanying the primary model made from copper, MDF and sandstone. This is to portray the materiality of the project and model. This model required stone drilling, multiple temperature soldering conducted in the hot and cold metal workshop and woodwork.

The model is a sectional model at 1:50.

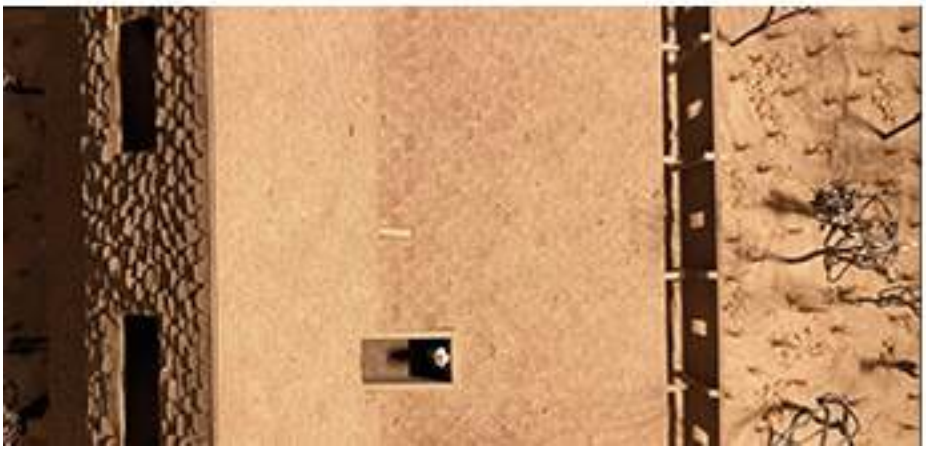
Primary image - a sectional model at 1:50 scale
exploring the 'Food Yard' project though MDF

Louis Eden Walsh

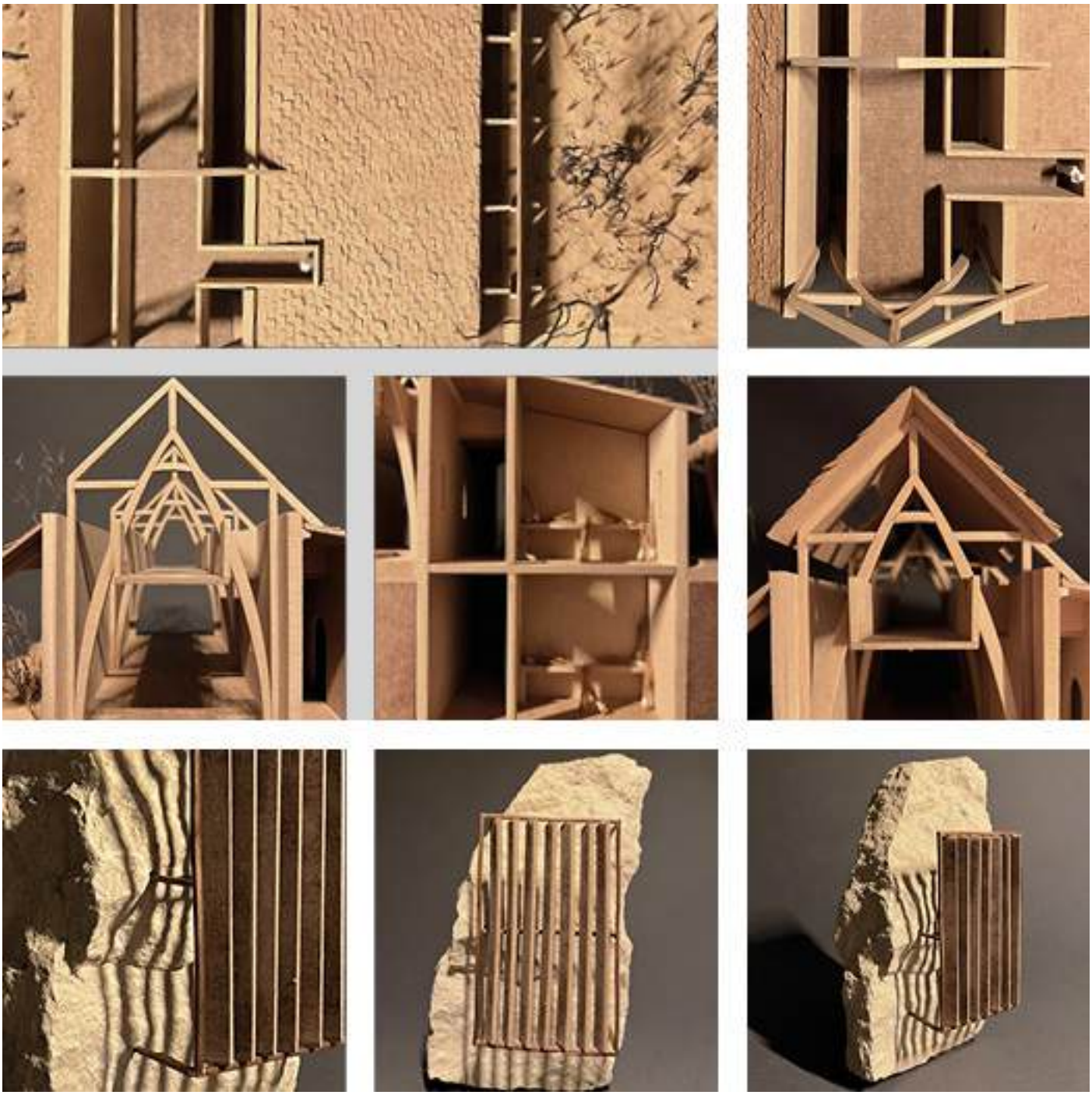
BA(Hons) Architecture
Year 3
Infrastructure Space






Process and detail images showing the construction and finalities of the model.



Additional detail images and conceptual materiality model images.

Yiran Chen

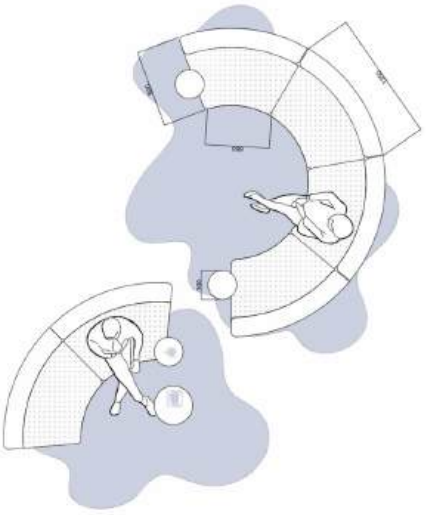
BA(Hons) Architecture
Year 3
Infrastructure Space

The model shown is the modular sofa that I designed within the waiting space of a transportation hub. This model isn't just a representation; it explores spatial dynamics within the waiting room, integrating elements such as a blanket, sofa, plants, and lighting. The aim was to communicate the physical layout and evoke the sensations of colour, texture, and volume, offering viewers a comprehensive sense of the space. It also served as a materiality study, showcasing the interplay between various textures and substances. I used various materials like paper, cardboard, cotton fabric, wires, and thread to make this model. I chose them because they closely resemble real-life materials, clearly showing how they work together in real spaces. Building the model was a detailed and creative process that helped me understand how space, material, and how people interact with it all come together. My goal was not just to show a design but also to explore how different materials affect our perception of space.

Detail of the space

Yiran Chen

BA(Hons) Architecture
Year 3
Infrastructure Space



From 2D design to model

The model with overhang lighting on the ceiling.

Hannah Jones

BA(Hons) Architecture
Year 3
Praxxis

This model was used to prototype the efficacy of different ventilation openings in keeping the indoor-outdoor pool space of my studio project well-ventilated to achieve optimal thermal comfort. This is a really important element of my scheme because my PRAXXIS position prioritises user comfort. Achieving this relies on effective technological systems that can deliver these conditions. I tested this by modelling a base pool and three different roofs with various types of ventilation openings which could be swapped in and out for testing. Prototype 1 consists of 3 circular vents (100mm, 70mm and 40mm at 1:50 scale). Prototype 2 consists of 2 skylights openable to a fixed amount. Prototype 3 consists of louvres which can be adjusted to be open and closed as needed.

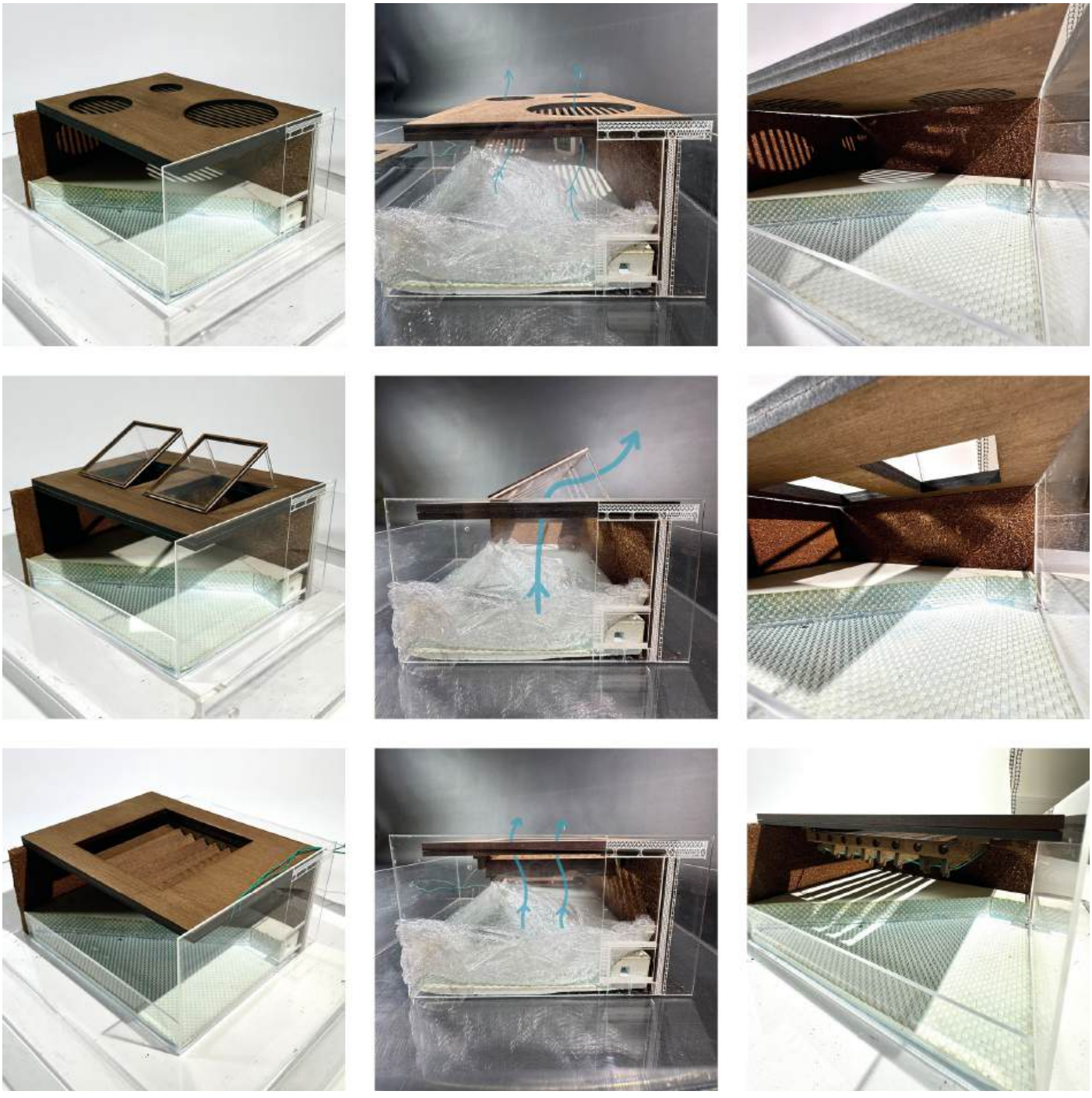
I modelled the roofs from laser-cut MDF as well as the walls which were coated with an earth mixture to mimic how rammed earth would perform in a humid environment. I cast the pool and floor out of plaster, using acrylic for an etched detail at the section cut, as well as for the windows of the skylights.
To test the thermal comfort of the space I waterproofed the plaster with cling film and filled it with hot water to mimic the effect of a warm pool. I then observed how the humidity and temperature of the space were affected by each ventilation opening using a hygrometer.

The adjustable louvres performed the best due to their flexible nature. Since it was crucial to the testing that the model louvres must be able to be open and fully closed, this was very difficult to construct with a lot of trial and error. I achieved this by sitting the louvres in 2 parallel tracks which hung just under the roof opening, and I thread string through the bottom of the louvres which, when pulled, would open and close the louvres. This enabled me to test how effective the louvres were at ventilating the space and adjust the opening when needed.

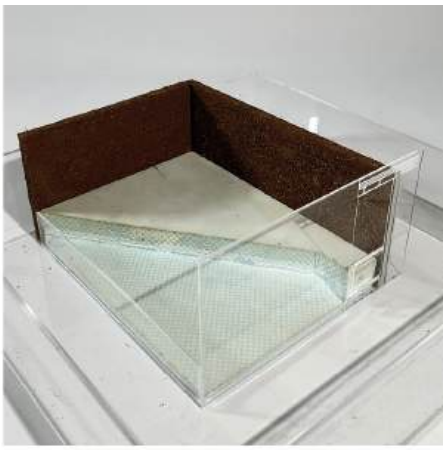
1:50 sectional fragment model with the most successful prototype roof.

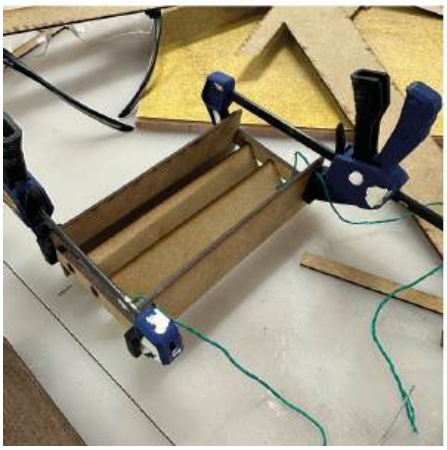
Hannah Jones

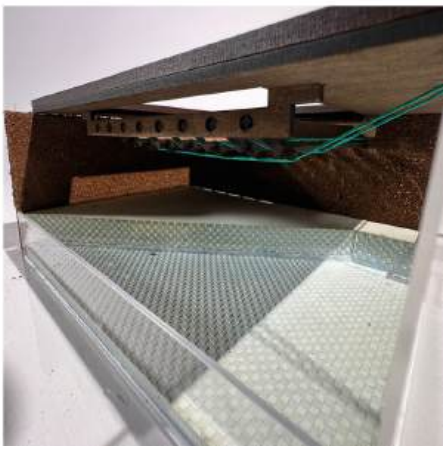
BA(Hons) Architecture
Year 3
Praxxis



Three different prototype roofs, how they were tested and their effect on daylighting.







Extra images of the base model and the louvre-making process.

Ava Tizard

BA(Hons) Architecture
Year 3
Some Kind of Nature

I have explored timber construction through model making. Initially in my technologies case study assignment, I built a 1:20 replica model of Feilden Fowles Waterloo city farm. I used this model to understand the construction process and visually analyse the structural system of the building.

Model making is integral to my understanding of how a building works. I made this model mainly by hand cutting balsa wood, and assembling with double sided tape. This allowed me to adapt the model as I worked. As I was thinking through modelling, learning as I built, this allowed me to easily make changes to the model as my understanding developed.

My studio project, in a similar fashion, is constructed out of timber. I have carried over my developed knowledge of timber construction into my studio project.

In my studio project, which is still in progress, I have decided to make a 1:50 model of part of my intervention which is interactive and adaptable during its usage, opposed to being changeable in the model build. I have used 3mm and 6mm plywood to ensure the sturdiness of the model, when being moved, adapted and interacted with.

This model serves many functions; structural resolution and analysis of faults; configurations of internal walls and GA layouts; section views; plan views; external views. To achieve this, as pictured in "Work in progress 1:50 model of my studio intervention", I have designed the model so it splits both vertically and horizontally to create plan and section views. As this model is still being constructed, with window panels, furnishings, roof, exterior and interior walls yet to be added, these can be added and adapted as the building develops. For this model, I have used a variety of techniques and methods, such as, CNC milling, hand cutting, laser cutting, 3D printing, and of course hours and hours of sanding! To achieve the desired finish, of a hand sawn, engineered timber frame.

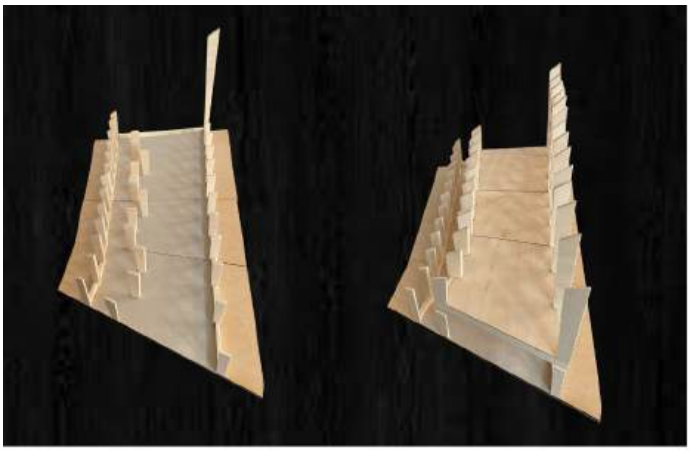
The material palette of my 1:50 model attempts to accurately represent the materials I would like to use in the 1:1 construction of the building.

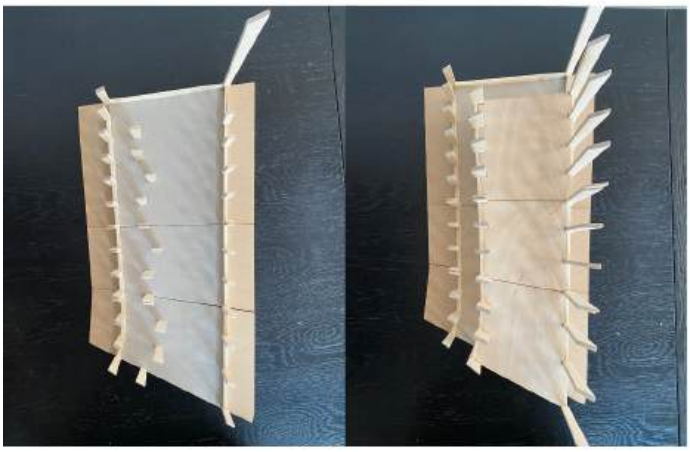
Feilden Fowles Waterloo City Farm case study, 1:20
section model

Ava Tizard

BA(Hons) Architecture
Year 3
Some Kind of Nature

Model build process and final close ups of 1:20 section model







Work in progress 1:50 model of my studio intervention

Jamie Schneider

BA(Hons) Architecture
Year 3
Some Kind of Nature

As government's across the globe continue with a 'business as usual' approach to our climate emergency, it is clear that we, as architects, have a significant responsibility to prepare society for a worst-case scenario. My proposal is a refuge for climate migrants, fleeing inevitable coastal floods caused by the ever-increasing sea levels. Northenden Refuge sits on an intersection of the M60 and the River Mersey, both coming from the direction of Liverpool, i.e. the coast. Migrants will travel by bus or boat along either of the two 'migration highways' and have a place to stay in a short-term community at Northenden Refuge. I propose the use of a 'Beacon of Hope' (on page 3) based on the idea of 'Freespaces', coined by Lebbeus Woods. This refers to a space without a pre-determined program of use, but whose forms demand the invention of programmes corresponding to the new, post-climate disaster conditions. In this scenario, more and more refuges will be built for climate migrants, each with their own 'freespace' and visualised on the right.

As for the refuge, I have developed a modular construction sequence using pre-fabricated, adaptable construction - a much-needed technical aspect in the wake of a climate emergency. Using a timber canopy structure to passively control thermal comfort within, using a mixture of GRP and steel cladding. The plaster base of my model shows how the stone retaining walls limit the impact on the site and deal with the difficult topography. Using modular cork blocks (shown on page 3), I have developed a construction sequence that can be assembled and dissembled as and where necessary to deal with the emergency-type situation of climate disaster – you could call it plant-based Lego.

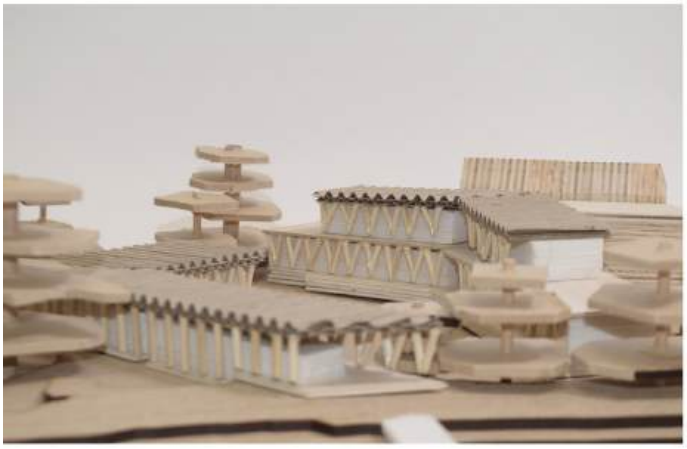
My 1:20 section model focuses on how the canopy structure sits on the stone retaining walls, and how the interior spaces within the canopy interact with natural light, allowed through in specific places by the GRP cladding in the canopy. Using light materials and standardised components, I have eliminated the need for heavy foundations. 3D printing post-footings shows their relationship with the wall and the structure.

1:20 Section Model - Canopy Structure and Interior
Cork Spaces

Jamie Schneider

BA(Hons) Architecture
Year 3
Some Kind of Nature

1:20 Section Model detail photos with process image



1:200 Site model showing whole canopy proposal, 1:10 Detail model showing canopy and modular blocks, 1:50 Conceptual beacon model

Jiaqi Liu

BA(Hons) Architecture
Year 3
Some Kind of Nature

The concept of this project is observe without interrupt. My goal was to create an environment for the coexistence of humans and non-humans. Humans are encouraged to observe non-humans from a distance, so that they can learn more about non-humans without interrupting them.

The 1: 20 fragment model shows the observation room on the elevated walkway, and reflects on the design concept. It is a pavilion for visitors to observe non-humans and experience the feeling of being caged. I decided to make this model using timber. Wildlife hotels are fixed to extended timber elements. The leaves are made from colourpaper, laser-cut into the shape, and then glued to wires individually to create the effect of overlapping vine leaves. After completing the vines, I felt the model was incomplete. To better present the fragment and the design concept, I added shrubs on the ground, which are made from the same material as the leaves. I also used Fimo to create various animals.

The 1:1 model is an insect hotel fixed on the frame of the observation room. The model is connected with mortise and tenon, a type of wood joints that connects components in a durable and stable way. This model explains how humans use sustainable materials to create a habitat environment for non-humans. The model is hand cut, using recycled wood. The filling in the upper left includes pine cones, twigs, and mesh. The filling in the upper right are timber offcuts and bamboo. The lower space is filled with drilled timber boards and drilled reused bricks. These materials simulate the environment of insect habitats and also enrich the model.

The 1:20 models on layout 2 are testing on three different iterations on the envelope. This testing aims at finding the facade that incorporates non-humans design into the building envelope, and also performs the best on constructability.

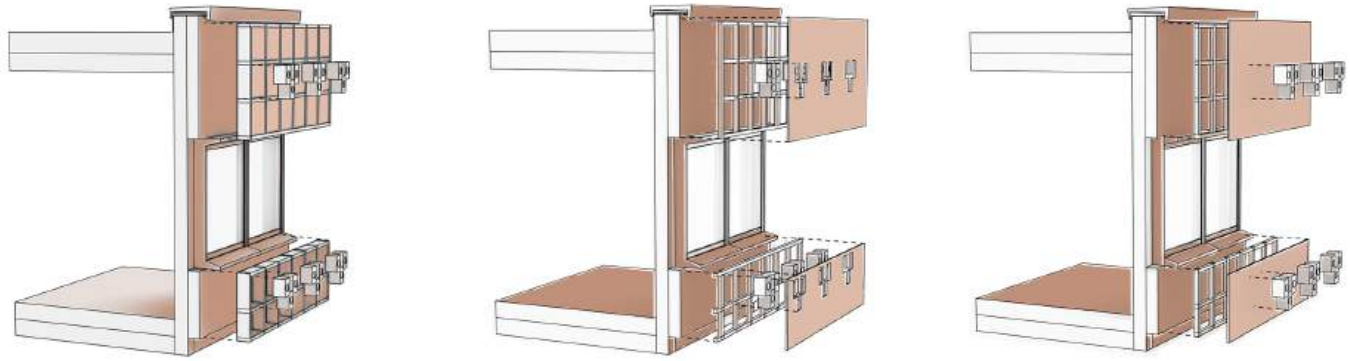
The cover image is a 1:20 fragment model

Jiaqi Liu

BA(Hons) Architecture
Year 3
Some Kind of Nature

1:20 fragment model and 1:1 insect hotel

Models for iterations



Diagrams explain iterations

Iteration 1 consists of timber battens(cladding support), timber cladding and bird houses. The bird house is nailed on the cladding. This is a basic design, the birdhouse is fully exposed and is not integrated with the envelope.

Iteration 2 consists of timber battens(cladding support), timber cladding and bird houses. The bird house is nailed on the battens and partly hidden behind the cladding. This iteration is expected to integrate the habitat components with the envelope, while it doesn't work very well.

In Iteration 3 cladding is abandoned, while the timber battens extends out to be a shelf. The birdhouse is fixed inside the shelf. This design better integrated the habitat components into the envelope.

1:20 model for iterative testing on building envelope.

Patricia Mock Gris, Rachel Elizabeth Thomas, Jing Yang & Wenjie Zeng

MA Architecture + Adaptive Re-use
Year 1

Our exploration through model-making delved deep into the captivating narrative of the Faraday Tower, a monumental yet often overlooked structure within the UMIST campus in Manchester. Inspired by its imposing brutalist architecture and intrigued by its sparse archival records, we embarked on a journey to uncover its forgotten history and essence. Beyond merely replicating its physicality, our endeavour aimed to breathe life into the concrete monolith, crafting a tangible memoir of its past and present.

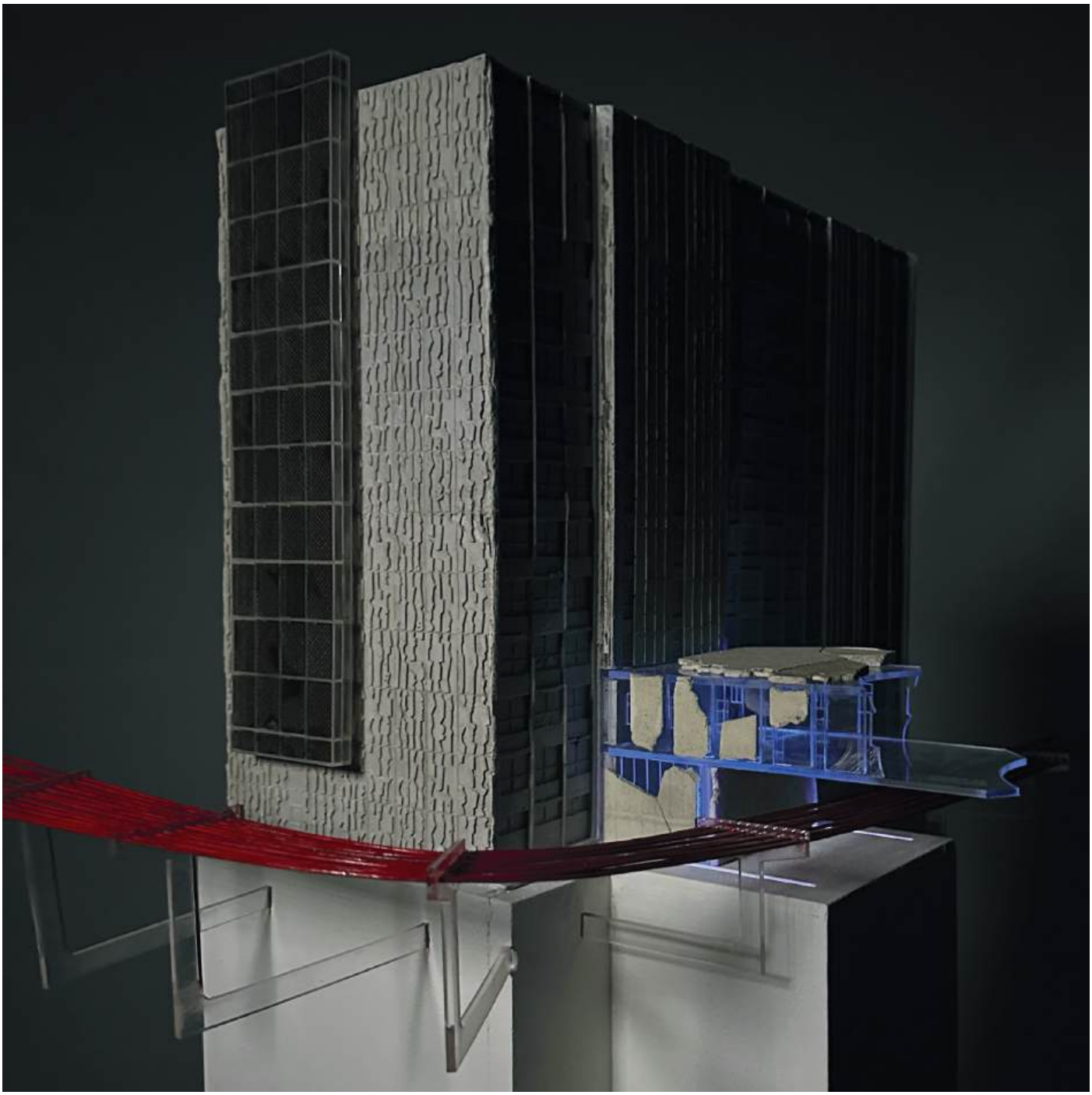
Central to our approach was the meticulous recreation of the tower's distinct features and surrounding context. Drawing inspiration from the sculptural methods of Rachel Whiteread, we cast a precise plaster replica of the tower's significant sides, capturing its monolithic presence. To illustrate the Faraday Bridge's integral role in the building's past, we employed clear acrylic and UV lights to evoke a ghostly reminiscence, complemented by jesmonite fragments.

Highlighting the tower's evolving character, we meticulously replicated the modular panel-covered fire-escape staircase using coloured acrylics. Emphasizing its placemaking qualities, we designed an abstract representation of the surrounding road circulation, suspended with acrylic wire holders to convey dynamism amidst the tower's inert ambience.

Additionally, we paid homage to the tower's academic legacy by adapting Hans Tisdall's mosaic wall mural, "The Alchemists' Elements," into a laser-cut acrylic mosaic panel for interior projection. This not only honoured its history but also animated its interior with vibrant symbolism.

Critical to our endeavour was the design and construction of a sturdy plinth to support the tower and its accessories. Crafted from recycled materials, the MDF structure was painted white to accentuate the tower's presence while incorporating essential lighting fixtures and road elements and a balancing weight was used to ensure stability.

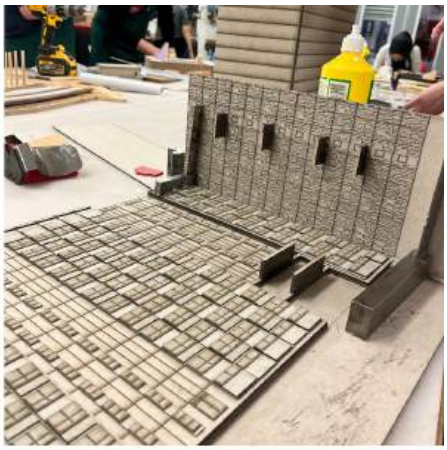
In transcending traditional research methods, our model-making journey became more than a mere replication exercise. It became a nuanced exploration of history, architecture, and storytelling. Through meticulous craftsmanship and innovative techniques, we sought to not only recreate the Faraday Tower but also to imbue it with a renewed sense of vitality, fostering a deeper appreciation for the built environment's rich tapestry.

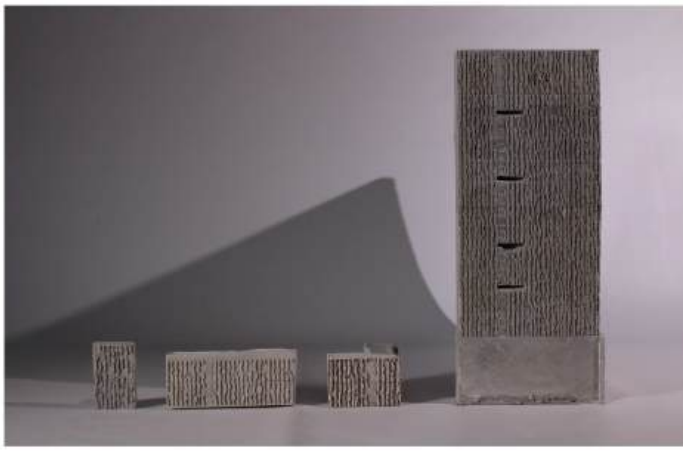


Exterior view of the complete model.

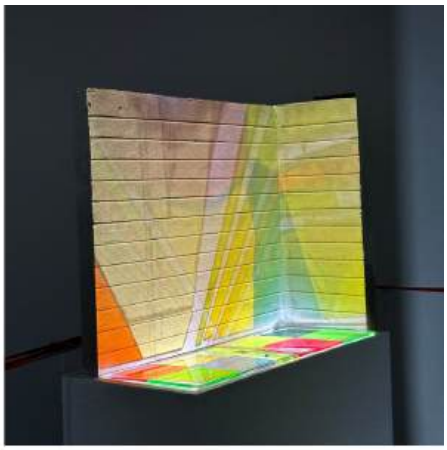
Patricia Mock Gris, Rachel Elizabeth Thomas, Jing Yang & Wenjie Zeng

MA Architecture + Adaptive Re-use
Year 1





The different stages of casting the model, its elements, and the evolution from sample tests to the complete cast.



Photographs of the complete model showcasing the exterior patterns, textures and elements as well as the artwork projected on the interior walls.

Sourabh Sahasrabudhe

MA Architecture + Adaptive Re-use
Year 1

Our model is part of a research-through-model-making workshop. We aimed to explore ways to create opportunities for a prospective reuse strategy through model-making. To achieve this, we formulated research questions, gained an understanding of the building information, and reinterpreted the essence of the Barens Wallis Building, one of the complex brutalist buildings on the old UMIST campus.
The concept for this model was developed by abstracting the building plan, simplifying the context, and reconceptualising the user perspective of the building and its relation to the ground. We explored 3D printing in different mediums (resin + sls), laser-cutting in MDF + acrylic, and modelling with clay. We modelled the building in three scales to understand and display the building footprint. An output product developed was (memorabilia) a working block stamp showing the building plan at 1:500. The building structure is showcased through part section model (part mdf and acrylic). The solid part explains the material integrity of the concrete, while the transparent part explains the structural system.

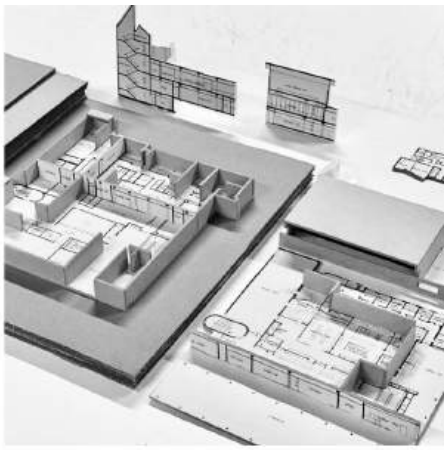
Project Name: BWB:BMB
Team members: Dakun Wang, Kyungho Oh and Sourabh Sahasrabudhe

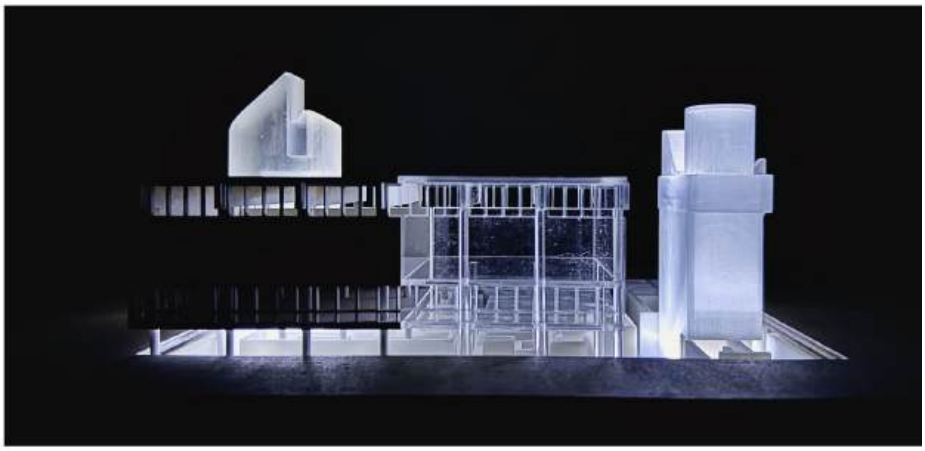
BWB (Barnes Wallis Building) Part Section emerging from the ground, and the Building Block Stamp is on display.

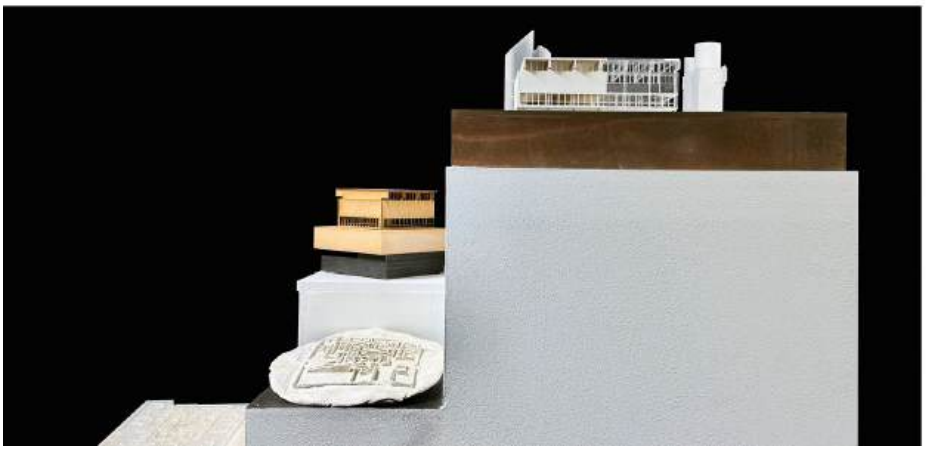
Sourabh Sahasrabudhe

MA Architecture + Adaptive Re-use
Year 1

The final building model will be displayed on a three-step podium plinth, showcasing interpretations at three scales. There are trials with positive and negative volumes in modelling clay and iterations of the building plan as a maze. (material: powder-infused 3D Print, scale: 1:200)







"The BWB model is pictured in a dark setting with characteristic staircase towers illuminated. The staircase blocks are highlighted in reverse as translucent models imitating the character role of skylight towers. (material: clear PLA 3D Print, scale 1:200)"

Ya-han Chang, Nupoor Attarde, Mahdiar Nezam & Fariba Sadeghi Far

MA Architecture + Adaptive Re-use
Year 1

The Math and Social Science Building is a 15-story high-rise tower in Manchester, it was one of the buildings in University of Manchester Institute of Science and Technology (UMIST) campus. Architecturally, the service core is constructed from cement, while the majority of the service spaces feature glass facades. During our study of the history of UMIST, we discovered that a hidden river flows beneath the Math and Social Science Building.

To exhibit the hidden geographic texture and history, we studied the geology of the Manchester area. The UMIST campus sits on a foundation of Permian and Triassic rocks, which consist of large granules of mudstone and smaller granules of sandstone, primarily in red and tan colors. Above the plaster block, we layered rustic red sand and tan stone. Among the sand and stone, we also cast the shapes of factories and bees to symbolize the industrial history buried underground.

We used MDF board for the outer part of the mold due to its hardness and resistance to deformation. For the relief carving to cast the patterns of different time eras, we chose gray board because it is softer than MDF and easier to demold. After laser-cutting the patterns on the gray board, we attached them to the internal surface of the mold. To create the curved layers, we used clay as a vertical layer divider while pouring the plaster. The edges were sealed carefully to prevent any leakage.

Alexis de Tocqueville, the French social critic, stated that "From this filthy sewer pure gold flows," referring to the economic wealth generated from the labor of impoverished factory workers who endured harsh and unhealthy living conditions during the Industrial Era's rapid urbanization. This statement reflects the Industrial Revolution era of Manchester. We laser-cut the slogan and incorporated it into the layer of the River Medlock.

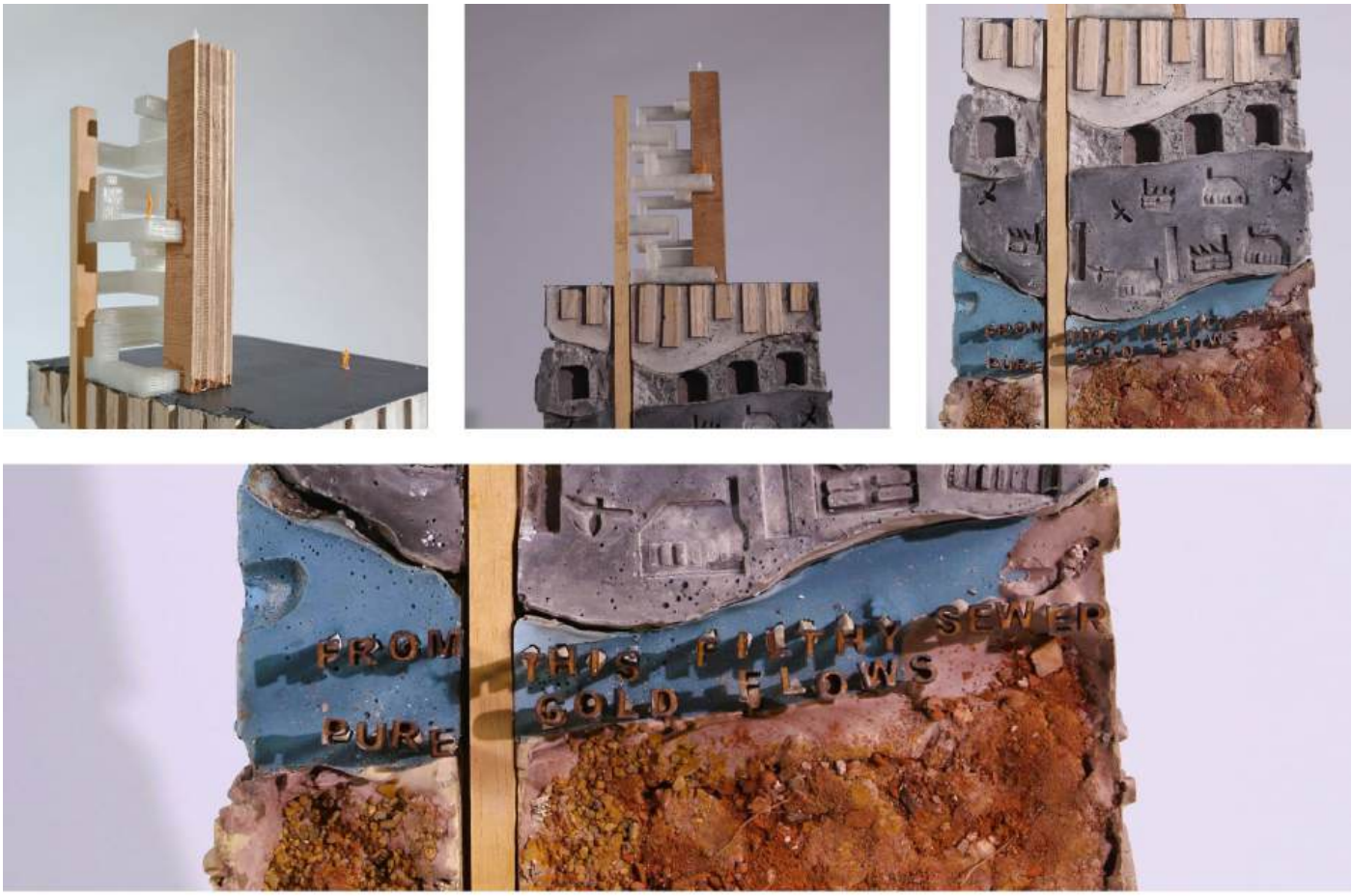
Finally, to present the foundation of the Math and Social Science Building, we used wooden pieces extended through the different time era, and analyzed the elevation features and used a 3D printer to create an abstract representation of the building.

Reinterpret of Math and Social Science Building.

Ya-han Chang, Nupoor Attarde, Mahdiar Nezam & Fariba Sadeghi Far

MA Architecture + Adaptive Re-use
Year 1

Process of model making.

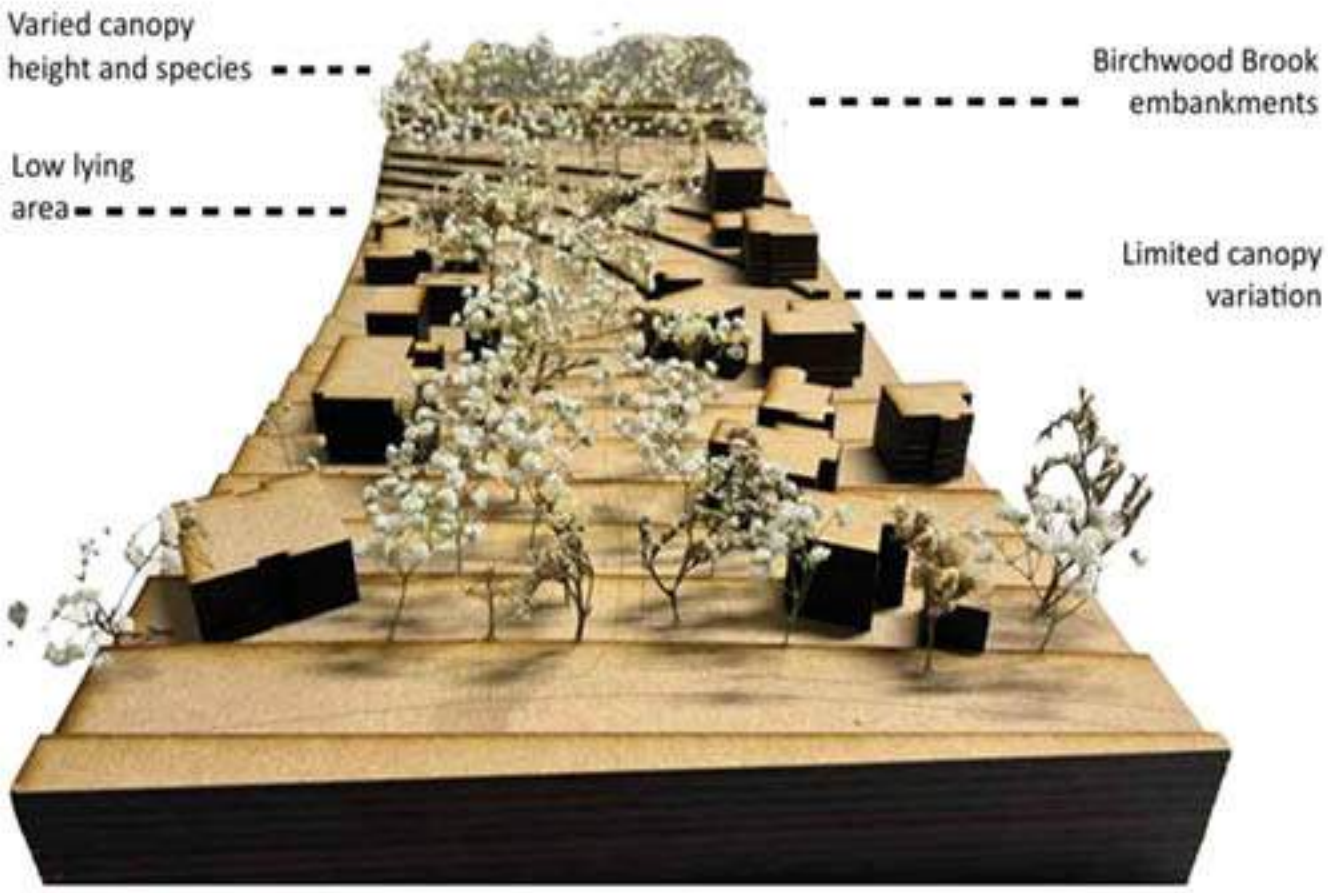


Details of the model.

Shreya Ompraksh Divate

Master in Landscape Architecture
Year 2
Research Methods Workshop

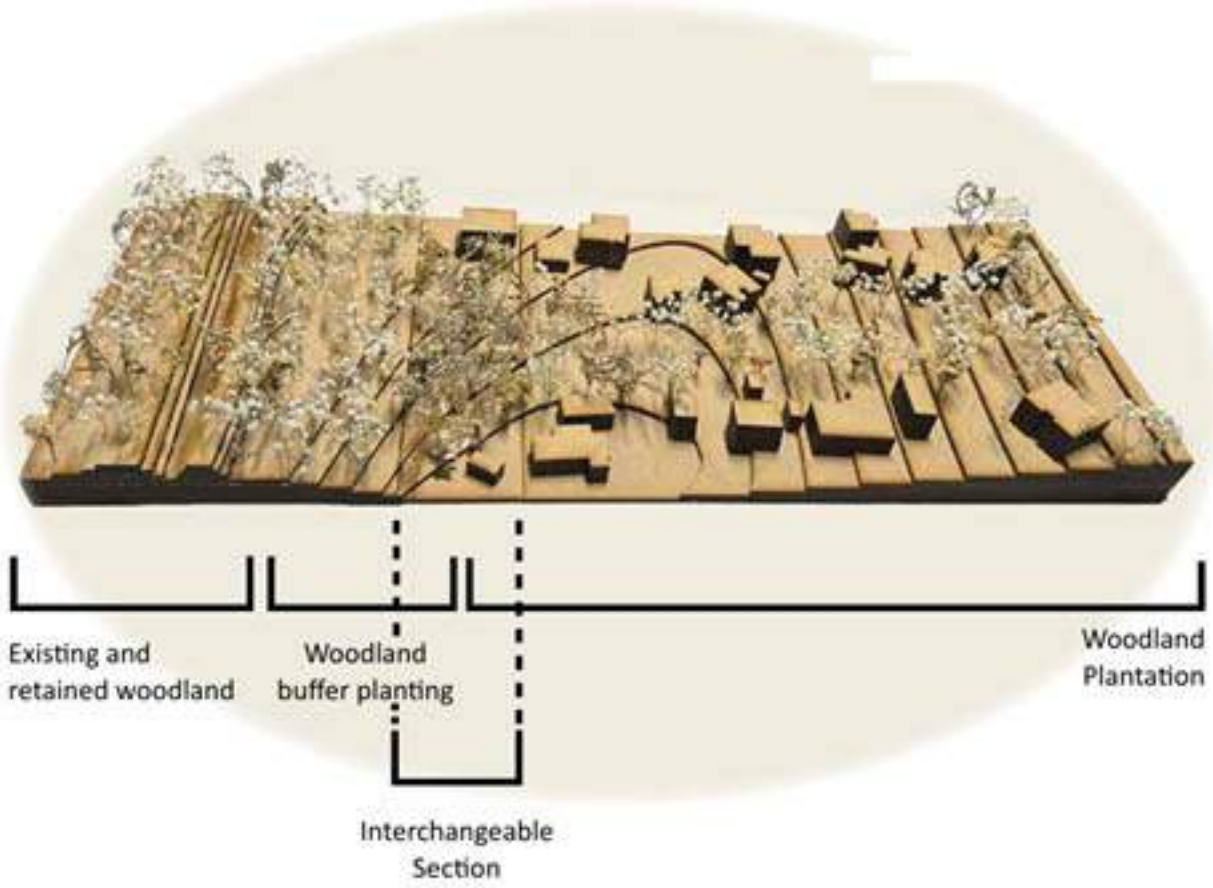
This model is a collaborative effort by me and my group mates Hayley Rowell and Lei Yang for our Research Method Workshop_07, focusing on new towns and nature-like open spaces. Our case study, "The Evolution of Woodland Open Space in Birchwood," analyzed three sites, with the Risley Moss buffer plantation emerging as the most intriguing. Unlike the other woodland plantations examined in Oakwood, the Risley Moss site revealed three distinct components identifiable through previous research: existing and retained woodland, woodland buffer planting, and the inner stand of woodland. This clear demarcation allowed us to comprehend the transition from pre-existing ‘natural’ woodland to ecologically designed open spaces. Consequently, we selected this site for an in-depth investigation through the creation of a model. We constructed a 1:200 scale model of the site, divided into three sections to illustrate the relationship between each component and the variation of woodland across the area. An interchangeable section was included, making the model interactive and allowing us to depict the varying stages of design in relation to the current woodland landscape. This approach provided a tangible means to analyze and understand the evolutionary process of woodland integration in urban planning. The model not only visualizes the ecological progression from natural to designed spaces but also serves as an educational tool, highlighting the importance of buffer plantations in creating sustainable and nature-like open spaces in new towns. Through this project, we aimed to emphasize the significance of thoughtful woodland management and its impact on urban ecological systems.

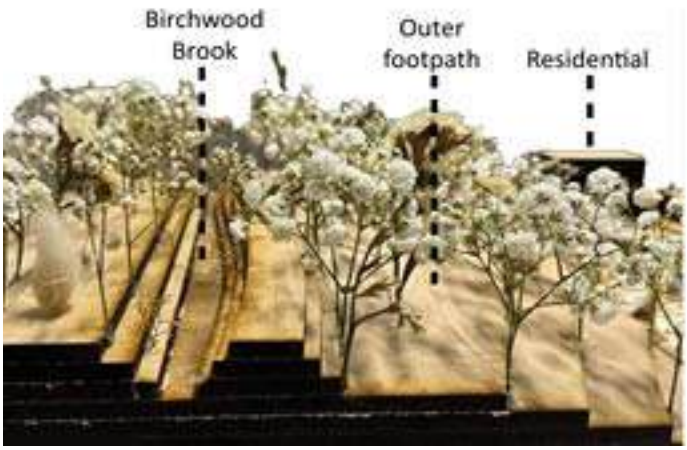


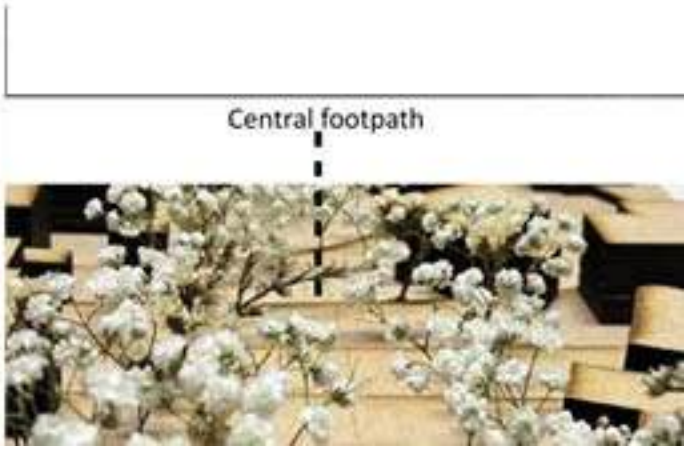
"As shown in the model, a variation in woodland canopy height is a clear outcome of the topography of this area, something which is rarely observed in Oakwood."

Shreya Ompraksh Divate

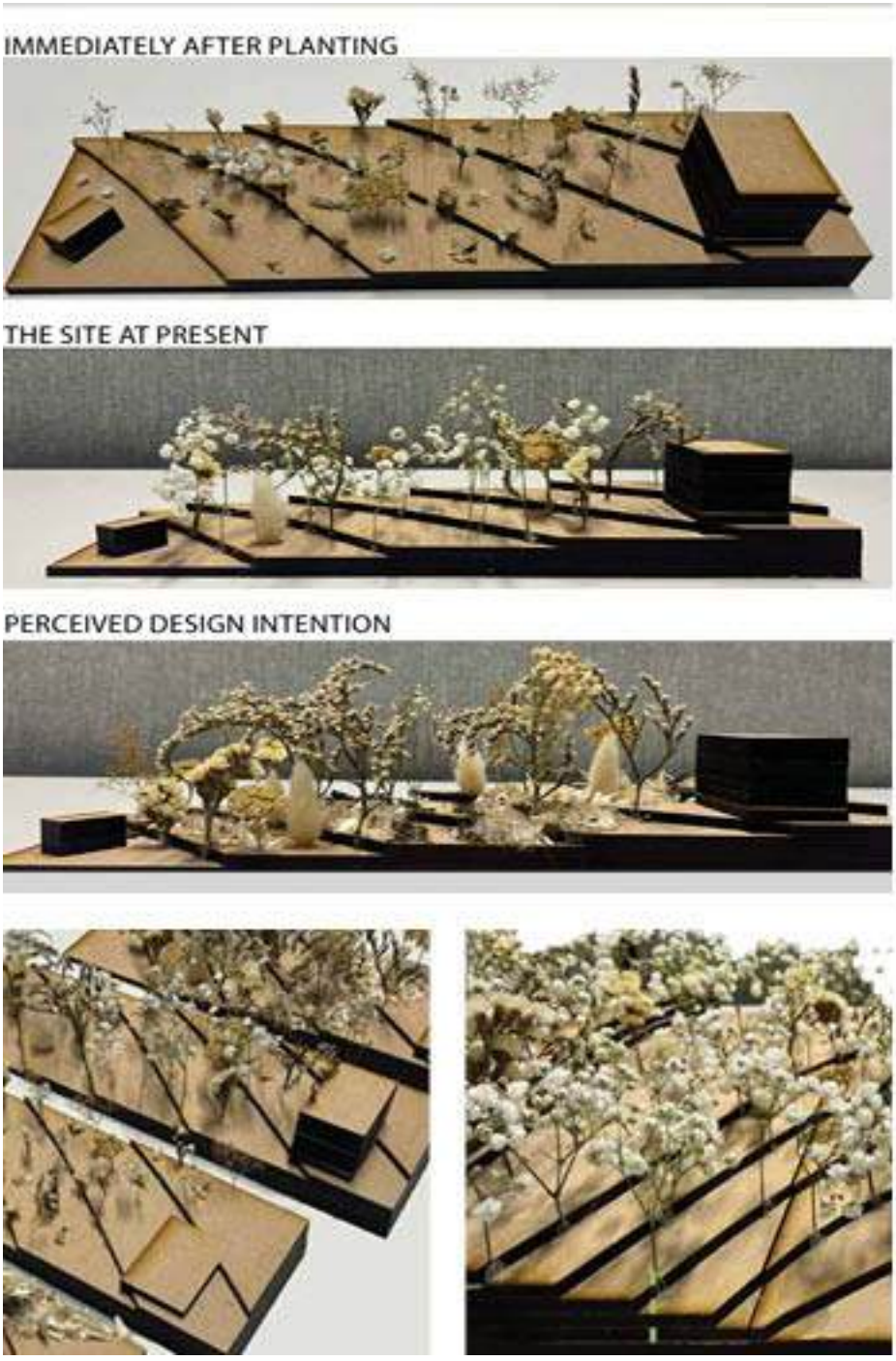
Master in Landscape Architecture
Year 2
Research Methods Workshop







"There is a clear variation in both species and density nearer to the Brook, a greater variation in species is observed with a greater prominance of riparian tree and shrub cover. Density is also noticably greater, potentially due to a differing management style in an areas where public access is not required."



"Four versions of the interchangeable section were modelled, enabling us to visualise how the site compares now to varying stages of design along with the outcome that we perceive to have been intended from extensive research into the design and management intentions. "

Mohsen Ashouri Taziani

Master in Landscape Architecture
Year 2
Research Methods Workshop, Group 7

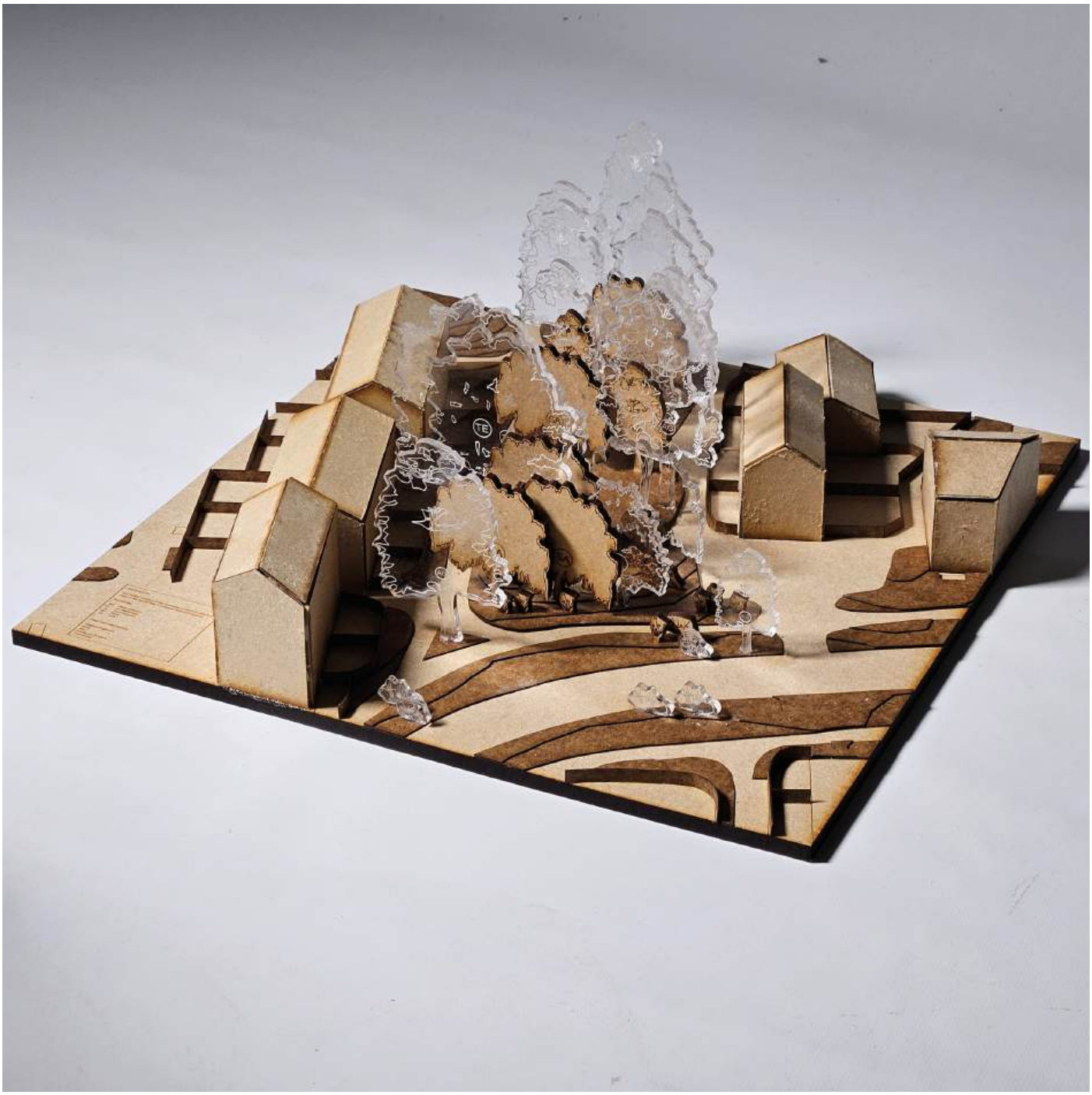
This study aims to explore and understand the changes in the local ecosystem of Oakwood, Warrington, considering factors such as biodiversity, habitat stability, and human impact. Our objective is to gain insights into the dynamic interactions shaping the ecological landscape in Oakwood and identify potential trends or challenges that have emerged over the years.

We conducted an in-depth investigation within the OW52 neighborhood, selecting a specific site for comprehensive examination. We compared the findings from ground truthing with data obtained from local archives, scholarly literature, and social media platforms, facilitating an analysis of the transformations. Through this comparative analysis, we sought to understand how the chosen site has changed over time, the challenges and improvements in its design, and how the community currently experiences it.

To visually represent the changes in the landscape of the specific site we studied, we created a model using two types of materials: solid and transparent. The solid material depicts the original state of the environment, emphasizing the static nature of the past, while the transparent material illustrates changes over time, showcasing the fluidity of the softscape.

Notably, vegetation emerged as the main character of change in the environment. Some trees have grown significantly over time, while many smaller plants have been lost. Additionally, there have been significant changes in a particular area of the playground, which is no longer visible. To highlight these changes, we employed contrasting materials in the model.

Mohsen Ashouri Taziani, in partnership with Shraddha Sanjay Jadhav and Xiaotong Wang.



Overview of the model showing budlings, landscape and vegetation.

Mohsen Ashouri Taziani

Master in Landscape Architecture
Year 2
Research Methods Workshop, Group 7

Elevations showing past and current state of the vegetation.

Changes in the landscape are indicated by contrasting materials, trees labeled with their species names.

MSA Live Group 22

Master of Architecture
Year 1

These models were produced for MSA Live, a collaborative community engagement project. Our partner this year was SHOP Preston CIC, a low-cost community space catering to a range of events including exhibitions, installations, pop-ups, workshops, DJ sets and more. SHOP approached the MSA hoping to involve students in the community space, creating multifunctional modular furniture to serve a multitude of functions.

In the months leading up to the MSA Live 'Action Weeks', our team of M.Arch 1 students refined the brief with SHOP, understanding their needs and the environment the furniture will inhabit, creating a digital twin of the space as well as a 1:20 physical model to test spatial arrangements and iterate designs.

The two action weeks began with modelmaking at 1:20 and 1:10 scale, making paper, card, and balsa wood models of a range of furniture ideas. These were then refined and developed as a group before presenting two main concepts to the client.

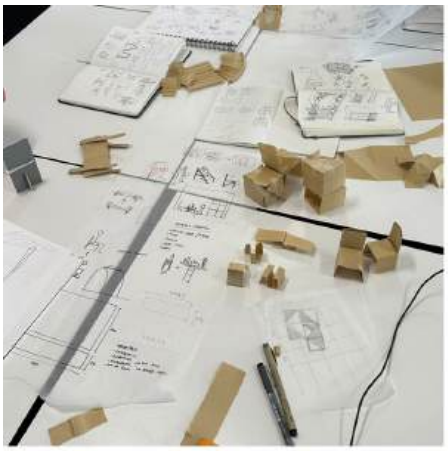
The second action week was dedicated to creating a 1:1 prototype of the chosen design in the workshop. Initially producing models at 1:20 and 1:5, we tested the required pieces and layouts before beginning on the full-scale design. Our full team of 14 students split into groups to streamline the process – one roughly cut pieces, one sanded, and one finished the pieces, wove a cushion, and developed fixing details. By working in a collaborative workflow, we produced a suite of pieces including an exhibition stand, bench and stool in just over 3 workshop days.

Each piece is made up of the same 3 primary components, slotting together in different arrangements to meet the required needs. The full suite as seen in the large image is produced from 1 sheet of 18mm plywood. It was important to carefully consider the material and cost when designing the pieces so they could be obtained and fabricated easily and cheaply. The 4 distinct arrangements can be altered to incorporate additional shelving, dividers or supports, and if necessary, can be fully dismantled and stored away.

The three final 1:1 prototypes. Materials: canvas,
timber and 18mm plywood

MSA Live Group 22

Master of Architecture
Year 1










A summary of the models and work undertaken in the two action weeks

Assembly and uses of the prototypes

Keng Chi Mak

Master of Architecture
Year 1
&rchitecture

The Tiny Dream Palace: An Evolution of Performance Spaces

The Tiny Dream Palace is an innovative exploration of performance spaces designed to foster collaboration between artists and musicians. From 2024 to 2125, this project embodies the principles of people, technology, and sustainability. It demonstrates a century-long progression of performance spaces, blending creativity and environmental consciousness. Each model represents a step in this journey, encouraging engagement and adaptation in the ever-evolving landscapes of artistic collaboration and performance. Through these models, I explore the limitless possibilities of design and its impact on cultural expression.

Left 1: The 2024 Transportable Performance Space (1:50 Scale)

Model 1 is handmade using blackboard, coloured paper, and foam board. The vibrant colours highlight contrasts and functions, drawing attention to the design. This model represents the early stage of the project, focusing on a transportable module that allows musicians to perform anywhere in the city. Its compact base makes it easy to hold and observe from various angles, effectively conveying the idea of mobility and flexibility in urban performance spaces.

Left 2: The 2125 Conceptual Building Arrangement (1:100 Scale)

Model 2 employs laser-cut MDF boards for constructing the roof, existing buildings, transportable modules, outdoor extensions, and the foundation via laser cutting. Acrylic boards and rods support the suspended, removable roof, allowing detailed interior observation. This model emphasises modularity, enabling rearrangement to meet different performance needs. Hand-painted with acrylic paint, the model features consistent colours, embodying the project's dynamic spirit. It invites interaction, enabling users to design and adapt the layout, reflecting an immersive and flexible performance environment.

Left 3: The 2125 Facade Control Switch (1:50 Scale)

Model 3 serves as a physical control panel for real-life facade arrangements. It prioritises user-friendliness and functionality, with a base made of MDF board and an acrylic structure supporting the facade and the roof. The opaque orange acrylic panels, coded and organised in corresponding trays, ensure ease of use and efficient management. This model, precision achieved by laser cutting, allows users to experiment with and envision their preferred facade configurations, highlighting the interplay between human interaction, technology, and the built environment.

A captivating series of models for the Tiny Dream Palace. From left to right: The 2024 Transportable Performance Space (1:50 Scale), The 2125 Conceptual Building Arrangement (1:100 Scale), and The 2125 Facade Control Switch (1:50 Scale).

Keng Chi Mak

Master of Architecture
Year 1
&rchitecture

"Top: A sectional view of the 2125 Conceptual Building Arrangement model (1:100 Scale), showcasing the vibrant transportable modules and the suspended roof. Bottom Left and Right: Front and back views of the 2024 Transportable Performance Space model (1:50 Scale), highlighting the interplay of interior shadows, lighting and its human scale comparison."

"Left: The 2125 Facade Control Switch (1:50 Scale) from the back, highlighting the coded panels and corresponding storage trays. Right: Various scenarios of the facade: fully closed, arranged in patterns, and fully open, demonstrating its dynamic configurability."

Alina Iskrytska

Master of Architecture
Year 1
Continuity in Architecture

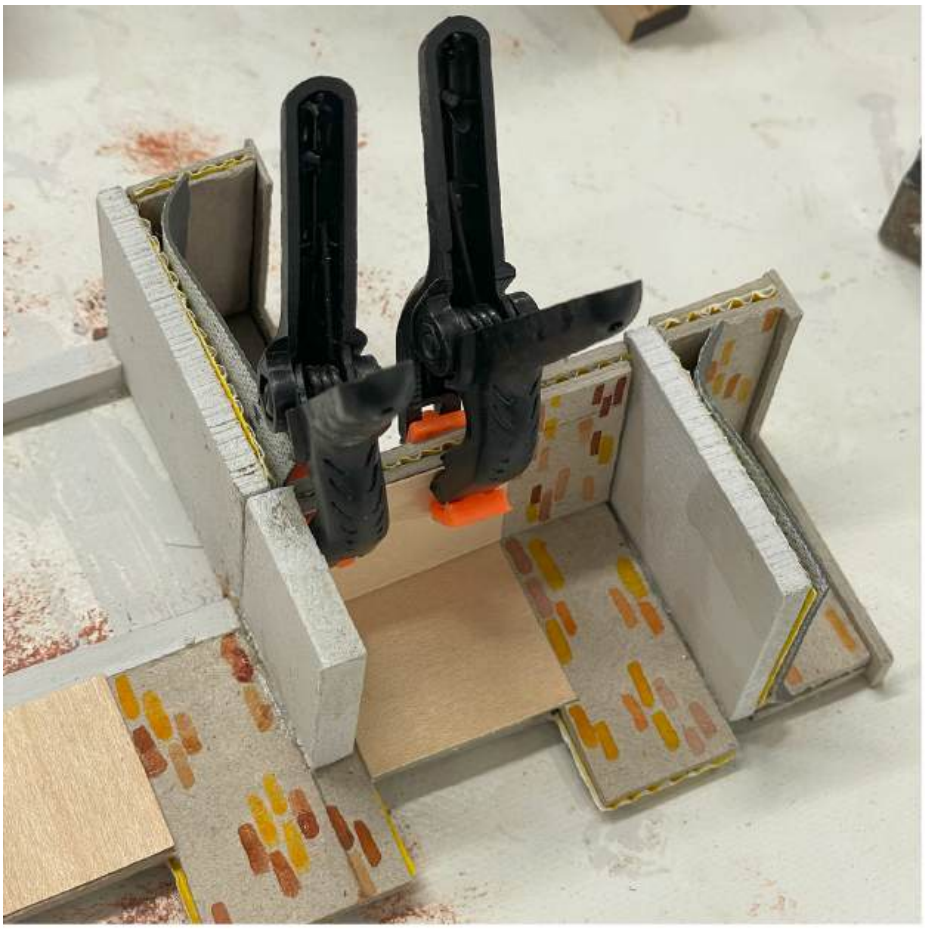
The tower concept for a Fun Palace brief was the initial idea for the adaptive reuse project of the Hippodrome Theatre in Todmorden, West Yorkshire. This model is a result of the complex ‘INTERFACES’ task, which involved meticulously discovering the threshold between new and existing building parts. It was crucial to represent the materiality of both parts while highlighting their differences. To achieve this, I employed two approaches in creating brick patterns: a manual technique with watercolour and a mechanical one with laser cut and stain. Additionally, I delved into the border junction, showcasing the construction layers that significantly influenced the subsequent design decisions.

The model displays a connection between the historic interior of the Hippodrome Theatre, with its improved insulated roof, which achieves better building performance, and a new tower extension that rises above the existing site.

Alina Iskrytska

Master of Architecture
Year 1
Continuity in Architecture

Detailing is an essential part of the model. Despite a scale of 1:50, I showed the layers of construction to investigate an interface thoroughly, as well as surface patterns.



The process of model making. For this model, I decided to do as much as possible manually, so each brick on the tower was hand-drawn. After the crafting, I changed the construction of the new-old border wall, so the model influenced my design.

Zahra Ibrahim M Alsharfa

Master of Architecture
Year 1
Continuity in Architecture

3D Collage - Halifax Road – Todmorden
The model was developed as part of the site analysis exercises of our site in Todmorden. We were asked as a group to develop an elevation view of Halifax Road in Todmorden, where our site the Hippodrome Theatre is located, and every student was allocated to a set of buildings on the road to visualise.

The exercise was useful to understand the character and the architectural language of Halifax Road. The 3D collage model explores a set of buildings that sit next to each other on Halifax Road. To analyse the architectural language of these buildings, I have developed this 3D collage as a technique (using cardboard and images of the buildings) to explore how Todmorden was made, to understand the different layers of the buildings, and to analyse materiality, form, and geometry of these buildings. From this model, clear language can be read on the road, specifically in this set of buildings, such as window openings, shop banners/ signs, buildings' height, and materiality. One of the eye-catching elements of this set of buildings is the prominent triangular feature that the last building to the left has.


William HILL
JAY'S

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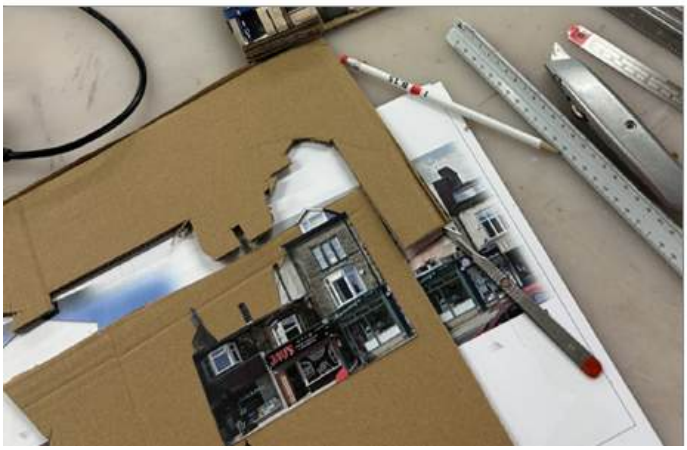
Zahra Ibrahim M Alsharfa

Master of Architecture
Year 1
Continuity in Architecture



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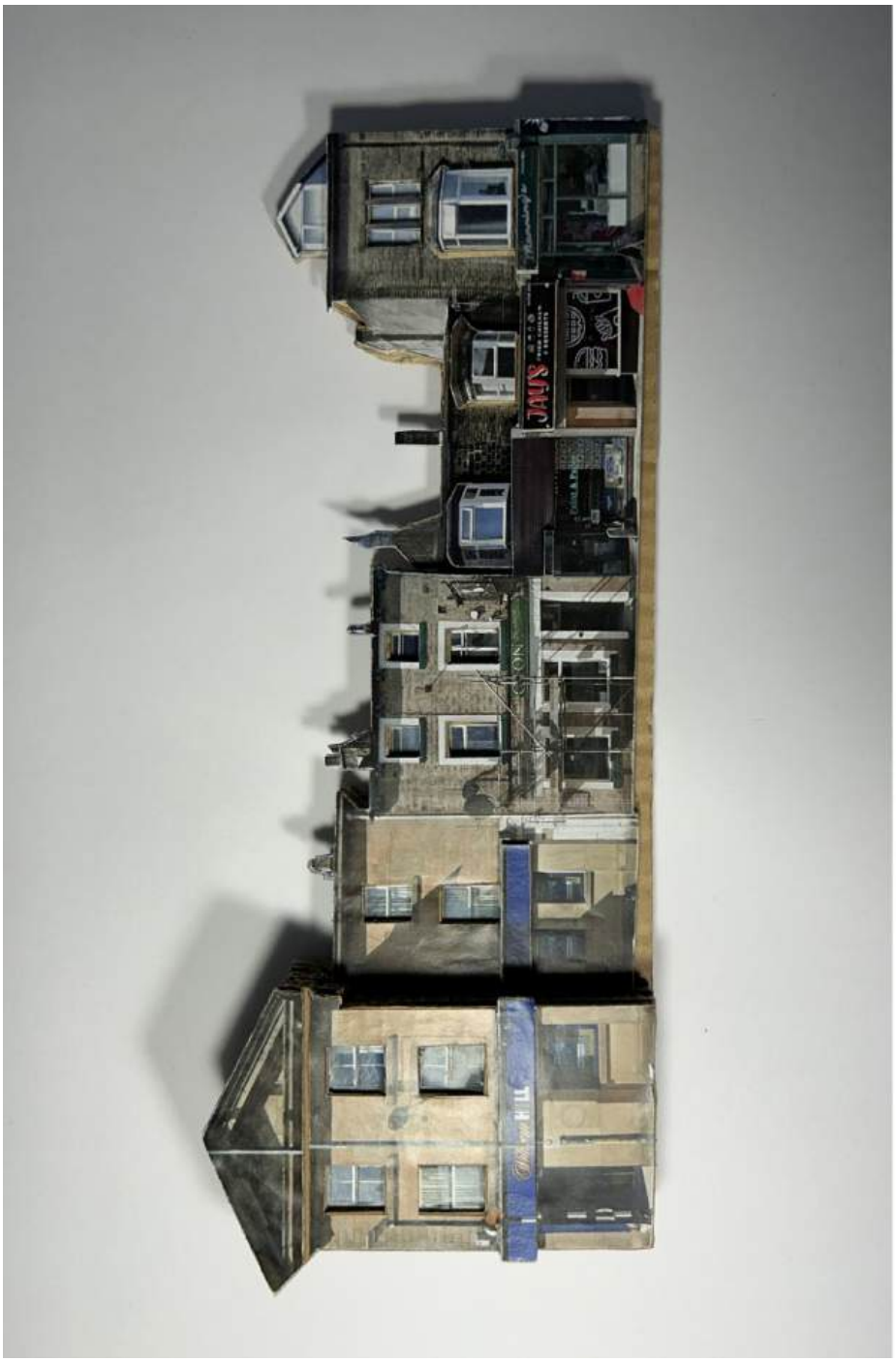

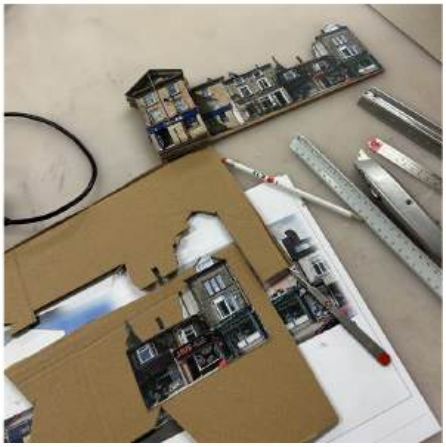

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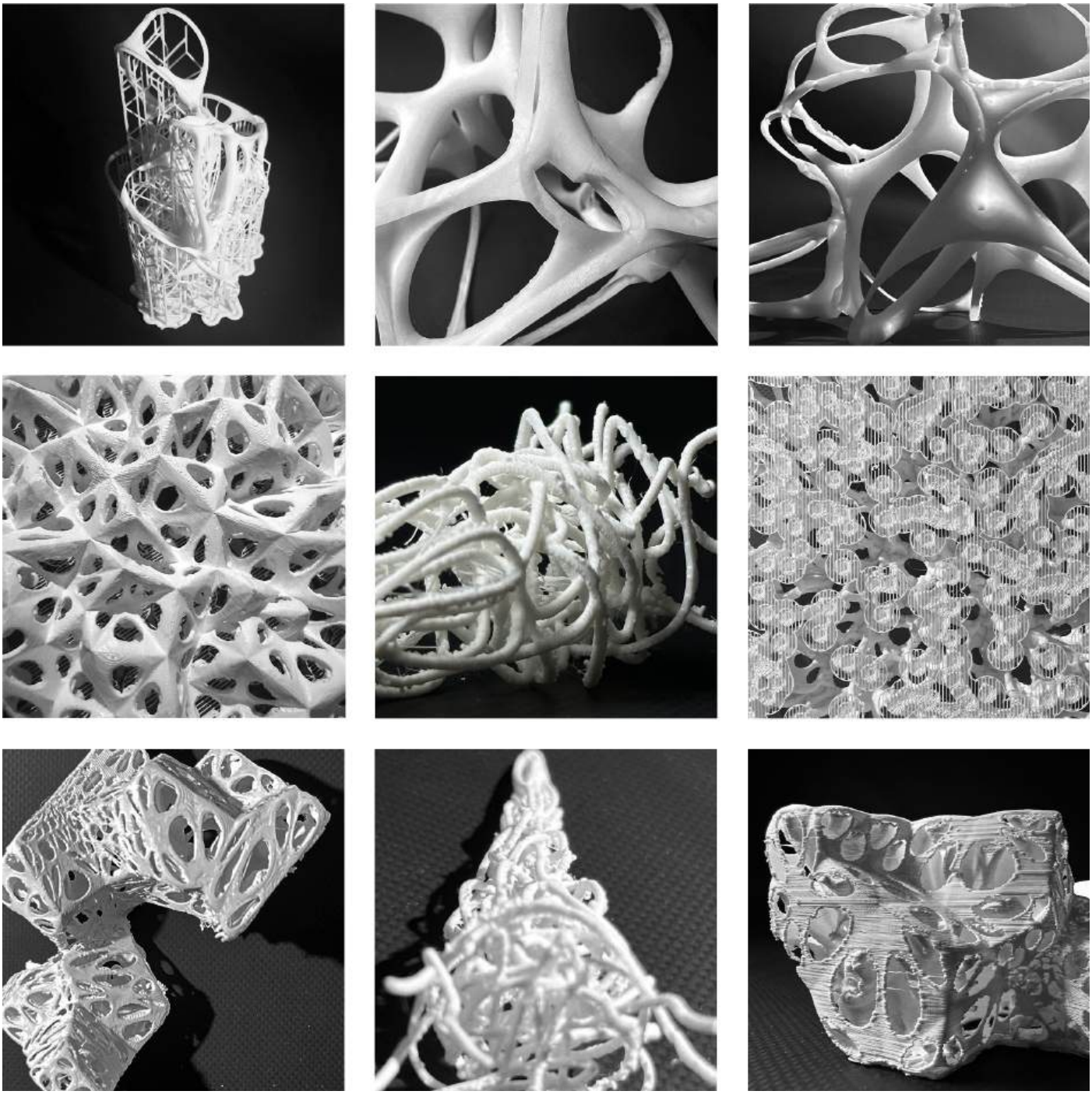
Isha Torne

Master of Architecture
Year 1
CPU[ai]

In RMW I explored the theories of nature in architecture. In the 21st century with the rise of technological advancements in all fields and the development of digital tools in design, this project focuses on designing bio-inspired elements considering the climate crisis to help impact of the digital age in the architectural paradigm.

Design, functionality, and structure of spiderwebs and beehives have been explored as a bio-inspired form of design for structures. The design replicates the structure of spiderwebs since they have qualities of strength and elasticity in terms of lightness and shock absorption capacity. They help to cover large surface areas with the minimum material possible reducing carbon footprint and material wastage. Beehives are sustainable and optimal for space utilization. They also have a circular internal cell shape for their hive, which optimizes for strength. Cognizant of the concept - bio-inspired forms, Morphogenesis is the theory of nature that forms the basis of this project.

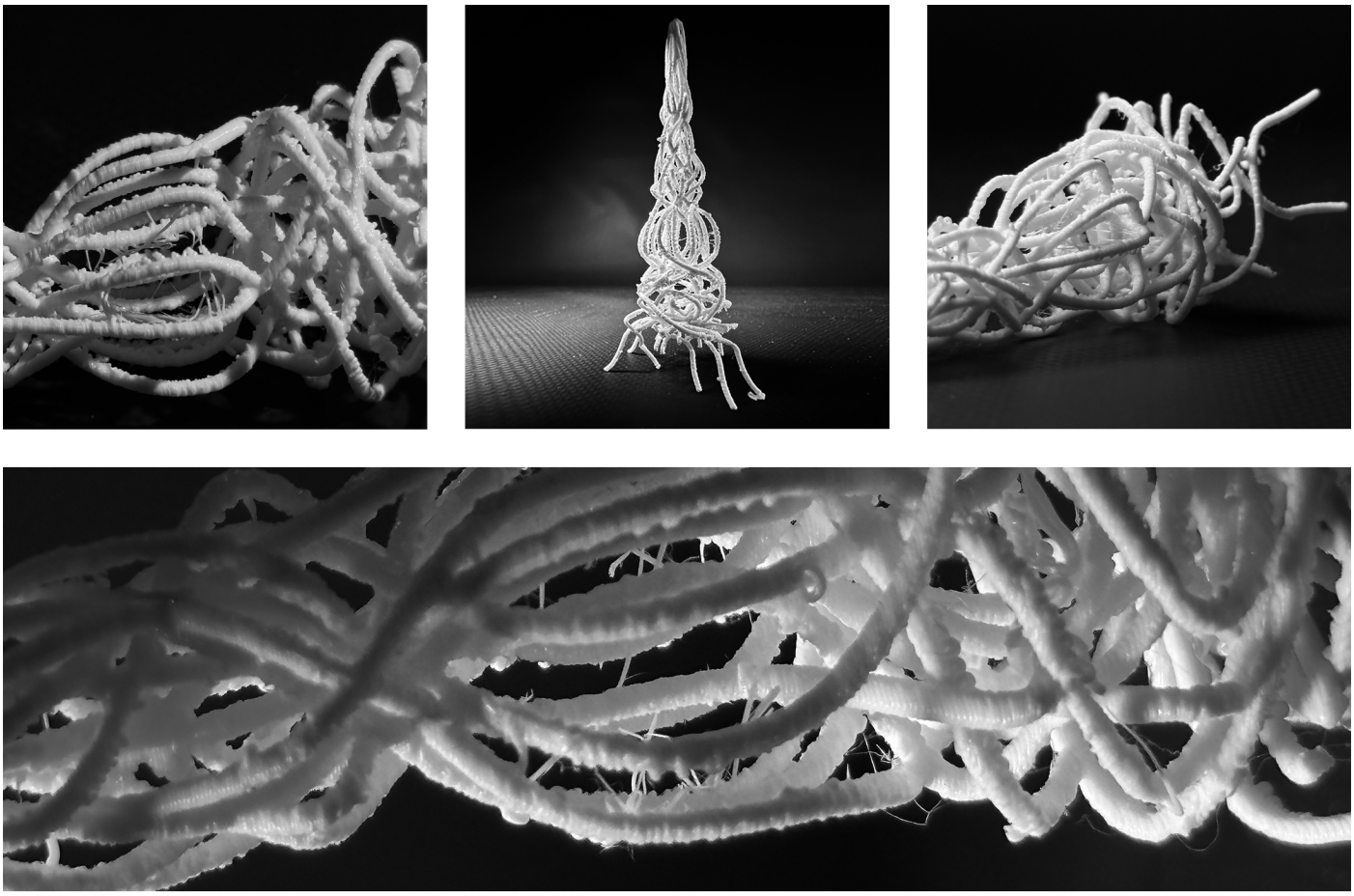
Spiderwebs are threads weaved together to form concentric dome-shaped geometry. The geometry of the spiderweb has been interpreted and evolved into many different forms keeping in mind the concept. Figure 1 showcases that the form has been developed from changing the parameters of the perforation as well as the number of geometries forming unique internal spaces which can be scaled. The form can be conceptualized as an architectural element in terms of a pavilion space. Figure 2 depicts the threads of the spiderweb which can be woven into different kinds of patterns and shapes, forming intersections. It highlights the geometry of nodes by means of the threads inspired by spider webs. These threads are of different length, size and form unique intersections with one another. Figure 3 focuses on the perforation sizes and various exterior forms of spiderwebs. This parametric form can be manipulated and can create several different forms depending upon the requirements. The form depicts connectivity and elasticity of strands and threads which can be manipulated by introducing various materials and textures. Conceptualizing the module as an architectural environment in terms of iterations of a building envelope. Figure 4 shows that replication of the module with the same concept but change in the perforation size and scale of the form can create a massive difference in design. This module repeated several times can be created into a building facade allowing natural light and ventilation into the structure but at the same time protecting the interiors from rain and snow. The main aim of these experiments is to showcase that multiple forms and concepts can be achieved even by following a single notion. The experiments showcase spatial qualities, concept of elasticity, opacity, connectivity, materiality, scalability, and geometry in different forms of exploration.



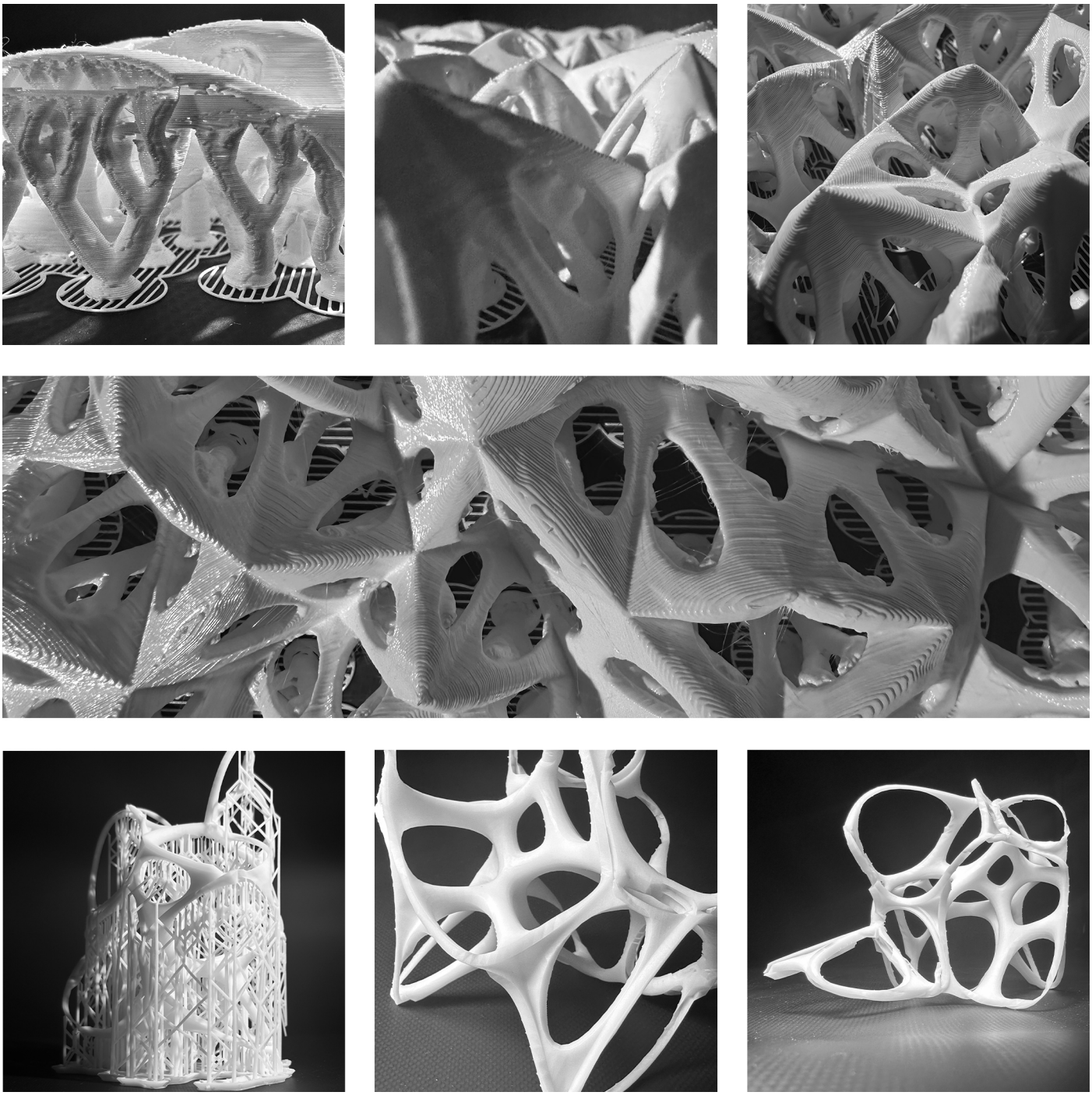
The collation of all iterations using Morphogenesis

Isha Torne

Master of Architecture
Year 1
CPU[ai]



The form exploration using the concept of spiderwebs focusing on the sizes of the fenestration as well as the geometry and opacity of the form



The model explores the nature of spiderwebs in relation to its connections and iterative complexity of the module

Sarah Nawaz

Master of Architecture
Year 1
Praxxis

Slow fashion and craft, appreciating the artisanal skill of handcrafted goods. Approx 80% of garment workers are women, under appreciated and in unfavourable conditions. This is a factory of slow production, bringing life back to a human scale compared to the over industrlisation of fashion. Creating a sustainable local economy by introducing artist residency spots, housing and individual craft areas, a main production of wool and a yarn shop to financial support the factory too.

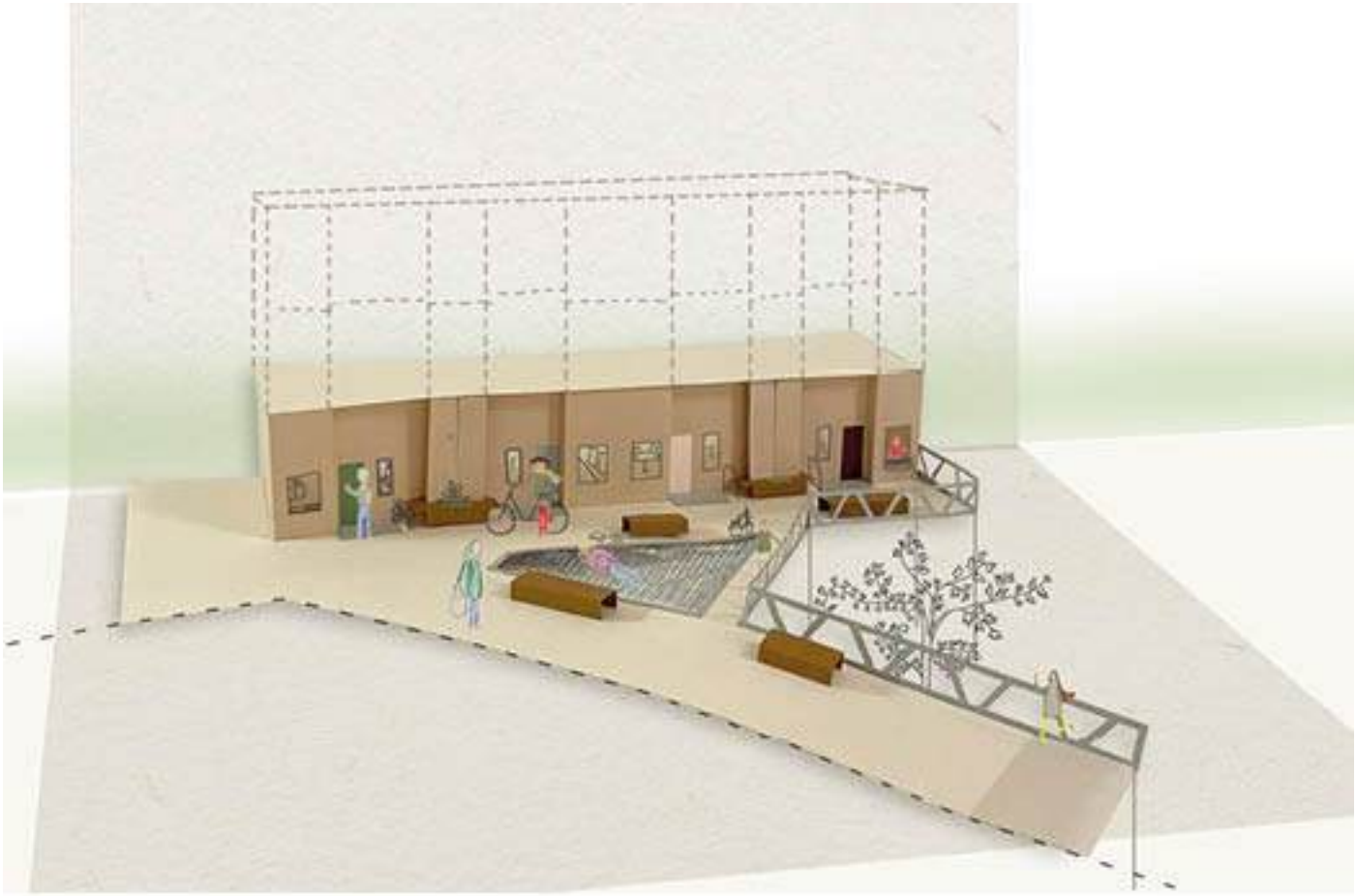
Within my design project I use model making to explore design options and understand which would be the best fit. In particular within this adpative re-use project, I have women artist residents residing within one half of the building. With this external access corridor, and a mini courtyard, I wanted to explore facade and access ideas to create the most welcoming, and homely frontage that also respected their privacy from the public. Through casting, card and paper models I enjoy creating more delicate models, that focus on intimate moments within the design as a whole. I hoped here to create an entrance that encouraged socialising and safety. A key medium for developing designs is then to sketch and draw on top of model photos to maximise their potential. Here you can see how I have create my facade studies and drawn over to imagine the livability, which has enabled me to tweak my designs, to create the crafted bespoke entrances I desired.

The residents entrances. This model was to study the vertical and horizontal relationships experienced between living in flats. The purpose of this study was to understand how to make this space more welcoming and create social moments with neighbours.

Sarah Nawaz

Master of Architecture
Year 1
Praxxis

This is the drawn version of my model, showing the potential lived aspects. These flats look onto the shared courtyard, so I was prompted from this model to create more interactive seating within the facade and nature to encourage the use of their entrances as outdoor space too.



This model I created to investigate the main courtyard level. Only through this model was I able to understand where the limits should be from the decking, courtyard and entrance spaces, to encourage use of the courtyard but also respect the entrance spaces for this individuals living on that floor.

Julia Hill

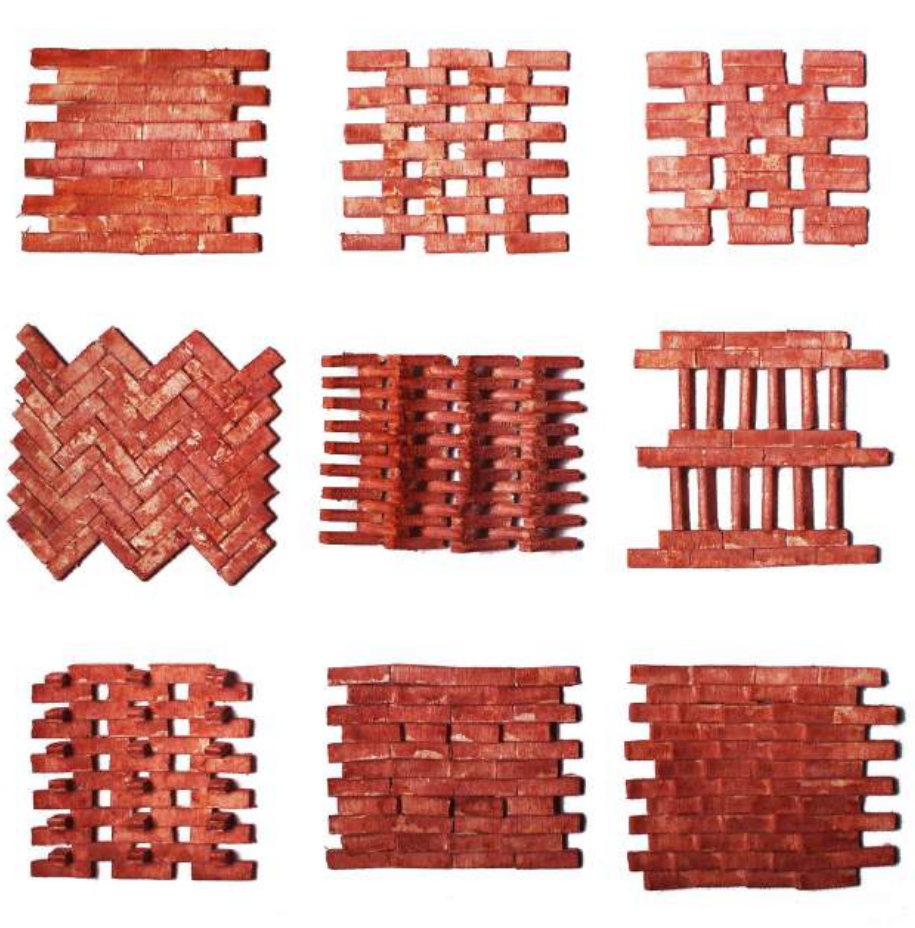
Master of Architecture
Year 1
Some Kind of Nature

My project was about using textile waste as a building material. My first method was exploring brick patterns and the light patterns they create from this I looked into making bricks from textile waste by compressing materials with glue into a mould. My second method was using textile waste for insulation which I demonstrated in a sectional model.

Bricks made from textile waste which have been compressed with glue into a mould. Experimenting with different materials, t-shirts, Towels and Denim to create different effects.

Julia Hill

Master of Architecture
Year 1
Some Kind of Nature



1:20 Brick test models to test different patterns and how much light these patterns allow through. These brick tests were then followed by my textile brick development.

1:50 sectional model showing textile waste insulation and thermal envelope it creates. This model also shows the light pattern created from the skylight.

Rodrigo Urquiza Garcia

Master of Architecture
Year 1
Some Kind of Nature

My project focuses on improving Withington Baths in Manchester. As an Edwardian bathhouse still operating thanks to community activism, it symbolizes the strong will and unity of the local community.

I aim to enhance the café facilities at Withington Baths, addressing the issues of overcrowding and poor location within the current building. Additionally, I've designed a Learning Kitchen facility connected to a permaculture garden courtyard. This space will provide the community with a place to relax, learn new skills, and connect with nature.

My section model is a 1:20 scale representation of the Learning Kitchen. The design aims to be connected to nature and achieve Passive House standards. The brick arch, made with Jesmonite, symbolizes the reuse of bricks from an on-site deconstructed house. The timber structure represents the glulam structure and is slightly elevated, reflecting its connection to the café, which is built on screw pile foundations to minimize ground impact, unlike the Learning Kitchen that rests on the arch.

The model's plant area represents the exterior ground level. At SKN, we design with consideration for non-humans, so I incorporated this ethos into my model. The plant area features a C-shaped Jesmonite and soil mix, resembling real soil. It includes a structural metal mesh interior and a protective acrylic base to retain water in the plant pot area.

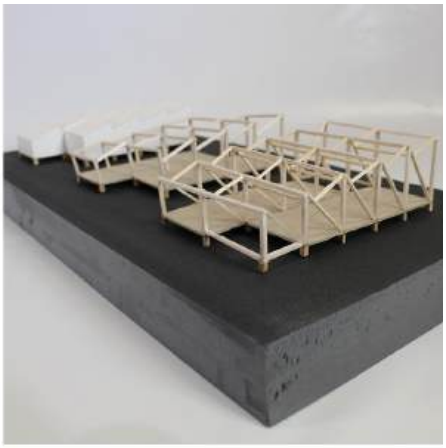
Overall, my design focuses on incorporating natural materials and those that help achieve Passive House standards. For my model, I used as many recycled materials as possible and minimized laser cutting, except for small details like the dichroic glass windows. The entire process was highly instructive and significantly improved my model-making and design skills. I learned the time requirements for various materials, the importance of testing different ideas, and how dedicating enough time to a model is essential. Model making has proven to be a valuable tool in guiding my design process, and I plan to continue this approach in my next academic year.

This 1:20 section model of my design illustrates the construction layers and structural elements. It was important for my model to showcase the materials used, the design structure, and the atmosphere created by natural light through the windows.
My goal was to create a model that effectively communicates my ideas.

Rodrigo Urquiza Garcia

Master of Architecture
Year 1
Some Kind of Nature

The section of the model is intended to showcase various aspects of the structure and the different elements that bring the design to life. Additionally, the model highlights the variety of geometrical shapes within the design, emphasizing their importance in the overall aesthetic and functionality.



These models demonstrate the development of my design, from form-finding to structural considerations and how the design connects to its context. They served as a great starting point for exploring model-making techniques, understanding the time required, and experimenting with materials. Each iteration guided my design to its final form.

Samantha Cutler

Master of Architecture
Year 1
Some Kind of Nature

The brief for this SKN MArch 1 retrofit project was to collaborate and work with Withington Baths to explore ways to conserve and develop the community, building and wider site, to secure the future of this community-based building financially. My approach for this project adapted the tagline: ‘Reflect, Respect, Retrofit.’ It aimed to pay respect to the existing building's current uses and architectural language, whilst appropriately extending, amending and improving its function and uses to create a community-based social hub for people to socialise, relax and enjoy.

Within the social hub, there are smaller flexible ‘pods’ which can be adapted or disassembled to keep up with the ever-changing needs and wants of the community. These pods sit inside a timber truss structure which houses a glazed roof. This ‘Winter garden’ allows a symbiosis between the indoors and outdoors, acting as a primary climate shelter, but still provides a visual connection to nature.

The second part of this project was an investigation into a chosen ‘zoom.’
The models presented in this submission are an investigation into this proposed zoom of the social hub and spaces within. For this part of the project, two of the ‘pod’s’ which I investigated in detail were a cafe and a community library.
To align with SKN values, no materials have been bought, only recycled and re-used. Every model shown in this submission has used salvaged materials found in the bin stores of the B:15 Workshop.

A key feature I wanted to investigate through model-making was the use of mechanical retractable louvres to reduce solar gain and glare for the glazed roof feature.

These louvres can be mechanically opened and closed to allow full-year use of the social hub. They allow for natural light to enter, but at a suitable and comfortable rate for the users within.

In the winter, the louvres can be retracted fully which allows maximum light and heat to permeate, likewise, in summer, the louvres can be closed to reduce this.

This 1:100 model explores the intrinsic user experience of the social hub. Housed within the glazed roof and timber truss structure, the cafe and community library pods invite the community to socialise, interact and financially support Withington Baths. The first-floor terrace acts as an active social circulatory space for benches.

Samantha Cutler

Master of Architecture
Year 1
Some Kind of Nature

The 1:100 model and partial 1:50 elevation model were used to test the consideration of the retractable louvres to reduce solar gain and glare, showing the mechanical process of opening and closing. The third row of images shows a 1:1 recessed handrail detail model for the staircase.

To understand the user experience within the cafe, I built a 1:20 model which could be opened up to explore the space and lighting within. The doors continue the architectural language of the Louvre system by retracting and folding to invite the community in and incorporating a coffee hatch.

Wei Feng

Master of Architecture
Year 1
Some Kind of Nature

This project is located in the southern suburbs of Greater Manchester, in Withington. Named Withington Baths, its design principle is to decenter humanity and focus on other species. An experimental model within the project is an indoor birdhouse, inspired by the bluebell-patterned tiles of the original Withington Baths. The 1:2 scale birdhouse features a small entrance hole for birds and a one-way glass panel for human observation. To craft the birdhouse, I transferred dimensions from the digital model to chipboard, stabilized the structure, shaped clay, inserted a pipe for the entrance, and cast it in Jesmonite. After treating the surface for texture, I used pre-bent flexible plywood, custom paint, and assembled all components using glue and supports.

The 1:20 scale architectural facade model includes the birdhouse and rolled glass facades, inspired by the bluebell-patterned tiles. Transparent parts, made of rolled glass, feature distinct patterns, while opaque sections are made of jesmonite. We used 3D printing, a thermal press for mold creation, and Jesmonite casting. Higher density MDF was used for stability, with manually corrected brick patterns and Montana Phoenix Orange for the final color. The SAF power 3D printer provided ideal bespoke junctions, darkened with water-based paint to resemble steel. Laser-cut MDF columns, assembled and painted, wrapped in MDF for a glulam appearance, ensured a seamless finish. A foundation board with concealed screw holes and pre-drilled components secured stability.

The 1:50 scale model also includes birdhouses and rolled glass facades with geometric patterns from bluebell-patterned tiles. Transparent acrylic parts and opaque high-density MDF sections, painted to resemble terracotta, were produced using 3D printing and thermal press molds. Initial CNC cutting issues required manual trimming and reinforcement. Higher-density MDF on the CNC machine and laser cutting ensured precise patterns. Color spray provided an even finish. The final model features detailed arched openings, terracotta patterns doubling as birdhouses, and rolled glass patterns enhancing natural lighting, with a perspective view highlighting its three-dimensional aspects.

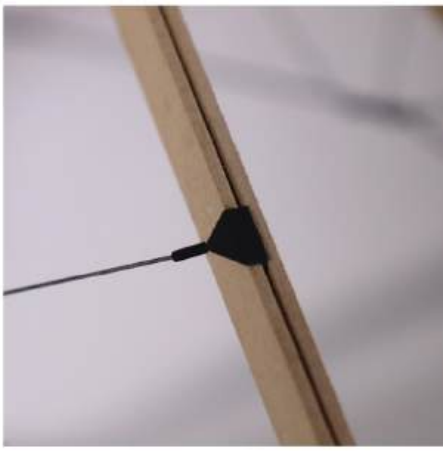
This project at Withington Baths creatively integrates birdhouse designs and geometric patterns inspired by bluebell-patterned tiles, emphasizing the coexistence of human and non-human species across various architectural scales.

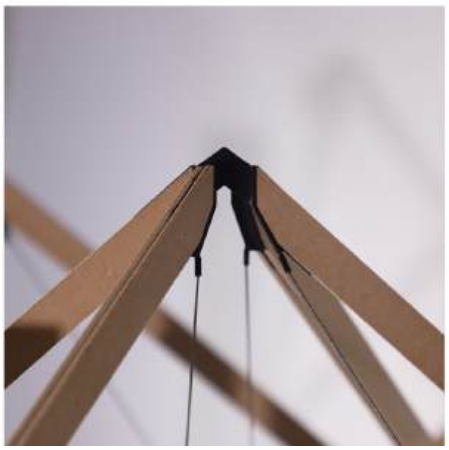
Cover Image: Photo of a 1:20 structure model showing a multifunctional hall's network-like structural system with bespoke 3D-printed junctions, MDF laser-cut beams, and 3D-printed tension bars with metal wires. This design, refined with a structural engineer, enhances stability against various loads while promoting sustainability and efficient space use.

Wei Feng

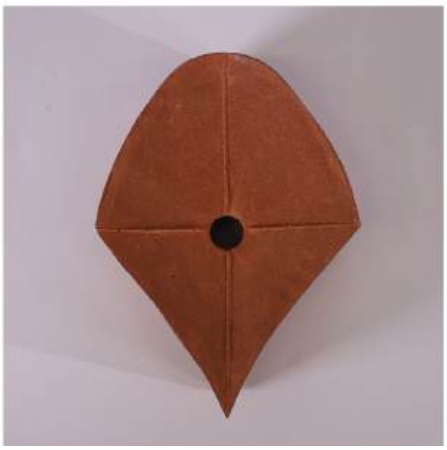
Master of Architecture
Year 1
Some Kind of Nature






"Image Layout 1: 1:20 Structure Model Details
Bespoke junctions were created using a SAF 3D printer, with added supports for stability. After initial assembly failures, components were gradually glued and secured with screws. The foundation was prepared, sanded, and painted. Final assembly involved meticulous adjustments, ensuring a polished finish. "



"Image Layout 2: 1:50 Elevation Model: Laser-cut details, arched openings, and intricate terracotta and rolled glass patterns. Double-sided adhesive ensured stability, resulting in a clean finish and architectural alignment. 1:2 Birdhouse Product: Combines terracotta and one-way glass. Clay shaping and Jesmonite casting create a functional, aesthetic space for sparrows, allowing insulation and unobtrusive observation. "

Brian Cox

Master of Architecture
Year 2
&rchitecture

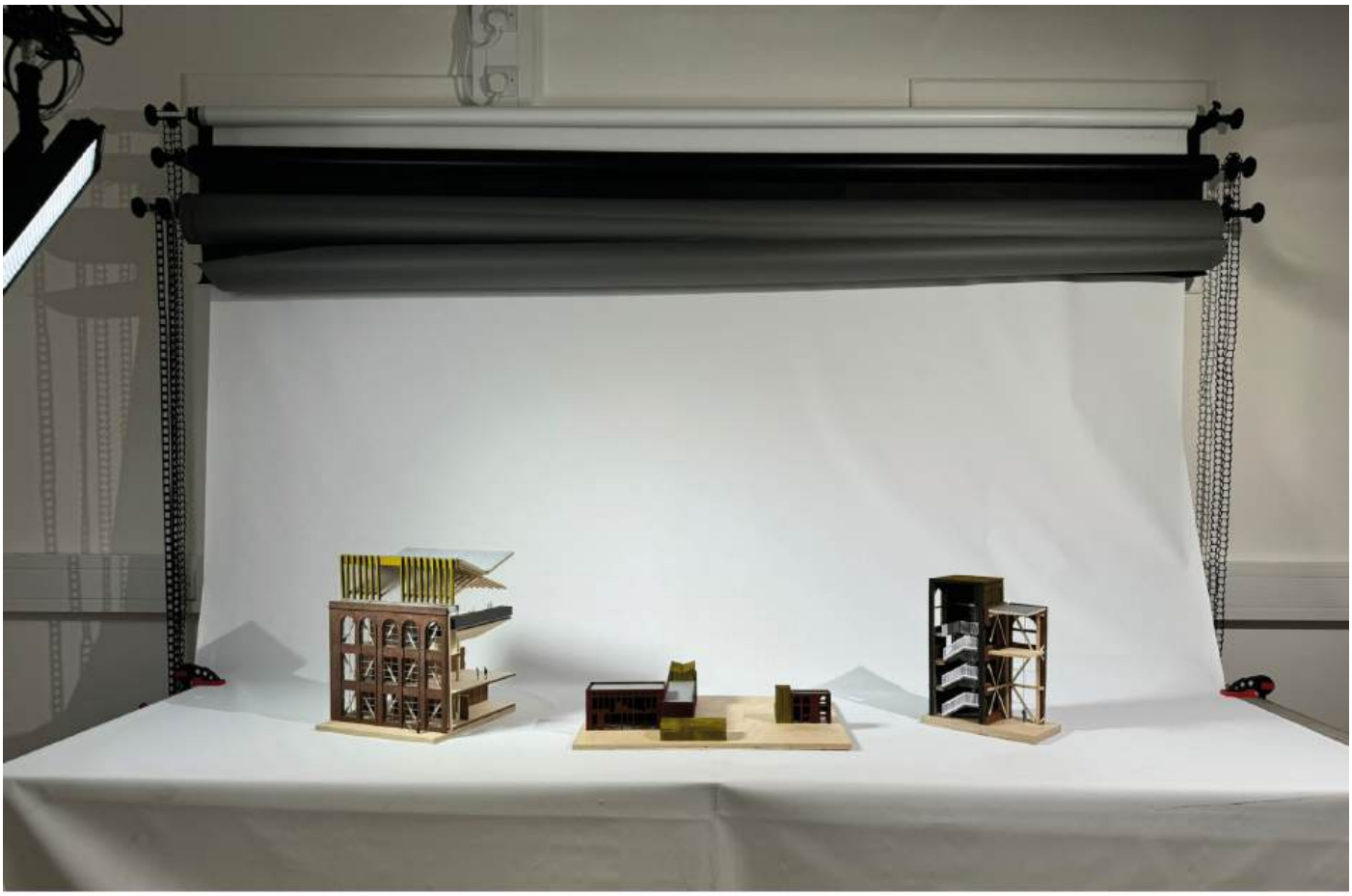
My thesis project was focused on an adapative-reuse civic centre for the discriminated Romani communities in Albania. My research endeavours to uplift Romani communities and aid their integration within Albanian society. It was my aspiration that the civic centre would act as a catalyst in addressing the social and economic challenges they encounter. The centre serves as a space that fosters such empowerment. The project consists of a series of spaces, including a workshop, market, communal dining hall, legal aid centre, civic centre and more. The spaces combine to form a civic centre, providing a series of quality safe spaces, which, in turn, empowers the Romani communities through the range of activities and gatherings it accommodates. Moreover, the Cultural Centre is poised to become a space for cultural collaboration, inviting visitors to immerse themselves in the vibrant Romani heritage. This inclusive environment paves the way for normalizing inter-cultural interactions, with such interactions being documented and shared nationwide to foster an understanding between Romani and non-Romani.

In line with the focus on self-build within the project, modelmaking was utilised throughout all design stages. As such the models created not only represented the spaces, but also informed the spaces themselves, establishing modelmaking as an essential part of the project's methodology. Throughout the weeks spent constructing these models I would identify design choices or construction details that had not been resolved and be able to spend time addressing these gaps before progressing the model further. The roof of the auditorium is a great example of how the models influenced the design of my project as in my original massing it replicated the simple structure used elsewhere. However, while modelmaking I identified the potential to design a structure that celebrates the civic centre and its importance, as can be seen in the bespoke timber roof. The models themselves utilised a range of mediums, including, laser and bandsaw cut ply-wood, 3D-printing, painting, hand-cut figures, and a jesmonite cast of the existing façade.

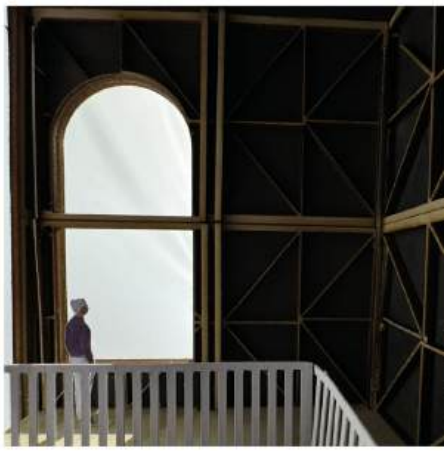
This model shows the key spaces of the Civic Centre, the legal aid centre at ground level, community spaces on the first floor, and an auditorium above. These spaces offer consultations on legal issues and promotes cultural empowerment. The auditorium also serves for policy debates, enhancing Romani representation nationally.

Brian Cox

Master of Architecture
Year 2
&rchitecture



The final models comprise of a site model (top centre), civic centre model (top left), and a model of the viewing tower (top right). Together these models represent the adaptive-reuse of the site and the spaces created which both empower and aid the Romani communities at a variety of scales.



The tower model highlights a viewing platform with panoramic views of the civic centre. The bottom right image shows an earlier model exploring discriminated Albanian communities with a series of projected works I created, this model proved to be the foundations for the proposal of the civic centre.

Chris Brierley

Master of Architecture
Year 2
&rchitecture

My thesis merges film and folklore to critique the surge in land privatisation. I created a series of models that describe through stop motion animation the history, political injustices, my architectural proposal and resultant social change in the narrative format of folklore oral tradition.
The project proposes the "Theatre of Trespass" on the Englefield Estate, it envisions covert structures made from reclaimed and stolen timber built by activists with the goal of taking back commons lost to aristocracy and excessive wealth.

Richard Benyon is the anti-client of this project, the owner of Englefield Estate. He is the wealthiest MP, owning 5% of Berkshire and has served as Minister for Rural Affairs and continues as Minister of State for Climate, Environment, and Energy. Despite this he has been accused of lobby for increased land privatisation. The "Theatre of Trespass" aims to conjure the spectral presence of Old Crockern, a folklore character whose narrative has been tailored for this site and project, to persuade Benyon to abandon his vast estate and shift his political stance, becoming a true ally for public land access.

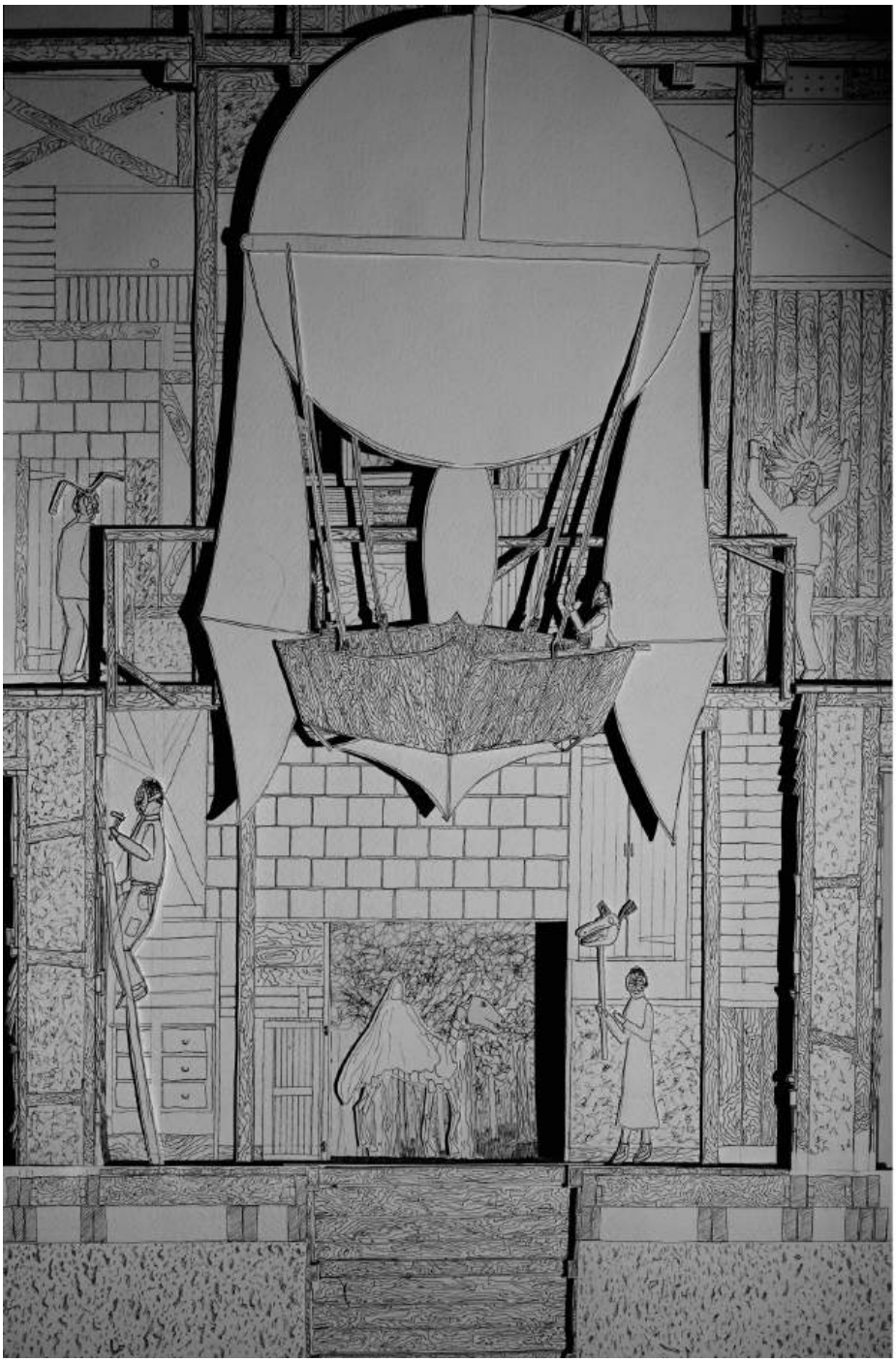
The models were designed and act as set pieces, each model was hand drawn and cut, going through roughly 250 blades during production. The models were made exclusively using 0.05 fine liners and watercolour paper on the visible surface. I was curious to see how much depth and richness I could gain from exclusively one type of pen and paper. Behind the façade is varying thicknesses of card and grey board. This relief creates shadows, elevating foreground from background and providing depth to the structures I have designed. A fishing wire jig was also manufactured and used to allow Benyon to talk, to enable movement through the building in section and to project foreground objects, allowing for shadows to be cast onto the background.

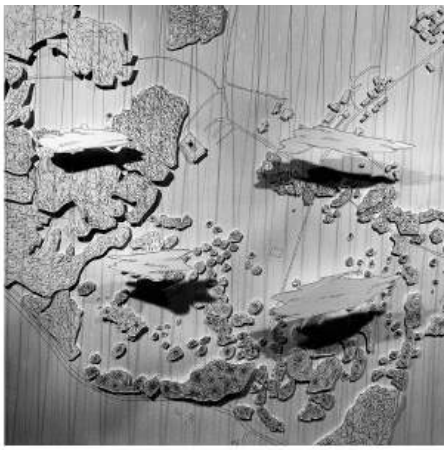
The models are best viewed through my stop motion animation and can be viewed here: https://vimeo.com/946247976?share=copy

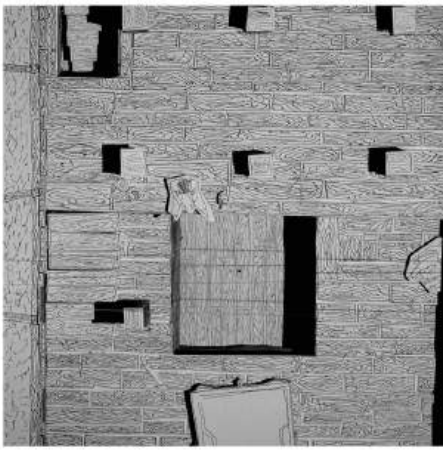
My cover images depict the opening scene of my stop motion animation, set in the year 2400. It shows my proposal, the Theatre of Trespass, now abandoned by the soldiers of trespass and reclaimed by nature. The folklore of the old Crockern has become a legend.

Chris Brierley

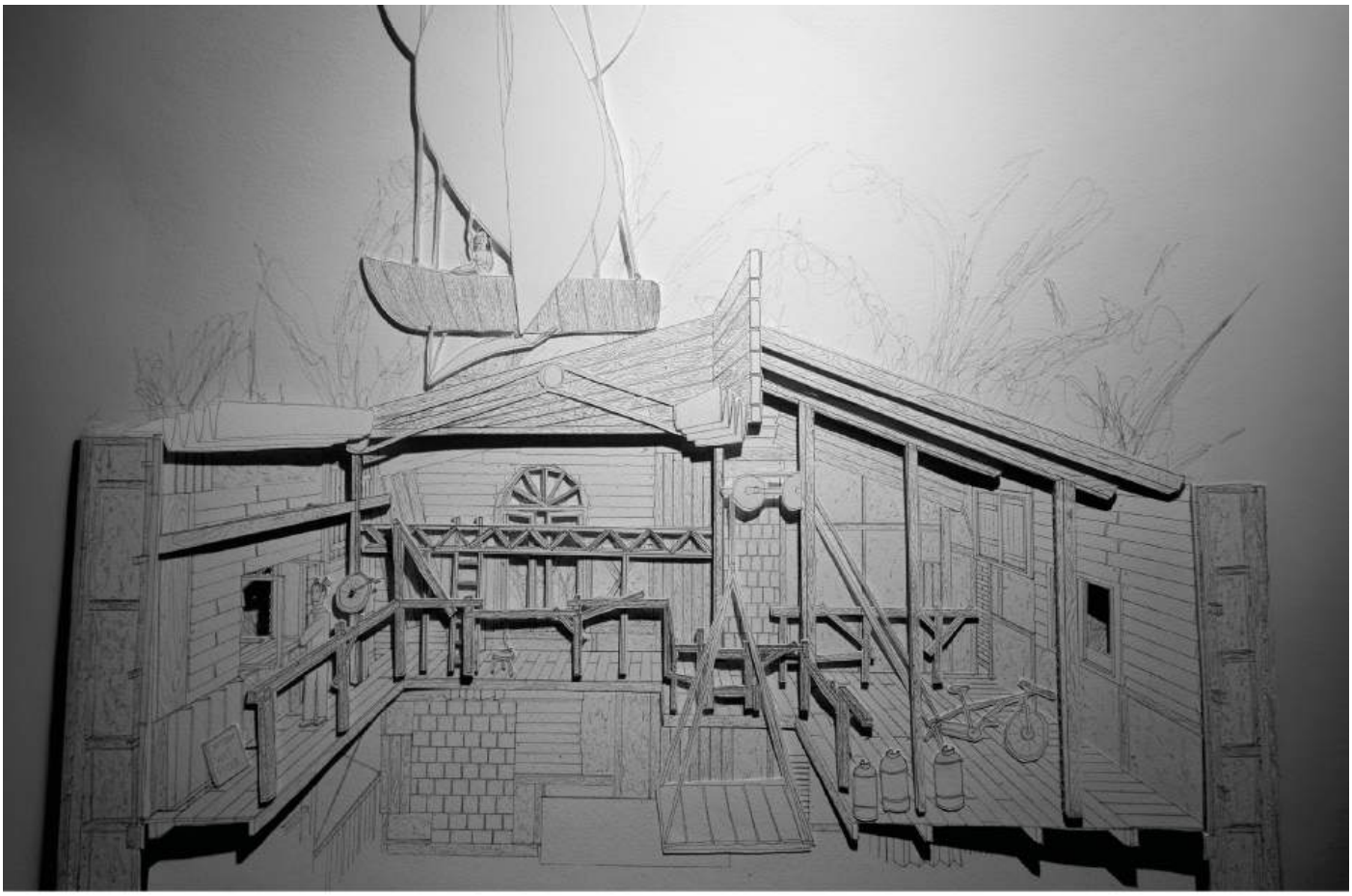
Master of Architecture
Year 2
&rchitecture

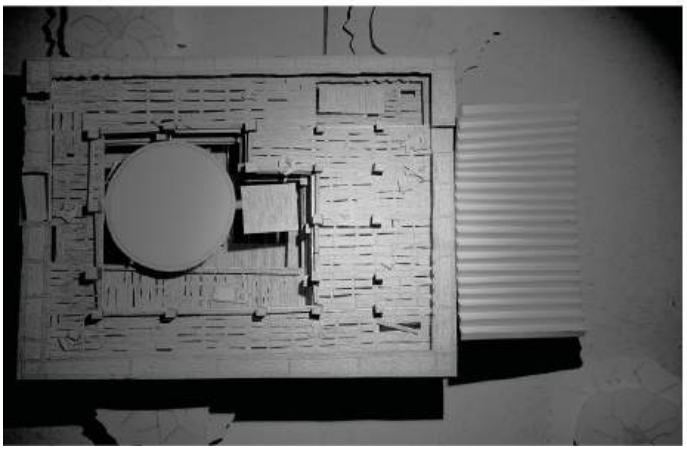


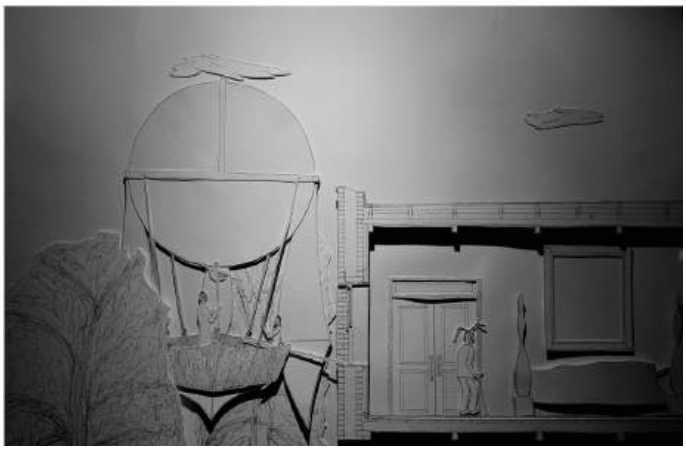




Left a sectional view of my proposal is shown – highlighting the reclaimed timbre used for construction. On the right, the top image shows a site plan, the middle shows close-up ground floor plan and the bottom shows the underground tunnel network that enables covert entry into the theatre of trespass.







The top image depicts the upper floor of the Theatre of Trespass, highlighting the curtain mechanisms for the hydrogen boat. The bottom left displays the 3rd floor plan of my model, while the bottom right shows soldiers of trespass invading the anti-client's home and haunting him.

Lucy Kendall

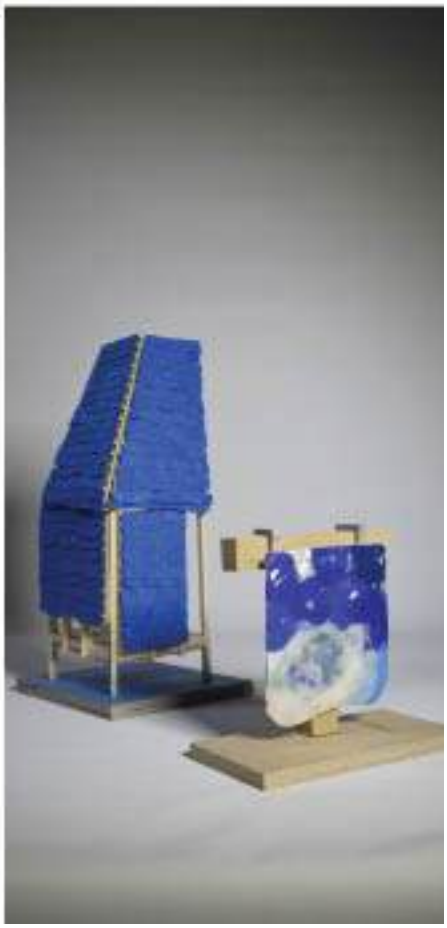
Master of Architecture
Year 2
&rchitecture

How architecture can play a positive role in the climate-change conversation and encourage community engagement within the flooded townscape of Todmorden? As the town suffers from perpetual flooding, the project explores typological solutions to floods and encourages climate-based conversations amongst the town community through the creation of temporal water-based pavilions and a permanent research commons with workshops, recycling centre and community gathering spaces. Designed with traditional woodworking techniques and clad with recycled shingles, the pavilion serves as a low technology and carbon approach to architecture with a focus on material circularity and a typological study to flood-adaptive architecture. In a time of negativity and overwhelm, this project looks for positive potential against the inevitable impact of the climate crisis and the opportunity for architects to contribute solutions. Using a holistic approach, the project examines the issue in several layers; through the pavilion functions for education, exhibition and rescue and the technical solutions adapting to the waterscape, to the materiality through regenerative materials like locally-sourced timber to reusing the plastics pollution in the local canals and rivers for shingle cladding represented in the models created. The model series demonstrate materiality in increasing scale sizes from a 1-2 prototype of the plastic shingle created through collected bottle tops to a 1-20 interior model to demonstrate the spatial qualities and the shingles in use. Designing with water as a material, the major challenge was the durability and weatherproofing of the flooding typologies. The choice to use recycled plastic was due to its waterproof qualities as well as it’s association with pollution in waterways across the UK with less than 10% of the UK's plastic being recycled. The use of plastic also relates to the site context as the town used to be a centre for plastic production and is now filled with supermarkets, a key player in the plastic problem, and therefore acts as a low carbon solution to the creation of temporary architecture which could alternatively be viewed as wasteful.

A corner detail model at 1-20 scale of a temporary exhibition pavilion demonstrating the relationship between the interior, exterior and the flood water level below. The model is clad in a plastic blue facade made from repurposed plastic.

Lucy Kendall

Master of Architecture
Year 2
&rchitecture



Plastic's potential: creating a 1-2 scale cladding shingle through reusing plastic bottle-tops. When melted below 180 degrees C, the plastic does not release the toxic fumes and allows the material to melt and be moulded into a new function.

A floodscape model demonstrating the research centre relationship with the natural form of the landscape. Carved out between the contours, the form has water following throughout the site and in and out of the building. The model was made with two separate casts of plaster for the landscape and jesmonite to represent the stone of the research centre with a structural timber represented on top.

Nur Alisa Akmar Binti Mohd Fadzil

Master of Architecture
Year 2
&rchitecture

The Hawa Collection is a series of handcrafted dollhouse furniture kits that upends traditional expectations. More than just miniatures, it is a platform for women's empowerment, achieved through a playful and sustainable building experience.

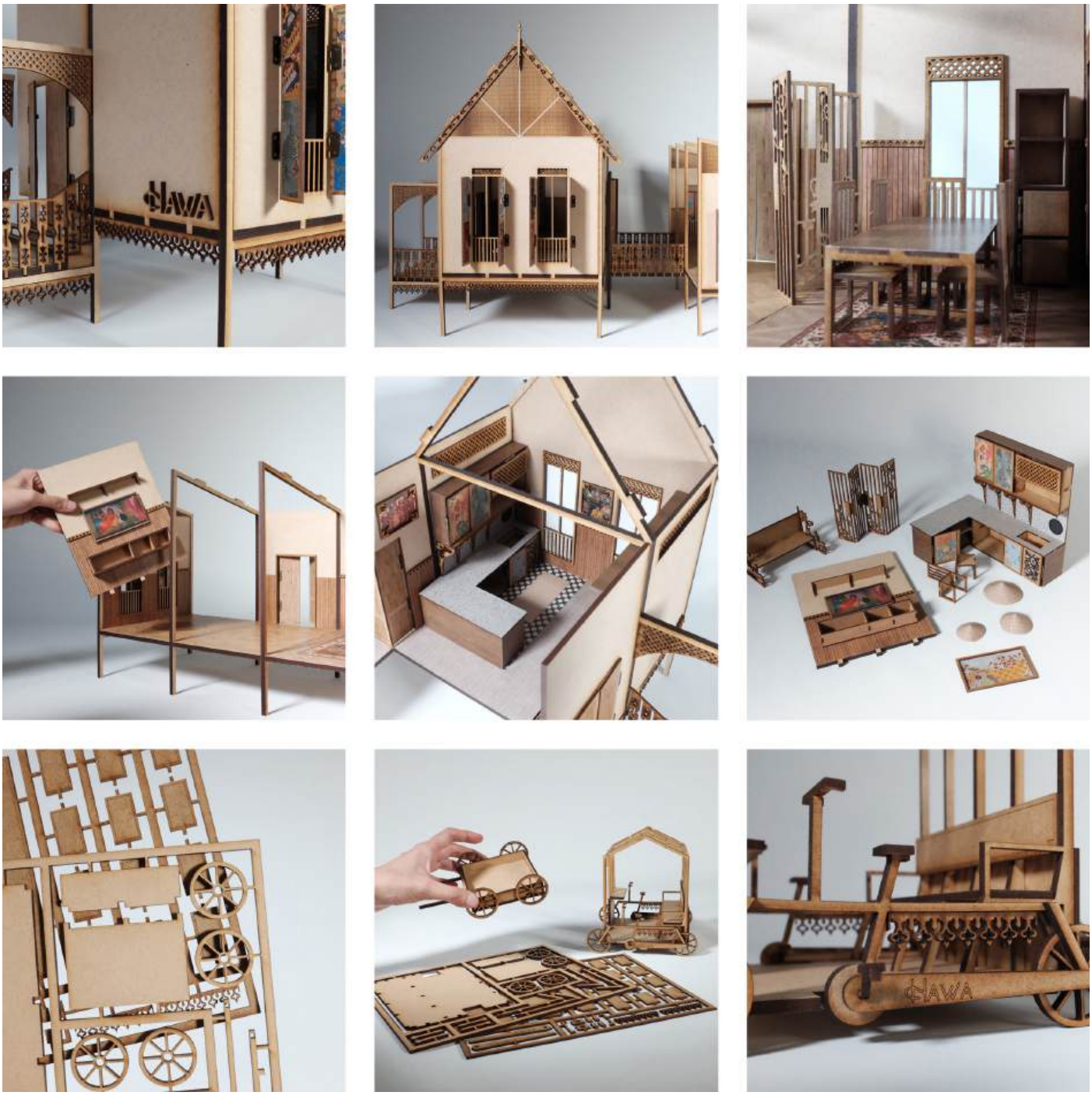
Inspired by the deconstruction and reconstruction of Malay houses, this collection reimagines the dollhouse kit as a catalyst for women's agency. Utilizing timber and a flat-pack format, the kit invites women of all ages to actively participate in building a miniature Malay village. The DIY kit format fosters a rewarding hands-on experience, encouraging women to explore creativity and construction skills. By deconstructing and reconstructing the traditional Malay house, the collection is meant to subtly challenge pre-defined roles within the home.

This commitment to empowerment extends beyond the act of building. The Hawa Collection prioritizes sustainability with its flat-pack designs that minimize packaging waste. This approach echoes the communal spirit of Malay villages, where resources are shared and efficiency is valued. Sustainable materials like timber and the focus on building a miniature village subtly promote environmental awareness from the very beginning of the building process. Furthermore, the convenient flat-pack format and DIY approach make The Hawa Collection accessible to a wider audience. This inclusivity encourages women of all backgrounds to engage in playful exploration and construction, fostering a sense of community while empowering them to build their own spaces.

Each piece in the Hawa Collection is inspired by the rich Malay cultural heritage. Intricate carvings, woven details, and vibrant colors bring the warmth and beauty of Malay architecture to life in miniature.

Nur Alisa Akmar Binti Mohd Fadzil

Master of Architecture
Year 2
&rchitecture



The kit transcends mere decoration, acting as a portal to Malay heritage. Intricate traditional Malay ornamentations adorn the walls, meticulously crafted to add a touch of cultural authenticity. As one assembles the dollhouse, these intricate designs become more than just visuals; the unique patterns and meticulous craftsmanship invite exploration into the rich heritage of Malay architecture.

Kampong Hawa (top image) and Rumah Kampong (bottom image) reimagine traditional Malay houses, using exploded views and symbolism to challenge the idea of the kitchen as a solely feminine space. These installations invite viewers to question social constructs and celebrate the multifaceted roles of women in Malay society.

Rowdah Charbak

Master of Architecture
Year 2
&rchitecture

‘Theatre in Conflict’ is a project set amidst war, destruction and tension, inviting audiences to confront current conflicts and giving voice to communities living in war through theatrical design and performances.

This thesis positions me as an Architectural Diplomat, creating a theatre performance addressing the attack on medical infrastructure in Gaza. As an Architectural Diplomat who uses their skills to address our political climate, I have researched that architecture itself is not neutral; therefore, this project critiques the position of architecture in conflict and destruction, tackling themes such as identity, activism and protest.

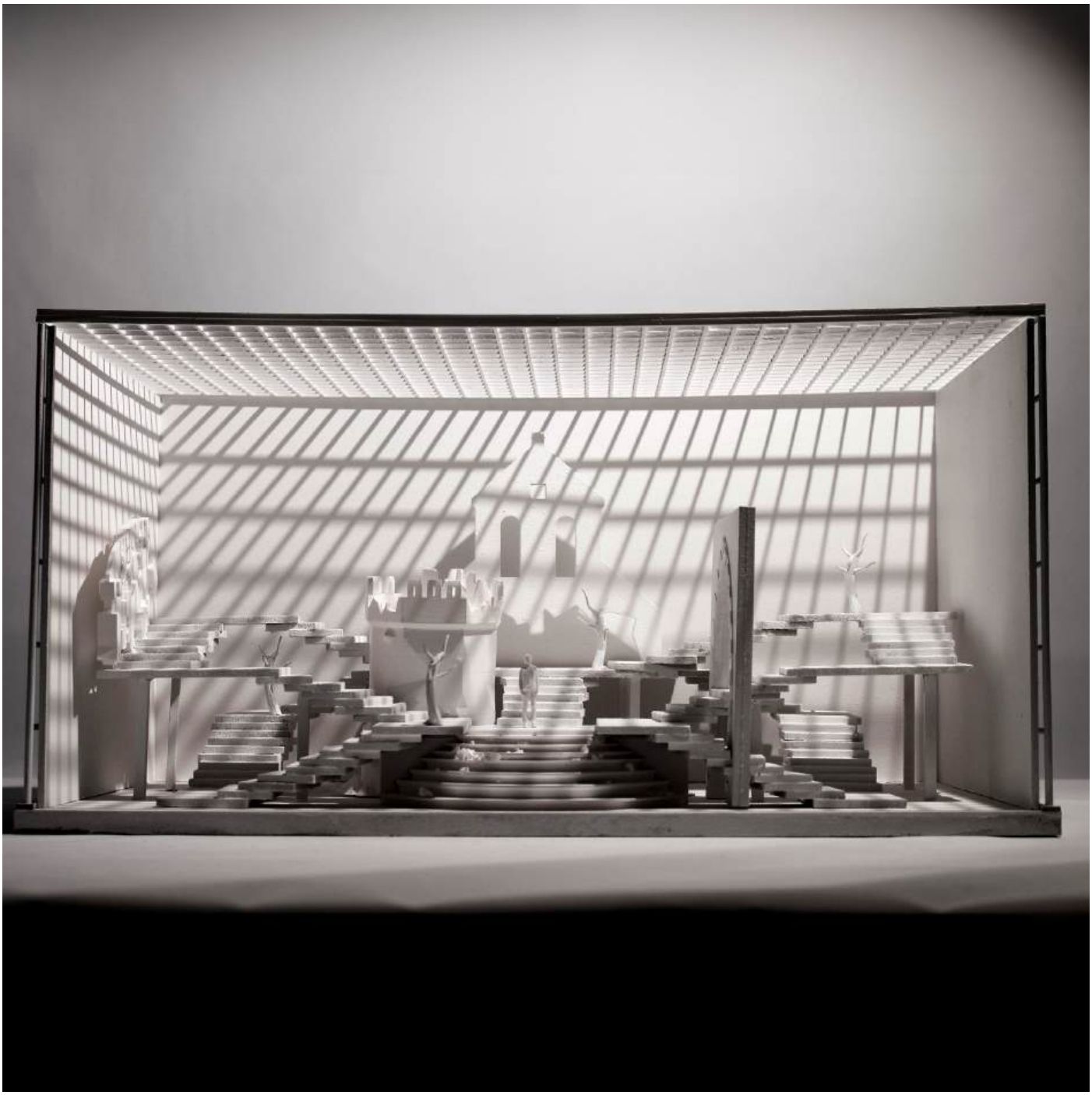
The project comprises seven acts along a protest route in central London. I designed Acts 1, 3, and 5 in detail to evoke deep emotional impact.

Models for Acts 3 (1:50) and Act 5 (1:20) were created using various media, including projections to capture stage atmospheres. Act 3, representing the ‘Assault on Surroundings’, features MDF pieces, 3D-printed, and laser-cut monuments (architectural heritage sites destroyed in Gaza across the last few months), all assembled and painted white to serve as a 'blank canvas' upon which I will project myself speaking within a scaffolding structure - wooden dowels that were cut, filed, assembled and painted. Act 5 focuses on the ‘Attack on Hospitals’, featuring a projection design with a frosted shower curtain screen and a supporting scaffolding structure shown in section.

I also created 3D-printed miniatures of myself at different scales to demonstrate the designs in action within the models, upon which I projected a film of me speaking about the project narrative.

The project aims to immerse and emotionally move audiences, inspiring them to address conflict issues and engage in protest for change.

These models are the first I have created in a long time, incorporating many new techniques such as laser cutting, 3D printing, and drilling for the first time. Completing them at the end of my architectural education is immensely gratifying. I have thoroughly enjoyed this process and gained invaluable insights into the value of model-making in the design process and its ability to convey an emotive experience.

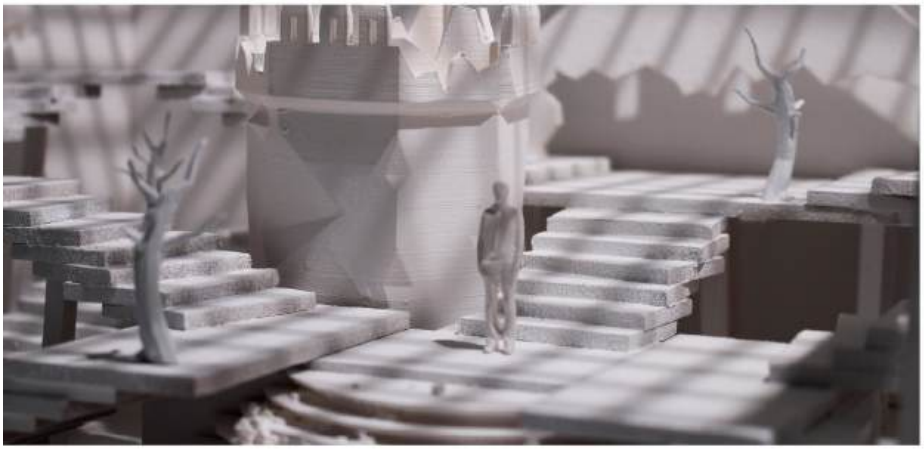


Act 3 model at 1:50 capturing the ‘Attack on Surroundings’ showcasing destroyed architectural monuments in Gaza.

Rowdah Charbak

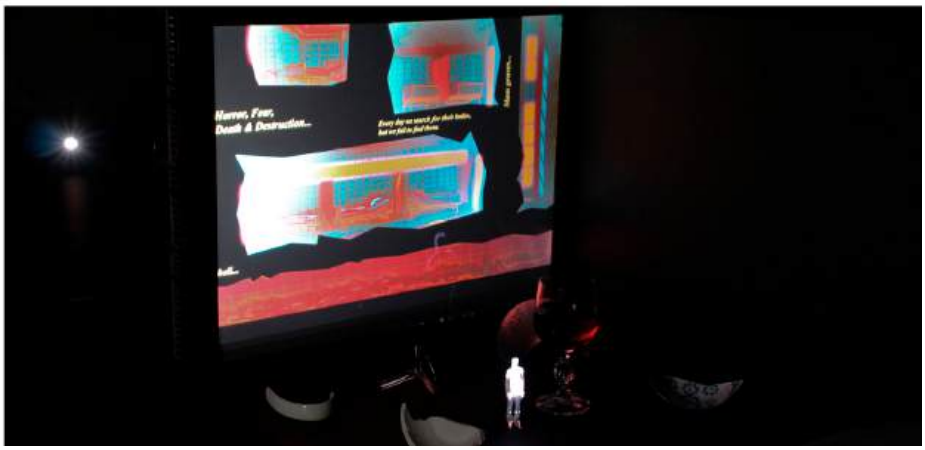
Master of Architecture
Year 2
&rchitecture







Closeups highlighting the details of Act 3 (1:50) focusing on the external scaffolding structure, 3D print of myself and the internal design of the space with the gridded roof. Some process images include tests of the projection on the 3D print of myself, the MDF internal design and the scaffolding in process.



Highlight images of the Act 5 (1:20) model showcasing the ‘Attack on Hospitals’. The scaffolding section is shown and a focus on the projection onto the miniature 3D printed version of myself. Within the model stands a glass of ‘blood’ and a sea of shattered fragments representing destruction and loss.

Violet Sheppard

Master of Architecture
Year 2
&rchitecture

‘Reviving Elegance’, promotes the infusion of the Art Nouveau movement into the redesign of social housing, enriching UK urban landscapes. Art Nouveau architecture, characterised by its blend of decadence and natural elements, aims to transform council housing and alleviate working-class inequality. Decadent architectural languages are no longer reserved for the privileged; it's time to honour the working class for their hard labour. The focus on council housing stems from its direct association with working-class inequality and the accompanying stigma.

The new housing standard complements diverse streetscapes nationwide, embodying environmental consciousness, well-being, and social value. This standard adapts locally for sustainability without compromising quality. The development in Kingston-Upon-Hull exemplifies this approach, addressing challenges in the UK's fourth most deprived city. Hull's substandard housing, stagnant development, and declining port trade make it an ideal location for this transformative initiative.

Model-making was employed as a tool to showcase this innovative Art Nouveau council housing initiative. The 1:20 sectional model, depicting a segment of the Kingston-Upon-Hull masterplan, displays three dwellings with two sectional sides revealing the internal layouts of two distinct typologies. The craftsmanship inherent in model-making harmonises with the exquisite artistry that characterises historic Art Nouveau architecture. Creating a 1:20 model was essential to convey the beauty and complexity of the design tangibly. Witnessing the biomorphic, sinuous motifs in person underscores the reformed council housing’s potential impact on working-class residents, enhancing well-being and promoting equality.

Various techniques were used, including woodwork, hand modelling, and painting, with laser cutting proving invaluable for creating intricate details. A limited external colour palette reflected a sustainable approach, aligning with the project’s principles, using materials like wood, cardboard, paper, and natural sponge. Reclaimed materials were also utilised, avoiding unnatural materials except for repurposed small wire lights. Art Nouveau wallpapers printed on paper enhanced the interiors with bold patterns and colours. The entire process took place in the B15 Modelmaking workshop.

1:20 Sectional Model

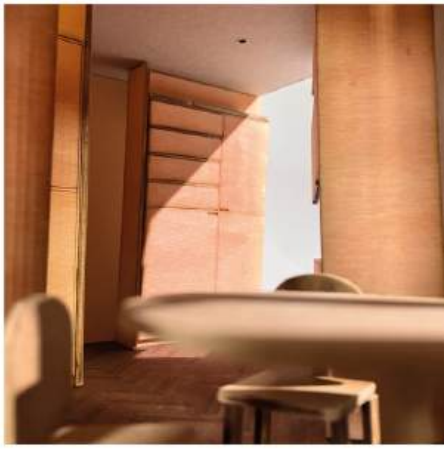
Violet Sheppard

Master of Architecture
Year 2
&rchitecture





1:20 Sectional Model - External Views

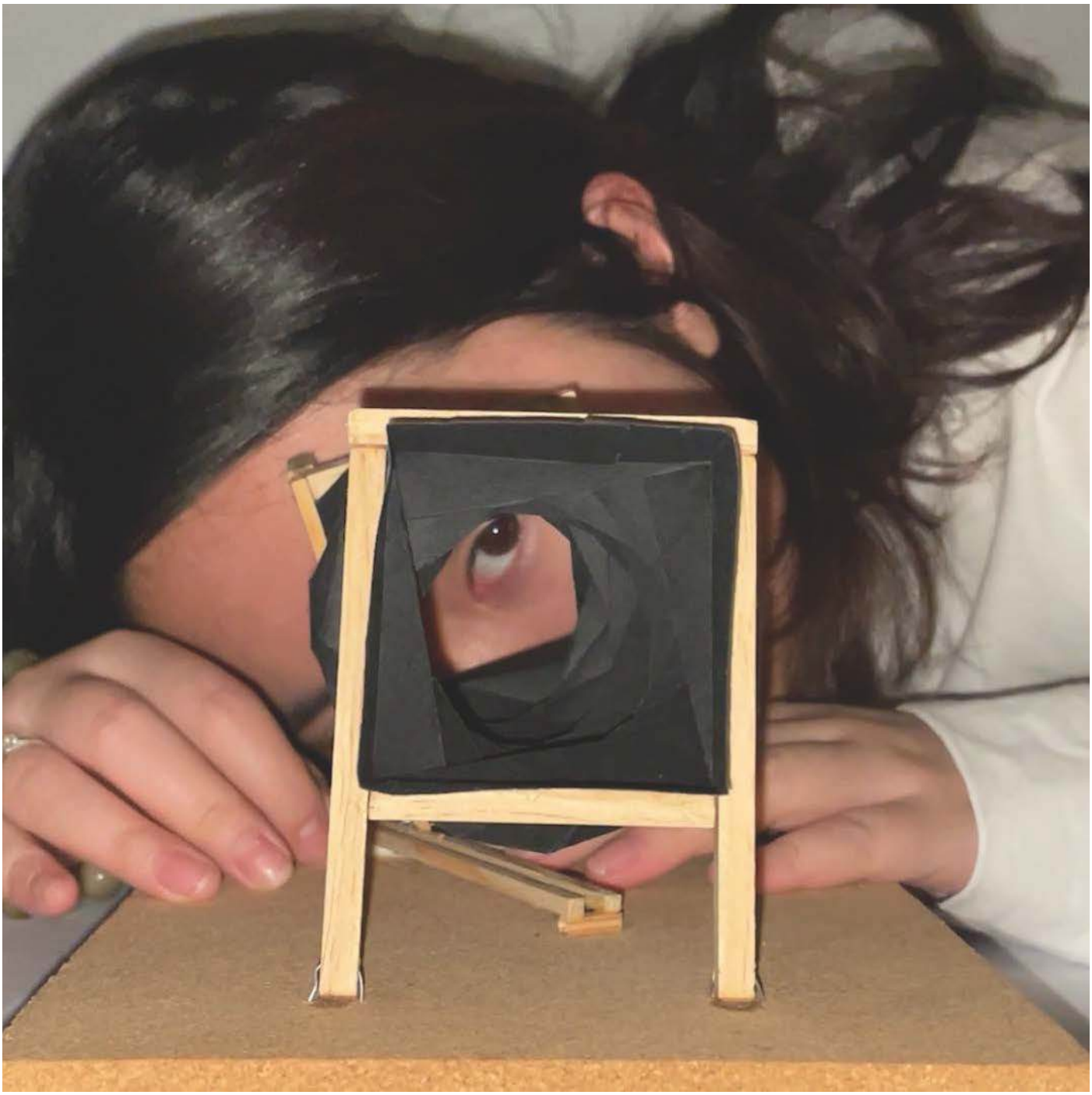


1:20 Sectional Model - Internal Views

Yuxin Teng

Master of Architecture
Year 2
&rchitecture

This kinetic model is inspired by Hitchcock's movie, particularly the dolly zoom method he introduced in Vertigo. This filming technique aims to twist space and give the audience a feeling of dizziness and disorientation, which directly connects to my thesis project—spatializing phobia using cinematic methods. To achieve this, I incorporate square helix origami, which can be twisted while being pushed or stretched, controlled by wooden sticks. Looking through the hollow path to the background scenes, this setup imitates the movement of the camera's focusing process while rotating.



focus by dolly zoom

Yuxin Teng

Master of Architecture
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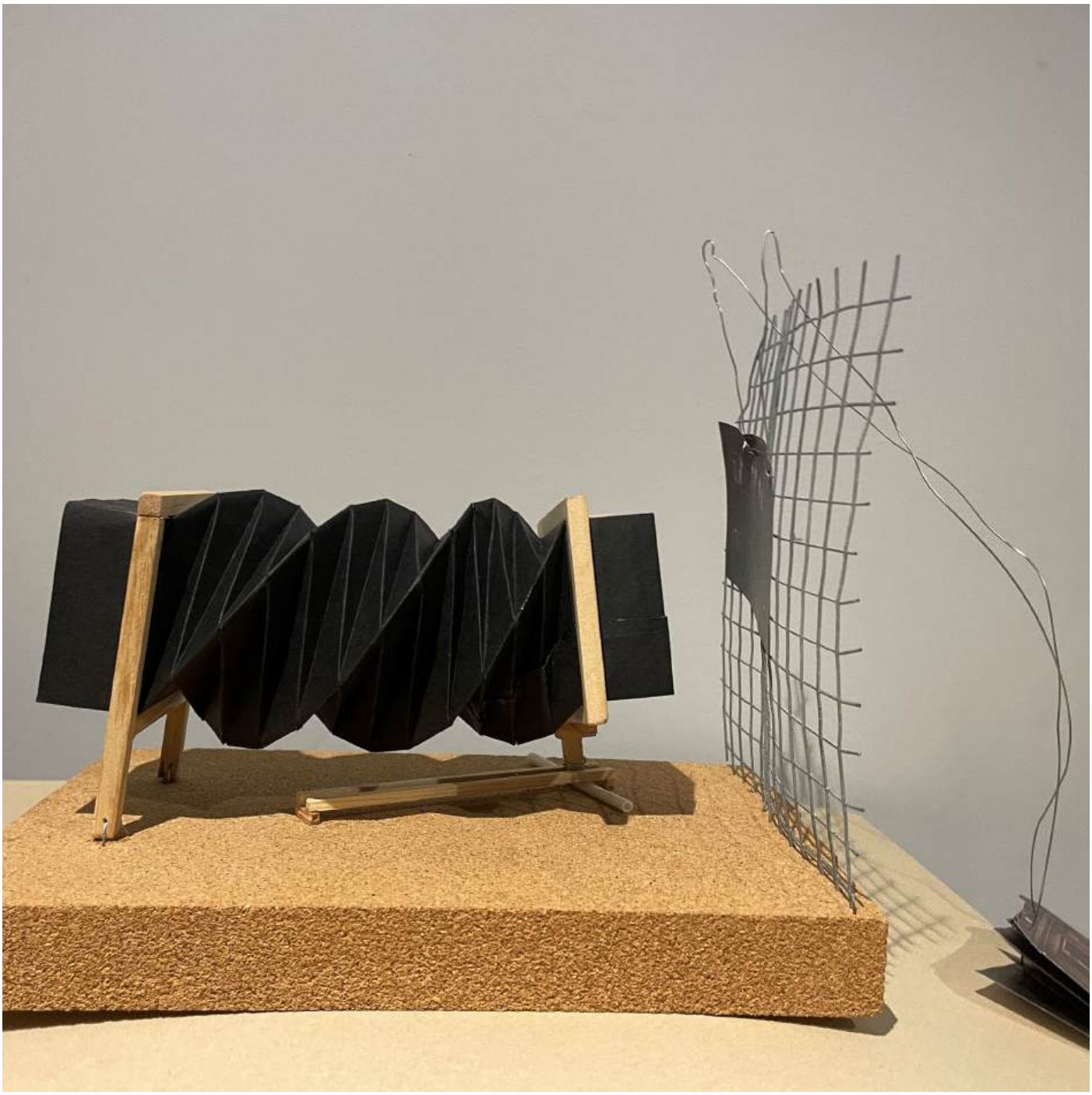
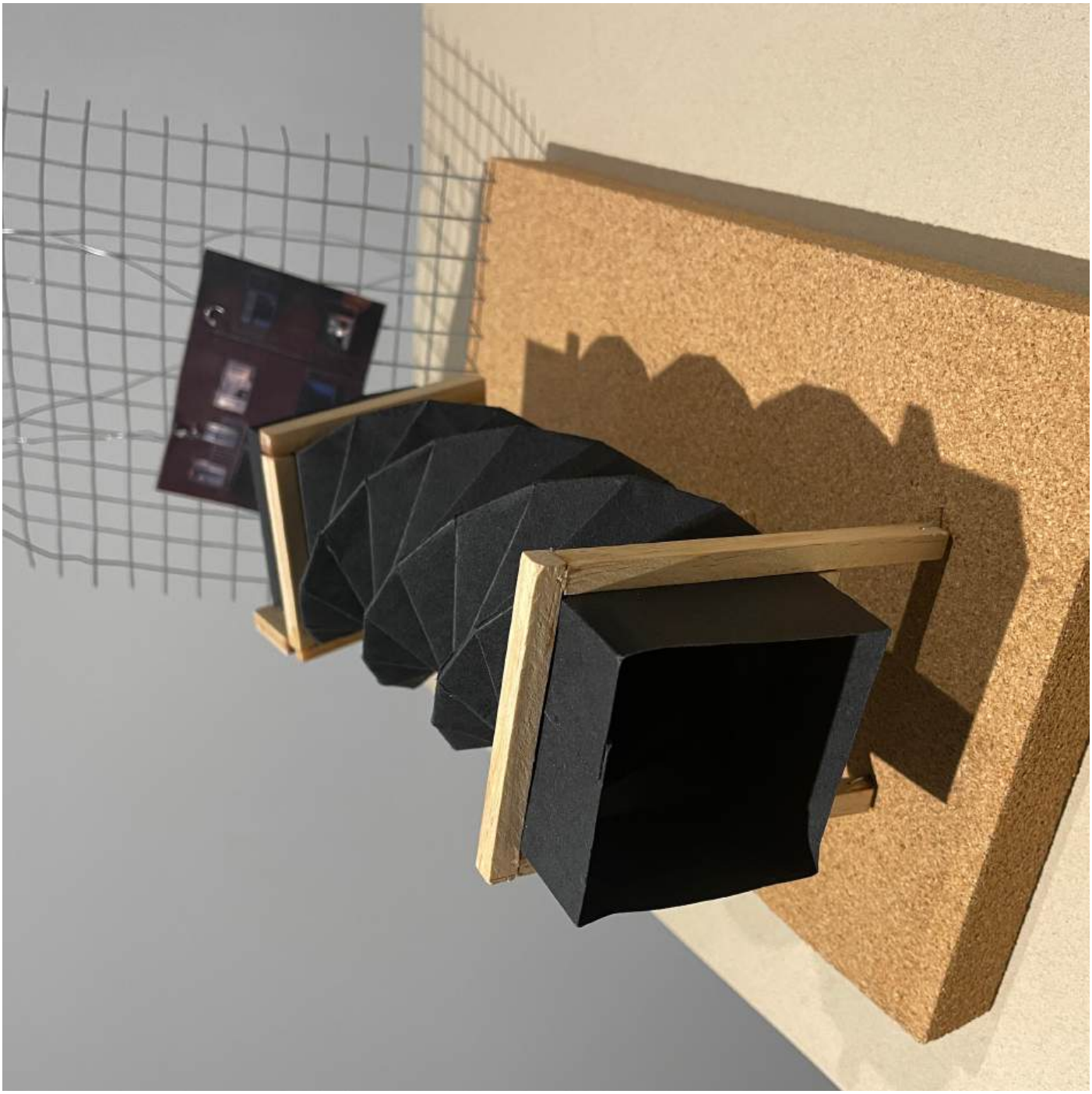


elevation view



perspective view

Anjali Biju

Master of Architecture
Year 2
&rchitecture

The diasporic repair model was developed as part of the performative study undertaken during the early stages of my thesis. This study delves into themes of fragmented self-identity and the impacts of cultural assimilation and hybridity on a British-Indian migrant. Central to this exploration is the analogy to the traditional Japanese ceramics technique known as Kintsugi, which enhances the beauty and adds value to broken items by repairing them with gold lacquer. This metaphor is employed to illustrate the reconstruction of a migrant's self-identity.

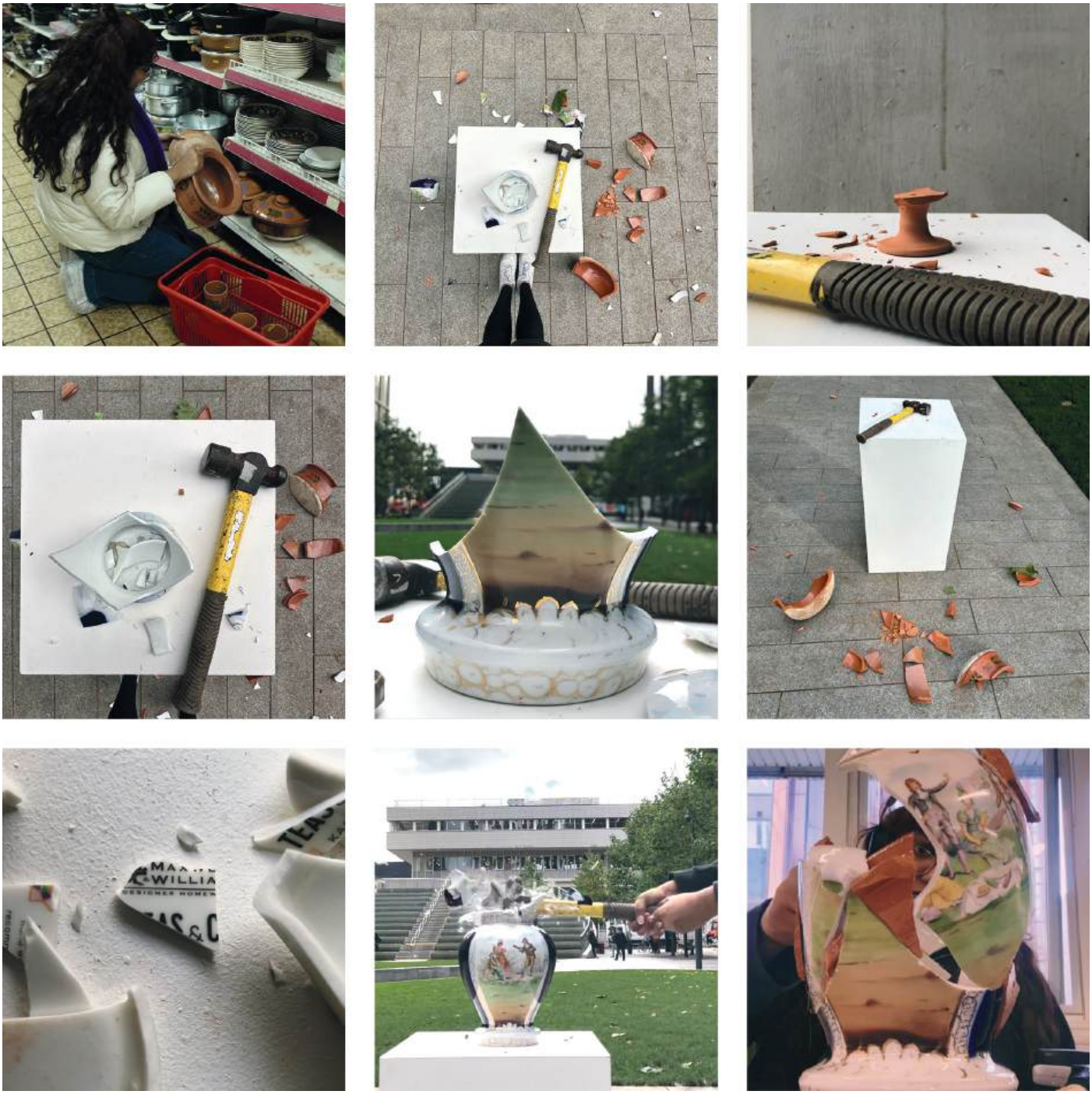
In creating this piece, I integrated elements from both British and Indian cultures, forming a hybrid model that embodies the diasporic experience. The process involved various techniques of breaking ceramics, such as smashing, drilling, and dropping, to symbolize the disruption and fragmentation experienced by migrants due to displacement. Each broken piece was then meticulously reassembled using painted gold finishes and gluing techniques, mirroring the Kintsugi philosophy.

The resulting model is not only a testament to the resilience and adaptability inherent in the migrant experience but also a celebration of the beauty that emerges from cultural synthesis and repair. Through this piece, I aim to convey the intricate process of reconstructing identity in the face of displacement and the transformative power of embracing one's multifaceted heritage.

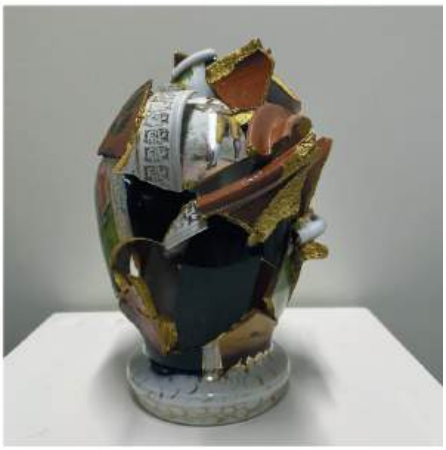
‘The diasporic repair ’ reflects the theme of diasporic fragmentation being repaired through the concept of hybridity. Techniques of kinstugi were explored to showcase the ideologies of fragmentation, alongside methods of repair and rebirth of new formation metaphorically representing the rebirth of new self-identity for British-Indian migrants.

Anjali Biju

Master of Architecture
Year 2
&rchitecture



A public performance of deconstruction representing the fragmentation of self-identity as a British Indian migrant was exhibited as part of the formation of this model. Fragments broken were used to [Re] construct this piece as part of investigations into hybridity and cross-transcultural assimilation.



An explorational take on the concept of Kinstugi - this model was a method used to investigate the idea of questioning fragmentation and rebuild of cultural background for British Indian migrants through concepts of hybridity, metaphorically seen as the act of kinstugi.

Maeve Fonda Lee

Master of Architecture
Year 2
Continuity in Architecture

This project consists of two main components: a Community Centre and a T Level School. The objective is to create a new focal point in Todmorden, creating a greater social interaction between the town centre and its outskirts. The proposed Community Centre aims to offer residents a space to relax, build connections, and explore new opportunities. Meanwhile, the T Level School will provide alternative pathways for students to receive training in various careers, enabling them to work and contribute to Todmorden after graduation.

The primary goal of this 1:200 scale model is to illustrate the relationship between two sites, Site A and Site B, across Canal Rochdale. The CNC base was a collaborative effort with Yicheng Wu.

To create the base model, we used a CNC machine to sculpt the landscape of Todmorden. The floor plan of the context was laser-cut on an MDF sheet, and the blocks were handcrafted using MDF references. To distinguish textures between the ground and the context blocks, we applied layers of acrylic paint to the base. A section of Canal Rochdale traverses the model, and to render the canal realistically, we used frosted Perspex, which reflects the base colour while complementing the model's matte finish.

The pitched roof building at Site A is part of my portfolio, using the model to demonstrate the programme. Internal walls were included and 3D printed to ensure precise dimensions. The facade comprises three layers to add depth to the windows, with horizontal strips for additional detail. Based on past model-making experiences, pitched roofs often present precision challenges when using plywood and MDF, resulting in gaps. Therefore, coloured paper was selected for its flexibility to blend seamlessly. An extra layer of coloured paper was added at junctions to cover any imperfections. The covered walkway and surrounding vehicles were also 3D printed to enhance the model's atmosphere.

1:200 model- From Canal Rochdale overlooks to Site A

Maeve Fonda Lee

Master of Architecture
Year 2
Continuity in Architecture

Model making process- CNC model and and 1:200
proposed building






From B12 photo-taking studio- model overview and perspectives

Ugne Boskaite & Jasmine Cornish

Master of Architecture
Year 2
Continuity in Architecture

Our project in West Yorkshire focuses on the agricultural impact on the River Calder in Lumbutts, utilizing architectural model making as a tool to emphasise historical context, environmental impact and materiality.

Inspired by the Incredible Edible project in Todmorden, our initial intervention aims to connect residents to a nearby farm through an 'honesty box,' fostering trust and local engagement. This building also seeks to create a new landmark that highlights the waterways, drawing inspiration from chapels, weirs, and local vernacular. The model-making process was crucial in understanding the river context and materiality. We used plaster to cast the landscape and hand-shaped the riverbed from clay, despite challenges like staining from the clay mould. Teamwork was essential, with one team member handling the negative form while the other laser-cut the pavilion components. This process taught us valuable lessons about model making's role in the design process.

Following the iterative models in S1 and S2, the S3 barn model allowed us to delve deeper into design details, focusing on materiality, ventilation, and the river relationship. Located on the site of a 19th-century Water Tower, the barn addresses the site's industrial heritage and the River Calder's pollution issues. The river's unhealthy status, exacerbated by agricultural waste, underscores the project's environmental focus. The model incorporates a ‘water path’ feature linking the river to all site buildings, emphasizing sustainable water management. The barn's design includes large pivoting doors and high-level mechanical louvres for effective ventilation. Laser-cut MDF and blue acrylic represent the river, and adjustable mechanisms allow exploration of lighting.

The S3 Water Tower Model explores the adaptive reuse of the grade II listed 19th-century Water Tower, transforming it into a micro-dairy, market, water testing facility, and learning centre. This model highlights the site's industrial heritage and the river's pollution from historical mill operations and agricultural waste. The proposed water path connects buildings from the river, with a symbolic ‘waterfall’ feature dividing the ground floor and aiding in water sample collection. Creating the model involved detailed plaster work to replicate the existing stone walls and overcoming challenges in crafting the roof extension. The large-scale 1:50 model allowed us to explore the physical, structural, and material aspects in detail, conveying the harmony between the existing structure and new functions. This project underscores the interconnectedness of water, architecture, and community, emphasizing sustainable practices while honouring historical significance.

Water Tower Model 1:50 Facade

Ugne Boskaite & Jasmine Cornish

Master of Architecture
Year 2
Continuity in Architecture

Water Tower Model Sectional Views

Barn & Pavilion Intervention Models

Guy Pope

Master of Architecture
Year 2
Flux

This model is part of a wider proposal, aiming to tackle urban insularity across Manchester. I propose that the solution to this is the democratisation of space and the encouragement of exploration and movement. This is tackled on a variety of scales, ranging from a sprawling creative district to a flexible and open public arts building. This model was designed as a conceptual representation of this interconnectivity and the cobbled together nature of the design, that welcomes people and allows them to take ownership of the space.

Responding to my S2 conclusion that suggested that a formal design could be oppressive and discourage adaptation and flexibility, I leant more into the Budapest Concept of the Ruin bar. People take ownership by retrofitting old structures with a plethora of random items. This reduces the formality of the design, and encourages creativity. By using rough floor boards, old bricks, and a rusted ever-changing roof, people express themselves and contribute more in whatever way they see fit. As the building is in constant change and requires continuous input from the public, it is vital to create an atmosphere through construction that encourages this. The changing patina of the roof also sends an important message to the building users of the unfinished, continually changing quality of the design.

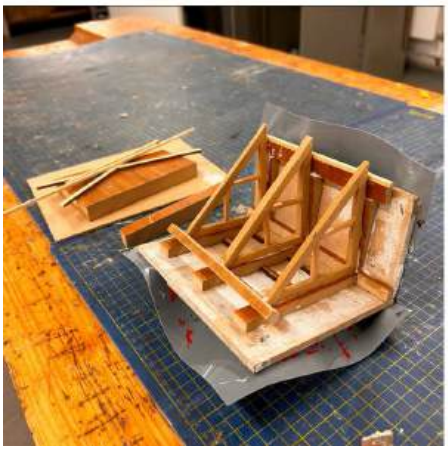
Initially I wanted to make a small roof test to examine the connections between the trusses and the timber columns. However, it grew as a method of exploration and led to design changes. For example the process of building this model made me aware of the construction difficulties and cost associated with large corten steel panels, and justified a design change to tiled panels, which could also be replaced easily by photovoltaic panels.

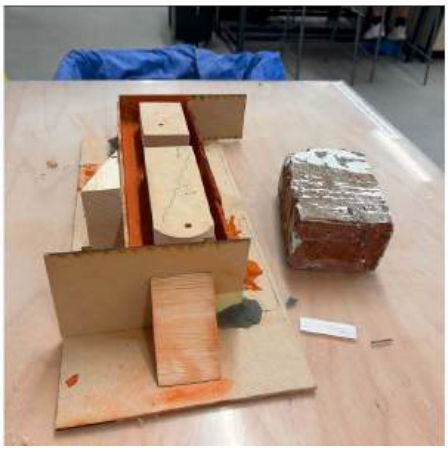
This maquette is also a study of texture and materiality. It is intended as an exploration and representation of the rough industrial quality of the design that responds to the industrial context. Except for the jesmonite, it is built entirely from scrap material found in the workshop, and therefore is also representative of how the building is designed using almost entirely reclaimed materials.

This is a photograph focusing on the materiality and textural qualities of the model and building.

Guy Pope

Master of Architecture
Year 2
Flux





The model building process using mainly reclaimed materials, including the floor boards, roof panels, concrete base and foundations, furniture, and wooden structure. The process was one of rummaging through the offcuts bin to find materials, which made the process informal and the model more fun to build.

"These final images represent the building's openness, textural materiality, reclaimed materials and corten steel patina that demonstrates the adaptability of the design. I think this model was successful in testing the structural, material, and spatial qualities of the building."

Theo Fisher

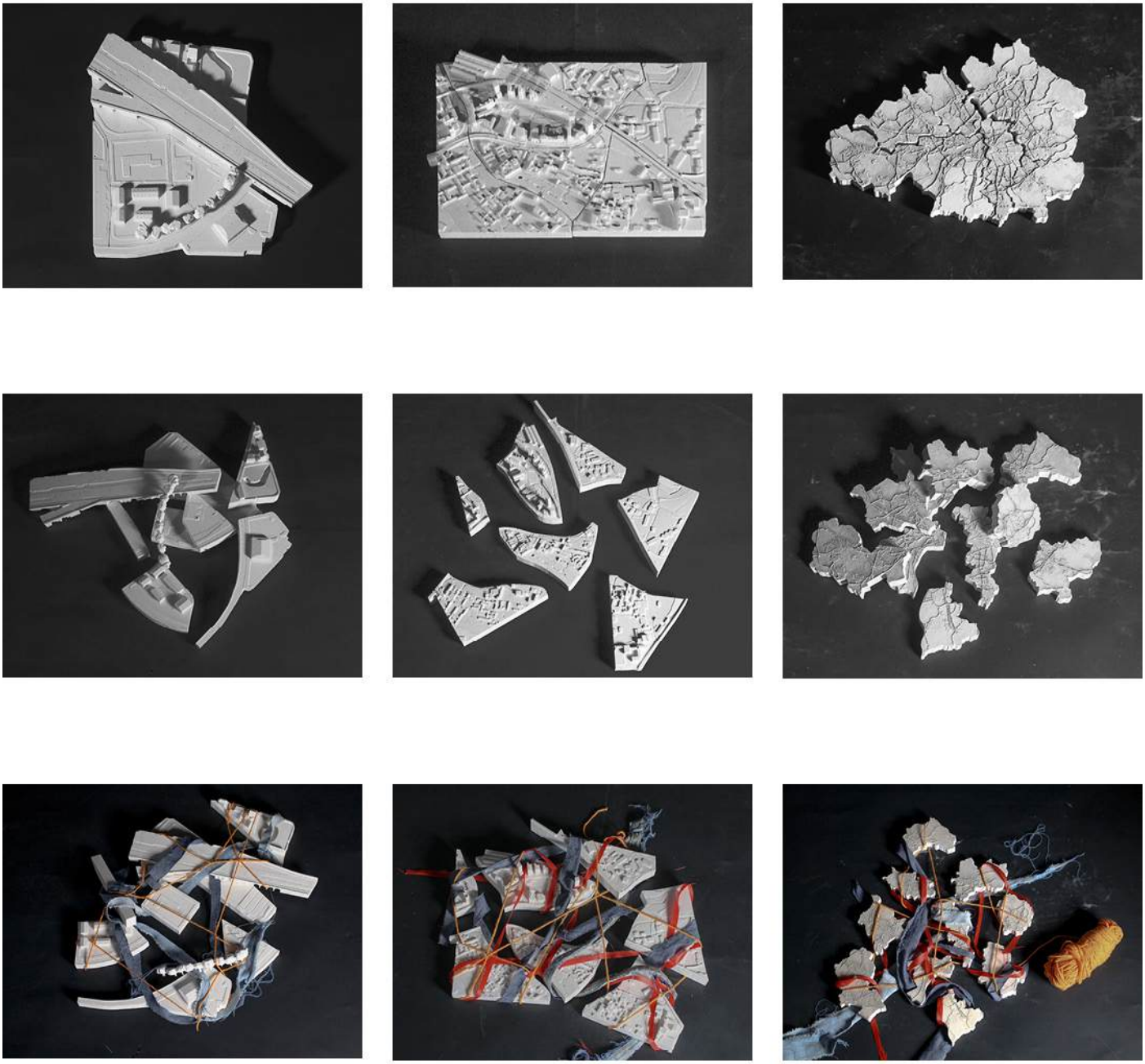
Master of Architecture
Year 2
Flux

Exploring the psychological relationship between the urban fabric and its inhabitants, my project consists of two strands: a theoretical thesis and an architectural proposal. The thesis sets out a new understanding of the contemporary city, characterized by fragmentation and entanglement. This theoretical framework culminates in a practical architectural proposal: a movable framework that actively entangles the city of Manchester.
The project began with a 1:5000 model to explore urban fragmentation between Mayfield and Ardwick. This model-making process was pivotal, allowing for a tangible exploration of the thesis concepts. Utilizing innovative methods, I employed CNC machining from a cast jasmonate block to produce highly detailed models. As my thesis evolved to recognize that fragmentation varies with scale, I expanded my models to include 1:200,000 and 1:1000 iterations. These models were then entangled together, symbolizing the intangible connections that bind the city.
The final proposal manifests as a kit of parts designed to create an adaptable framework that promotes informal construction. The model itself employs laser-cut timber and 3D-printed joints to form a rigid framework, intentionally contrasted with informal infills made from scrap material, representing the community's input. It reflects the plurality and evolving nature of entanglement, acknowledging that while entanglements can be simplified, they are too intricate to be fully comprehended in their entirety. The framework provides space for false narratives to clash and adapt, preventing fragmentation by accommodating growth and change.

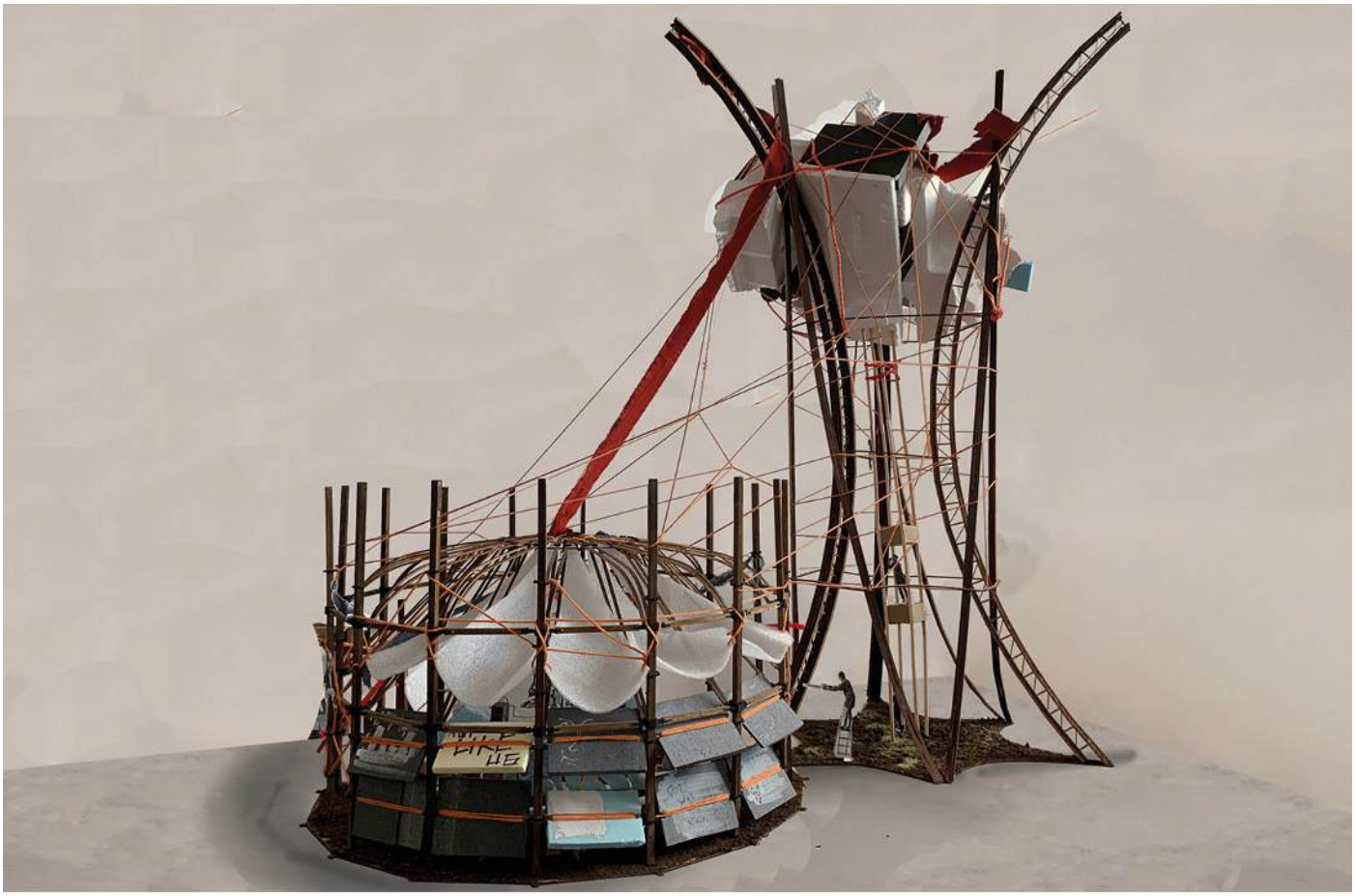
A Close Up Of Entanglement Through The Mayfield Fragment

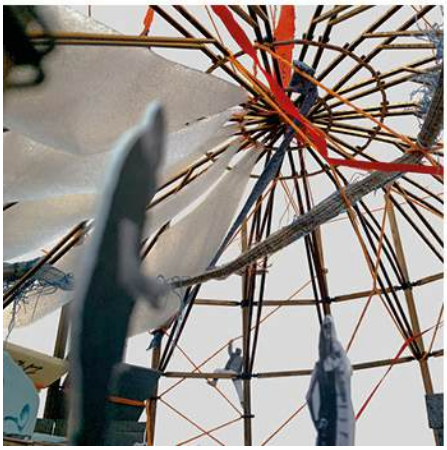
Theo Fisher

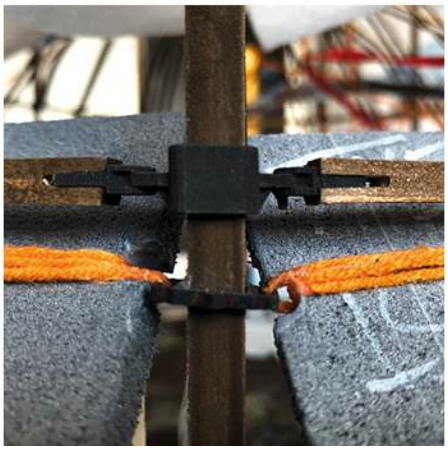
Master of Architecture
Year 2
Flux



A Matrix Of Fragmentation and Entanglement Across Multiple Scales (1:1000, 1:5000, and 1:200,000)







A Entangled Framework

Leila Hooshmand

Master of Architecture
Year 2
Infrastructure Space

The thesis question focuses on diversifying agricultural land use in Cumbria to explore potential ways for farmers to increase their economic profits and diversify their income, considering the existing challenges. In Studio One, we were asked to choose a material to study. Aligning with the thesis question and considering the potential of reusing agricultural waste to generate economic income for farmers, straw has been chosen. Straw, a waste product from hay, is a sustainable, environmentally friendly, low-cost construction material with high thermal efficiency for building insulation. The model demonstrates the building's structural tectonics on the façade, showcasing how straw can be used inside the walls as insulation while being aesthetically pleasing. To highlight this quality, transparent material (plastic sheet) has been chosen to show the straw inside the wall, demonstrating the material's potential to enhance spatial quality. Balsa sheets have been used for the main structure, matching the color palette of straw, along with chopped straw.

For the project's location in Studio 3, Burneside Hall—a forgotten, derelict 14th-century Grade II defensive dwelling and farmstead in South Lakeland—has been chosen to be repurposed as therapeutic farmland while demonstrating the history of the land. The physical model illustrates how the pele tower, which was once a three-story defensive structure, has been repurposed as a therapeutic lookout point by incorporating a new structure within the existing envelope, which has deteriorated over the years and is in poor condition. The design considers the needs of contemporary society, repurposing the building as a therapeutic lookout point while showcasing the tower's history by preserving the existing building envelope.

The method for building the physical model to demonstrate the design approaches involved using casting to replicate the old part of the building, highlighting the thick and heavy building envelope and lightweight material (MDF) for the new structure added inside the old envelope. For the casting process, MDF sheets have been used to shape the volume of the old parts, with foam inside the mold to form the decay patterns and openings. The new intervention is made with MDF sheets and cardboard, colored with ink to showcase the corten material, emphasizing the contrasting colors of the existing structure and the new intervention.

"Physical Model One, Façade Tectonics, Material Matters Study, Studio One. Showcasing the potential of using agricultural waste (straw) for affordable building construction that is both sustainable and aesthetically pleasing."

Leila Hooshmand

Master of Architecture
Year 2
Infrastructure Space

"Physical Model Two, Reusing the Pele Tower (Old Meets New), Studio Three. Demonstrating the design approach and how the new intervention is integrated within the existing deteriorated envelope to repurpose the building."

"Physical Model Two, Reusing the Pele Tower (Old Meets New), Studio Three. The picture illustrates the process from left to right, starting with the mold of the old building and the use of jasmonite for casting, followed by the cleaning of the cast and the addition of the new MDF structure."

Mastura Raiha binti Ramlan & Amira Batrisyia binti Rasha Azaldin

Master of Architecture
Year 2
Infrastructure Space

Our project is centred around the design of a model-led masterplan aimed at empowering farmers to thrive in various aspects including economy, well-being, social, and environmental dimensions. The focal point of our project is a retrofitted milling factory, which we've aptly named "The Farmer's Nest." This sectional model design was meticulously thought with the community and context in mind, involving the exploration of a wide range of materials such as bricks, stones, timber, steel, and glass. Each material was carefully considered to ensure its suitability and relevance to the project's overarching goals.

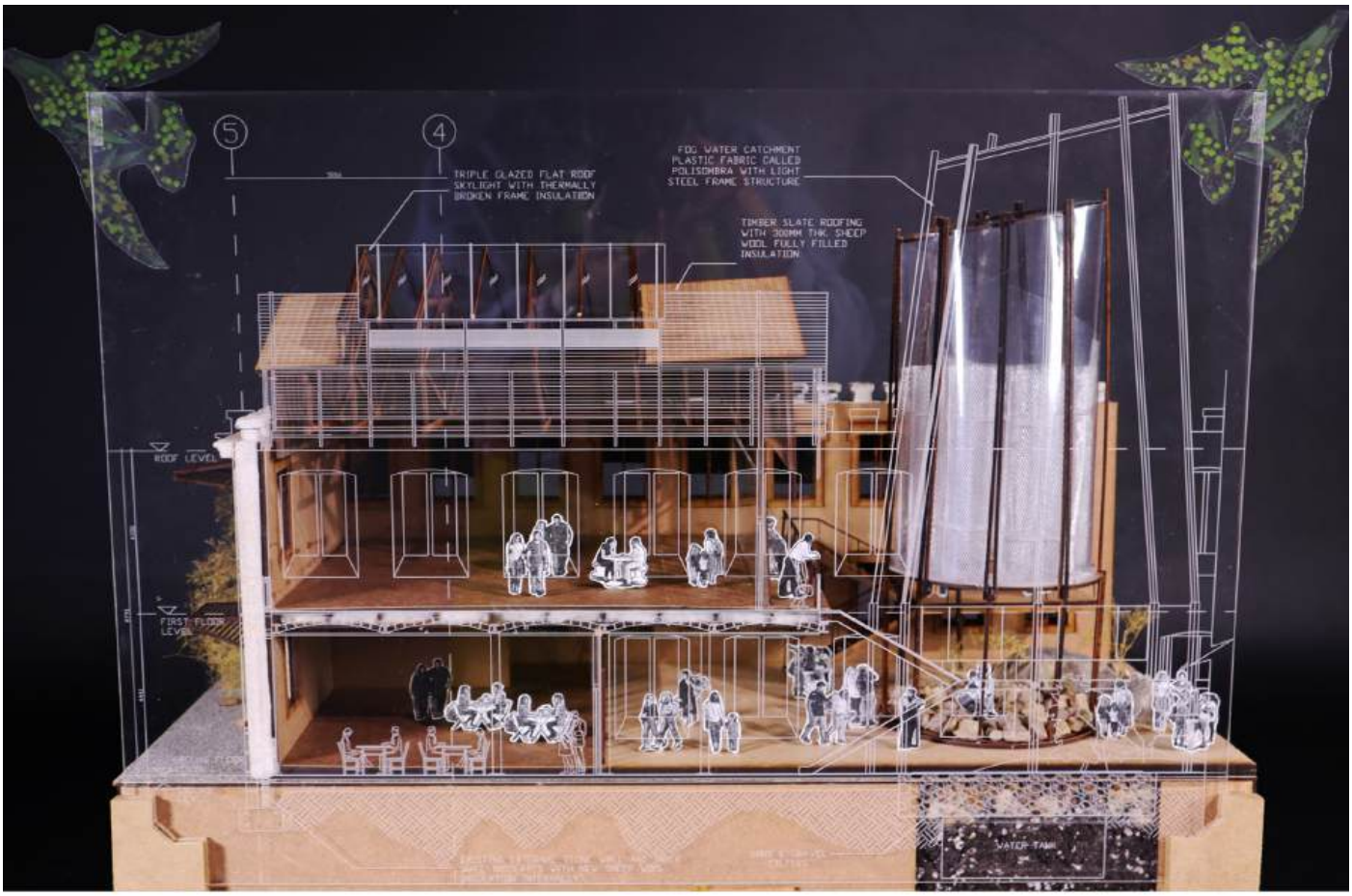
In the process of constructing the model, we endeavored to accurately depict the specific materials and designs required, necessitating a diverse range of model-making techniques. Laser cutting was utilized to achieve precise wall details and model pieces, while jesmonite casting and acid washing were employed for constructing the stone wall details. Additionally, foam cutting was utilized for creating the window casting gaps, and the model was assembled using a combination of gluing and interlocking joint methods. To effectively communicate the intricate details of the model, a sectional drawing engraved on the acrylic sheet using a laser cutter machine was employed, ensuring that the model details were effectively conveyed to all stakeholders involved in the project. Human figures printed have made the model look more alive and create a sense of proportion in capturing the activities of each space of the model. The centerpiece of the model is a fog catchment system that is showcased by timber structures and wire mesh sheets that similarly represent the actual system.

With careful consideration of materials and meticulous attention to detail in the model construction process, we are confident that "The Farmer's Nest" will serve as a symbol of progress and prosperity for the farming community. Through its detailed representation of material suitability, design intricacies, and innovative construction methods, the model has effectively communicated the vision of our master plan, captivating the imagination and support of all those engaged in bringing this transformative project to fruition.

"_From Abandoned to Abundance: Behold the Farmer's Nest, a reimagined milling factory reborn as a symbol of hope. This intricate model, crafted from local materials, showcases a vibrant future for agriculture. Step inside to discover a space designed to foster connections, prosperity, and environmental harmony. "

Mastura Raiha binti Ramlan & Amira Batrisyia binti Rasha Azaldin

Master of Architecture
Year 2
Infrastructure Space



"Unveiling the Nest: Explore the Farmer's Nest from all angles! This meticulously crafted model reveals hidden details at every turn. Wander through light-filled spaces bathed in natural light, discover dedicated areas for farmers to collaborate, and marvel at the seamless integration with the surrounding landscape. "

A Symphony of Techniques: Dive deeper into the artistry behind the Farmer's Nest. Witness the intricate wall patterns meticulously laser-cut for perfect precision. Run your fingers (figuratively!) across the rough-textured stone walls, brought to life by the innovative jesmonite casting technique. Notice the negative space for windows, expertly crafted through foam cutting, before the jesmonite took shape. Each element, a testament to the collaboration and artistry behind this model.

Maxwell Willis

Master of Architecture
Year 2
Infrastructure Space

The project aims to adaptively re-use the existing Carlisle Civic Centre as the central hub for heritage decision-making and management for all of Cumbria. Key components of the ‘New Heritage Management Centre’ include the community exhibition, the debating chamber, and the heritage archive (housed in the 11-storey office tower), situated above a proposed civic landscape.
The 1:200 section model aims to achieve three objectives: present the four key typologies of the scheme, visually distinguish existing fabric from proposed intervention, and authentically portray the architecture of the existing Civic Centre.

The decision to model at a 1:200 scale enabled a comprehensive cross-section of the entire scheme while maintaining a practical size for presentation. It was crucial for the section to intersect the four main programs of the building, allowing viewers to fully understand the building's typologies and spatial organisation from a single model.

Throughout my thesis portfolio, a visual language has been established in which grey elements denote existing fabric, and anything represented in orange signifies intervention or renovation. This approach is carried through into the sectional model using spray paint, with the orange and grey paint following the same purpose. The addition of colour is explicit in indicating what is existing and what is altered, a contrast which in turn celebrates the existing. Additionally, a spray paint finish was selected for its ability to produce consistent colors, emphasising shadows and relief- a key design principle of the modernist buildings of which it portrays.

The final objective was to create an authentic recreation of Carlisle Civic Centre’s characteristic architecture, using a combination of materials and fabrication techniques. The façade system, the most substantial and iconic retained element, was achieved through layering 0.6mm laserboard and 2mm MDF and was the result of small-scale test models (a fabrication method which was repeated for the diagrid floor construction). The hyperbolic paraboloid roofs of the community exhibition were best reproduced through 3D printing to maintain the accuracy of their sculptural form. Deep channels resulting from basement excavation were best achieved through a plaster-cast base, providing a sturdy foundation for the more delicate modeling elements above.

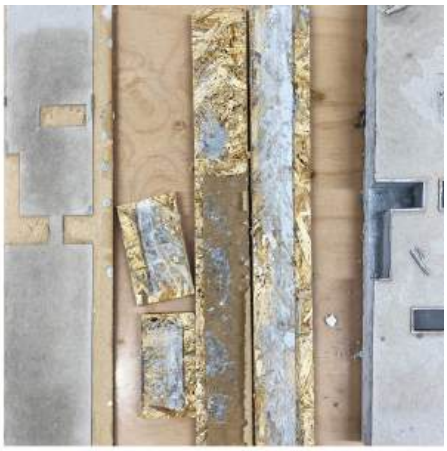
Cumbria's New Heritage Management Centre which adaptively reuses the existing Carlisle Civic Centre, 1:200 sectional model using a variety of materials and fabrication techniques.

Maxwell Willis

Master of Architecture
Year 2
Infrastructure Space

The model aims to authentically replicate the existing fabric of Carlisle Civic Centre while simultaneously showcasing the proposed intervention and the relationship between the two.









A variety of finishes, materials, and fabrication techniques were employed in the 1:200 model to comprehensively convey the project while ensuring the desired accuracy and detail.

Muhammad Luqman & Tengku Nurul Nasfakhira

Master of Architecture
Year 2
Infrastructure Space

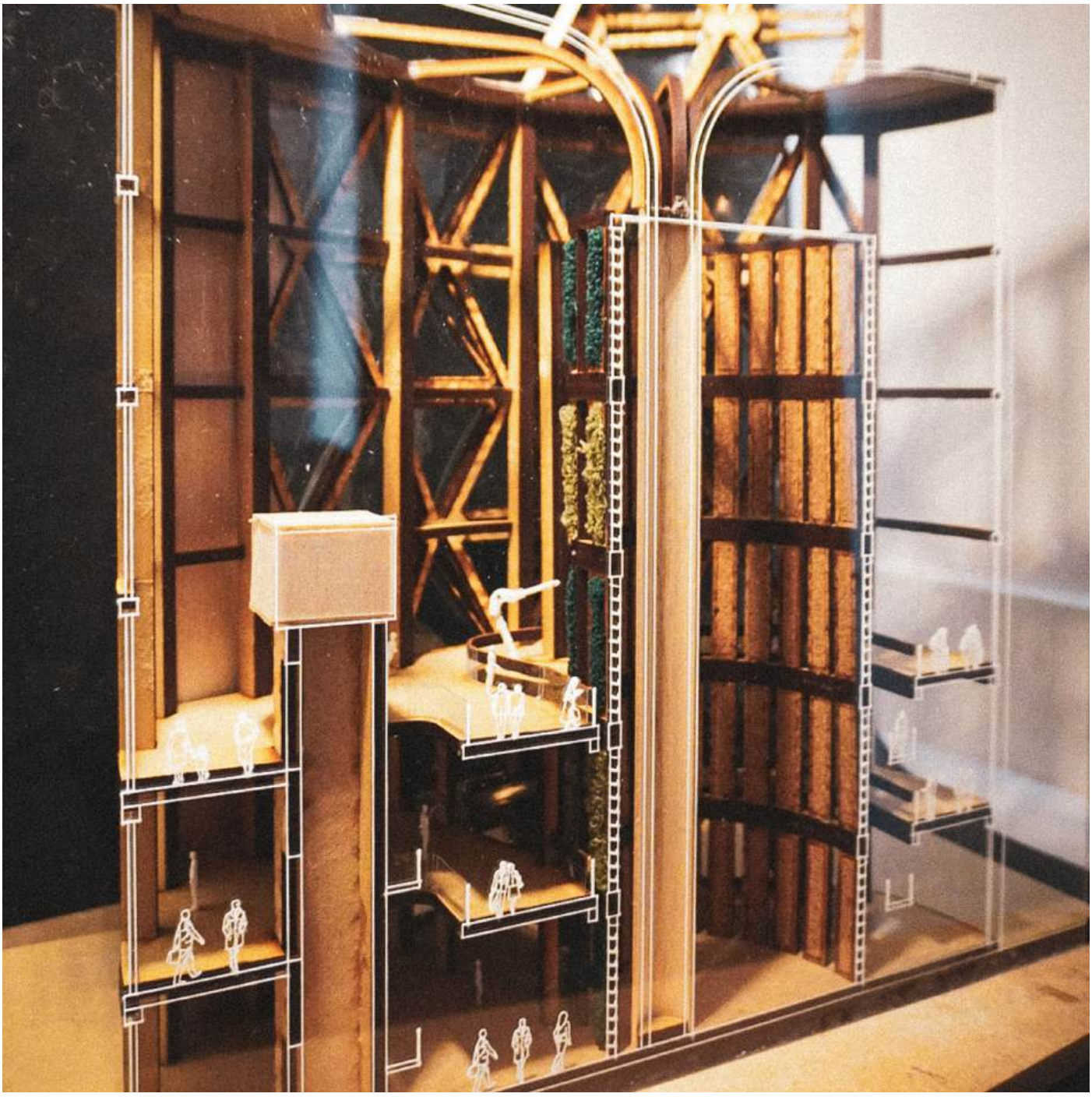
This thesis project is a collaborative effort by Muhammad Luqman and Tenku Nurul Nasfakhira, focusing on the innovative design and structural exploration of our Agriculture Hub. Our goal is to investigate the potential of genetically modified (GM) crops to boost food production and enhance nutritional value, thereby supporting a more sustainable and healthier future. The Genetic Modified Crop Research Centre, located in Elterwater, Cumbria, transcends conventional infrastructure and operational approaches, embracing a comprehensive view of genetic modification and its broader implications.

The GM Crops Hub is designed to improve crop characteristics, increase yields, and address global challenges such as climate change and food security. Our state-of-the-art laboratories and specialized technologies ensure that our premium GM crop seeds meet the highest standards.
We integrate outdoor, greenhouse, and vertical farming techniques to maximize land efficiency and conserve resources. The Education and Learning Centre offers workshops, seminars, and training programs to promote the responsible and informed use of GM crops.

Our physical model serves as a crucial tool for exploring structural elements and experimenting with façade designs, with a particular focus on the greenhouse and agrohub tower. These structures are the centerpiece of our thesis, representing our commitment to combining aesthetics with functionality. By experimenting with various shapes of external glazing, we aim to create a visually appealing façade that also ensures optimal sunlight for crop cultivation.

The pattern for the external glazing on the agrohub tower was meticulously experimented with using a heat gun and plastic, achieving the best shapes to accurately portray our design. This hands-on approach allows us to refine our concepts and ensure they meet both aesthetic and functional requirements.

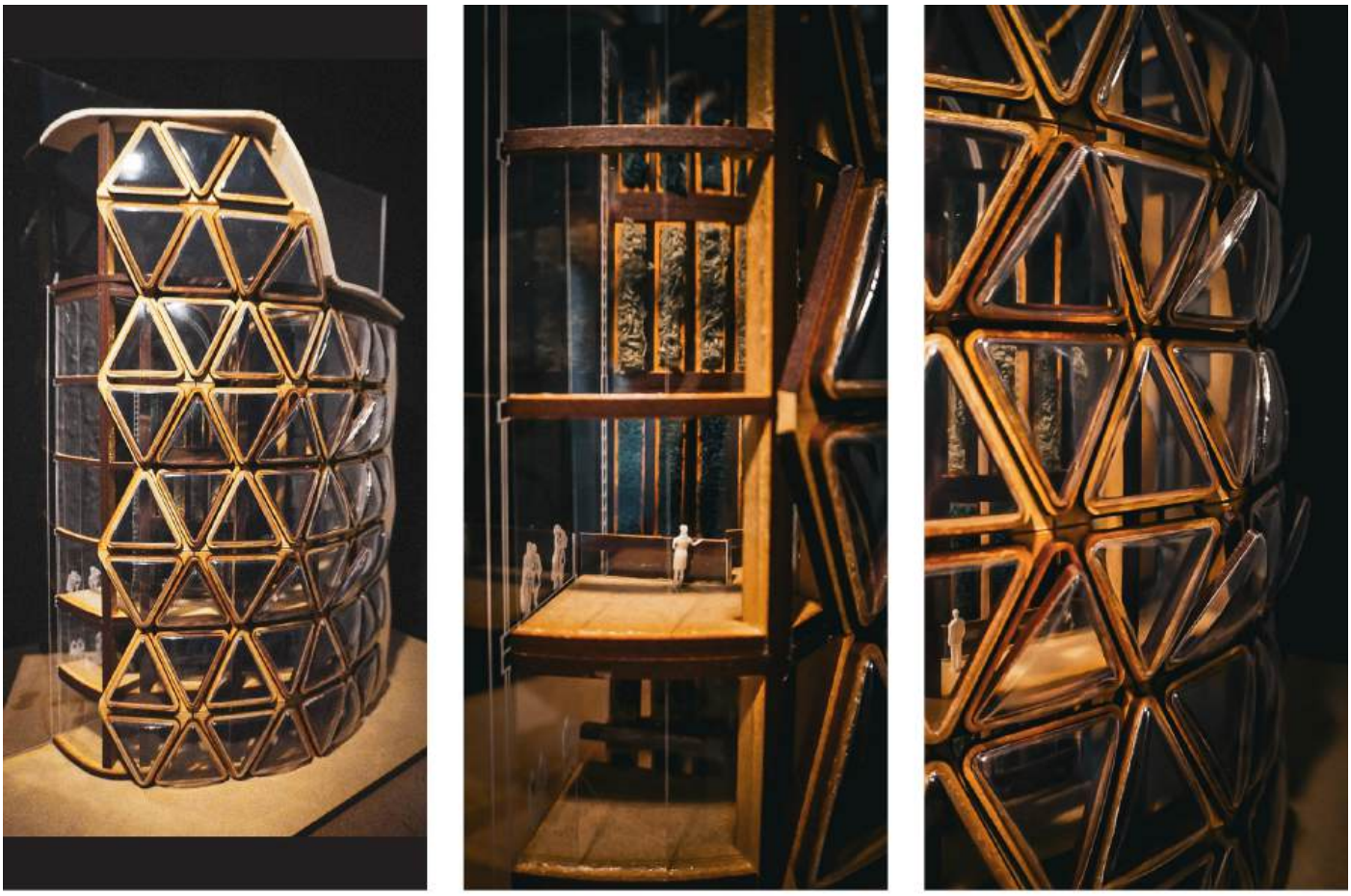
Our model also highlights innovative features like openable windows on the agrohub tower, underscoring our dedication to sustainability and biodiversity integration. These windows are designed to enhance natural ventilation, reduce energy consumption, and create a more conducive environment for plant growth. The physical model not only illustrates our design concepts but also serves as a testament to our commitment to fostering research, understanding, and public awareness about genetically modified crops.



The sectional model of the agrohub tower reveals the building's internal programs and structural design. The central revolving tower is dedicated to cultivating genetically modified plants. The aesthetically designed facade demonstrates how natural light penetrates the building, enhancing both functionality and visual appeal.

Muhammad Luqman & Tengku Nurul Nasfakhira

Master of Architecture
Year 2
Infrastructure Space



"Our investigation into facade design seeks to produce an eye-catching look without sacrificing the way light is distributed for our growing operations. While self-molded glass patterns improve the facade's appearance and guarantee the best light penetration and visual appeal, MDF board and laser cutting offer shaping flexibility. "

The model depicts a greenhouse designed for genetically modified plant experiments, highlighting its structural design. Made from MDF board, it showcases a quarter section of the building, emphasizing spatial qualities and structural details crucial for our experimental purposes.

Yuen Lam Lee

Master of Architecture
Year 2
Infrastructure Space

This model replicates a timber column-beam joint at a 1:5 scale. The column module consists of four members with an interlocking design to create stability between structural members. An L-shaped steel plate for cross-bracing is inserted between the column members to provide lateral stability. The interlocking design allows a neat and flush finish to reduce visual clutter and spatial confusion in a mental health centre.

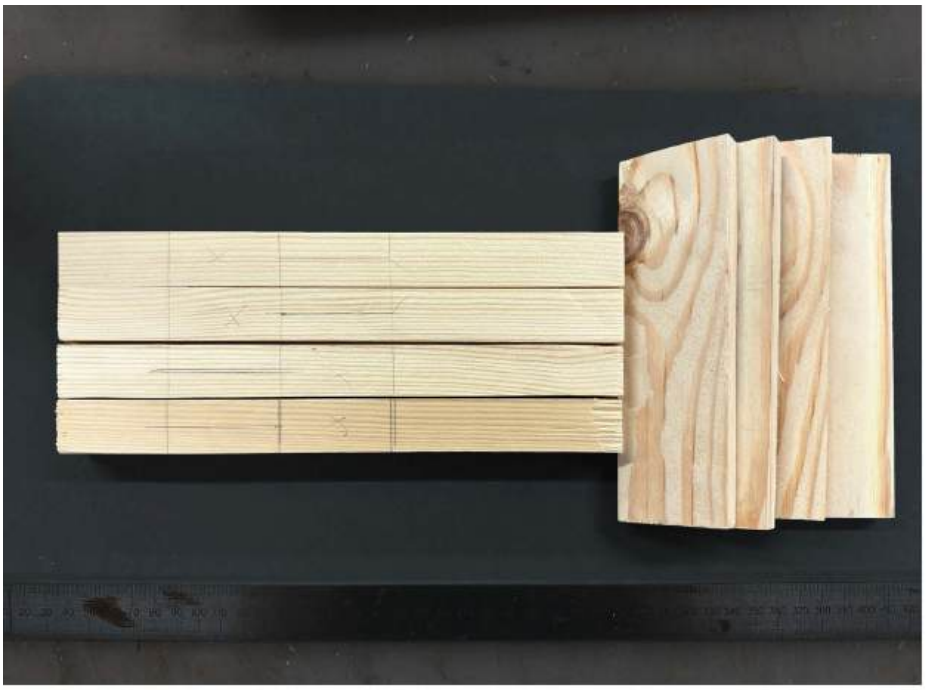
By using actual wood, the 1:5 model simulates the construction process realistically, with attention given to details such as the sequence of construction for each member and the trimming of wood to optimize building efficiency and reduce faults, thereby improving the practicality of project management.

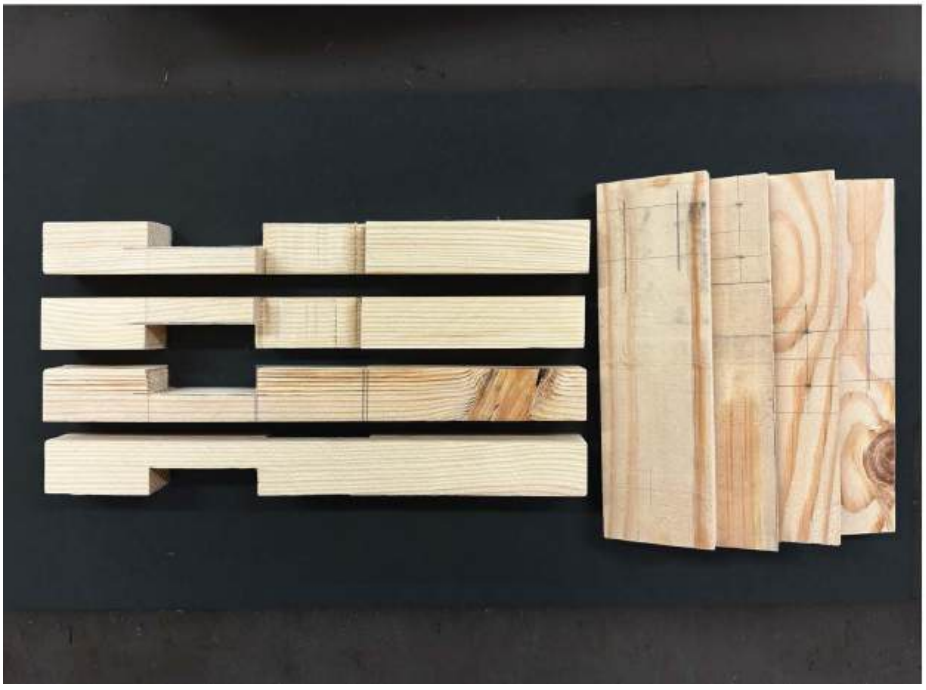
Timber Joint Detail - 1:5

Yuen Lam Lee

Master of Architecture
Year 2
Infrastructure Space

Plan & Elevations





Structural Components and Construction Process

Lauritz Kobor

Master of Architecture
Year 2
Infrastructure Space

My project aims to combine the extreme challenge of mitigating climate change with a community benefit through architectural geometry and wind dynamics. The goal is to combine a research-oriented topic with a form-focused architectural design. The basis for this topic was initial climate-related research and an interactive exhibition oriented towards public perception of climate change.

Wind-Canvas is the name of this project, where carbon dioxide-loaded wind blows through a technical process. This process purifies the atmospheric air and converts the carbon dioxide into energy, a resource directly benefiting the surrounding communities.

Using the Idea that natural wind flow can be used to generate energy and mitigate climate change, I researched general aerodynamics to be able to test different geometries and shapes in a fluid dynamic software to increase the natural wind speed. The natural wind flow is the leading actor of this transformation process and the key driver of the architectural form, which is generated through the wind flow being forced around the program.

Part of our atelier-specific outputs was an interactive exhibition piece. To comply with this, I chose a movable sectional model that can be viewed from different angles to increase the understanding of the created space.

This sectional model, which covers the whole building length, aims to show the technical process in its steps and the wind-shaped architectural form.

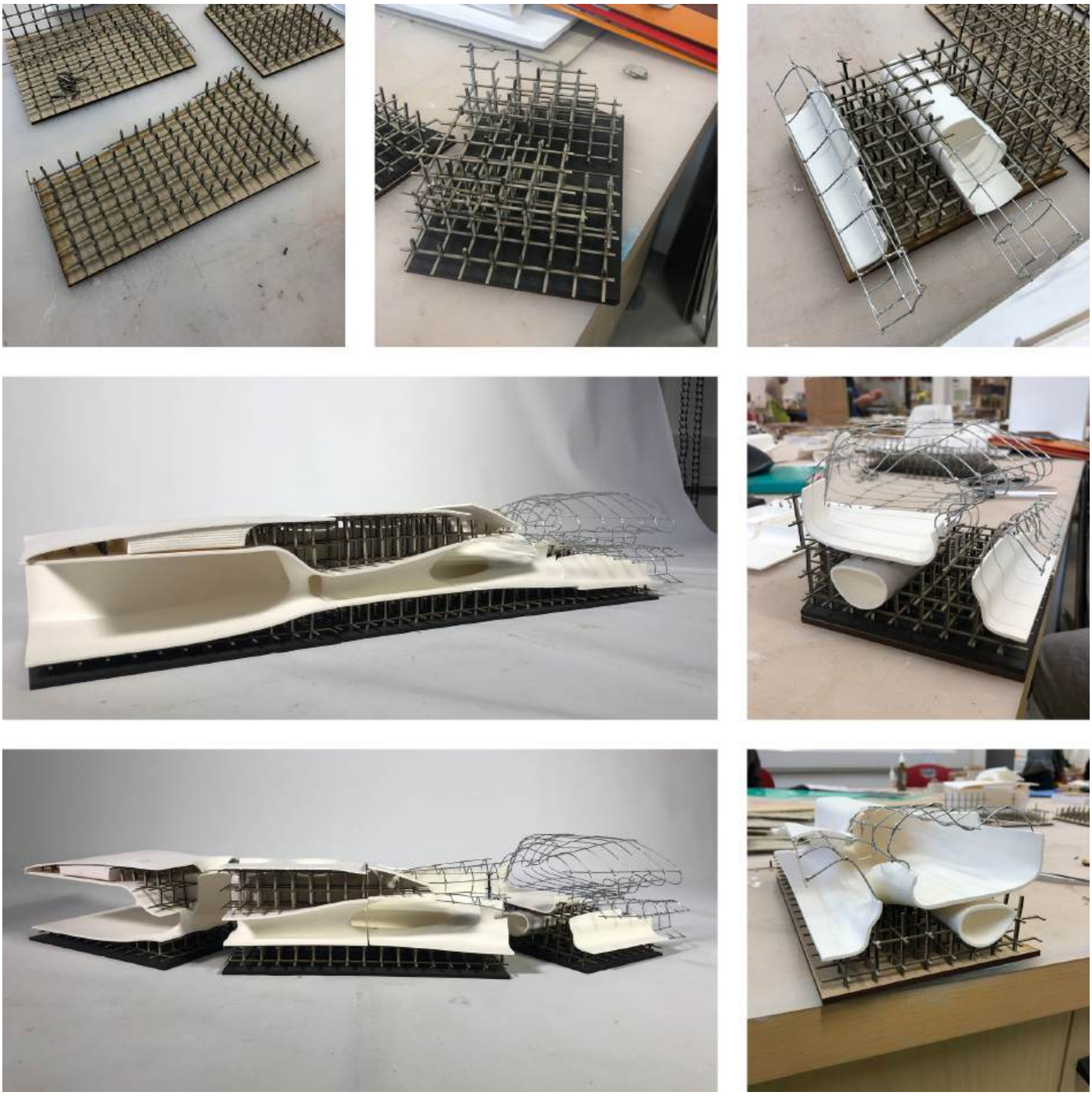
To build the very dynamic and double-curved shapes, I chose 3D printing as the main manufacturing method for the building part that sits in the Landscape; as soon as the building exits the Landscape, the solid structure dissolves into a thin soldered grid mimicking the ETFE structure of this exposed form. The supportive grid structure is constructed with the help of laser cutting, which helped me transform the digital form into a physical structure.

The Landscape was created through CNC milling, which allowed me to show the connection between the building and the surrounding landscape. Through the use of different colours, I can highlight different elements of the building and the technical process elements at the core of this project.

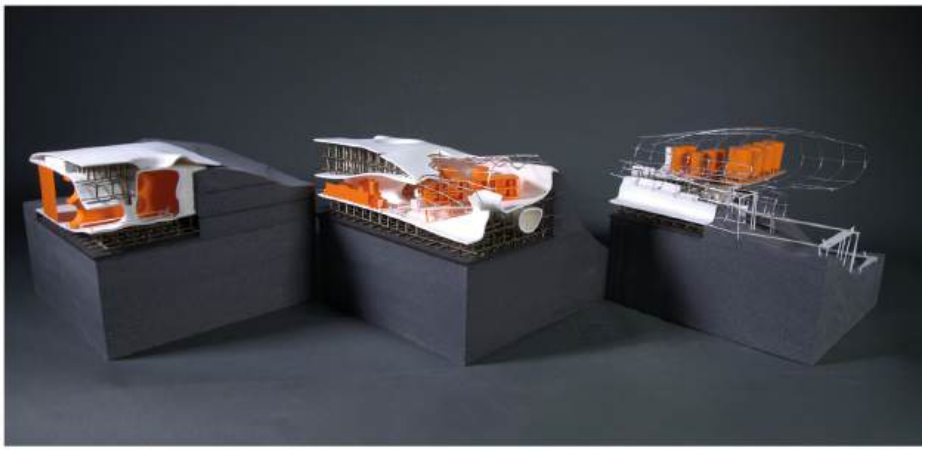
Interactive Model in which the different sections are pulled apart. Showing the wind entry section on the left, the main process area in the middle and the community and delivery are to the right.

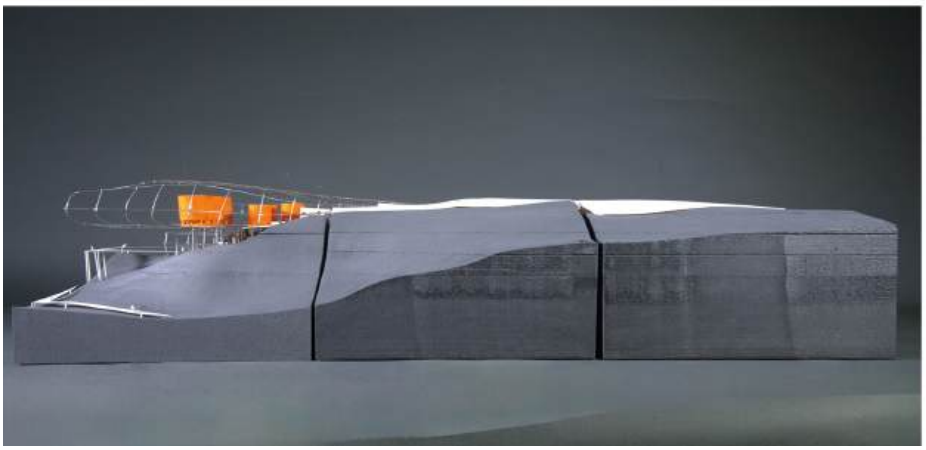
Lauritz Kobor

Master of Architecture
Year 2
Infrastructure Space



This image layout shows the early construction steps of the structural grid, which supports the 3D-printed form, the first integration of the two elements with the soldered structure, the first combination of all three sections of the model, and the testing of the interactive element.





This image layout shows the final model in the elevations and its integration into the surrounding landscape, blending in to have the least visual appearance. Also highlighted are the first section with its wind filtering, the second with its process elements, and the last with its community focus.

Sanjidah Chowdhury

Master of Architecture
Year 2
Praxxis

The Shilpogram Village, situated in a flood-risk location in Zakiganj, Bangladesh, is an equitable social-study driven proposal, focused on the re-integration and agency of marginalised Bangladeshi villagers (particularly women and children). The proposal expresses spaces as a catalyst for interactions and local materials, crafting and construction techniques to re-design the built forms.

The drawings follow fishermen, craftspeople and farmers, illustrating; how Bangladeshis can adapt their life as sea levels rises. Understanding villagers' everyday practices through a social sciences lens and in-person fieldwork in communities around Zakiganj, the proposal re-imagines mundane spaces of cultivating, fishing, crafting, education and gathering as an equitable means of livelihood and community living.

The Shilpogram Village focuses on the local, traditional craftsmanship of jute and bamboo, becoming a central material within the proposition - building upon "low-tek" methodologies. Considering, the climate crises placing areas of Bangladesh, including Zakiganj, at high-risk of flooding and displacement, the village utilises walkways, and elevated interventions to provide the community with a resilient and adaptable way of life. In addition to this, the design approach allows for future expansions, further supporting the adaptive living typologies within the proposition. In understanding the local vernacular, my proposal sought to create buildings which are culturally sensitive, contextually aware, environmentally sustainable and resonate with inhabitants.

The physical model displays one housing prototype for a four-person household, at a 1:50 scale. It explores materiality of bamboo and brick as low-tech solutions for building to embrace flooding. The high-level ground floor of the unit, showcases the detailed materiality via laser cut and painted brick, whilst verandas are supported by hand cut bamboo sticks. The upper floor is encased in hand cut bamboo, as well as displaying detailed roof structure – horizontal and vertical bamboo slats with a terracotta roof tile (etched laserboard).

"Main Housing Façade "

Sanjidah Chowdhury

Master of Architecture
Year 2
Praxxis

Perspective Model Views

Detailed Elevations

Francis Richardson & Karolina Olszewska

Master of Architecture
Year 2
Some Kind of Nature

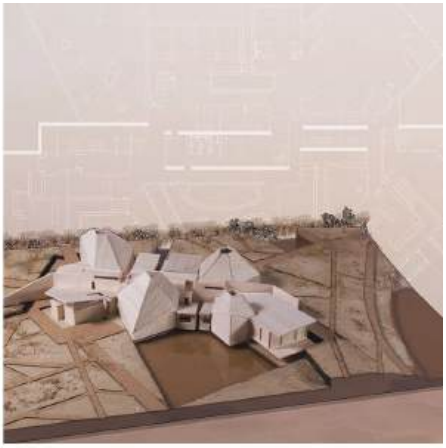
Our models communicated the process of decay in the building and demonstrated how nature and natural processes can be accommodated throughout its life cycle. We approached this at various scales. For instance, we created 1:2 tile models using innovative 3D-printed TPU moulds to batch-produce tiles, allowing for quick testing and repeatable results. Additionally, we developed three 1:200 site models, each depicting a different stage of the project to show how the process of decay gradually affects the building. We used resin to illustrate how the site becomes increasingly flooded over time. This was challenging, but we believe it effectively communicates the sense of water.

Furthermore, we constructed a 1:5 rammed earth wall model, which allowed us to explore the material properties in greater detail, providing a better sense of the textures and buildup we might need. Finding the right colour and mix was difficult, as it required a fine balance. All of our models work in unison to help explain our project more effectively, and we thoroughly enjoyed the process we went through.

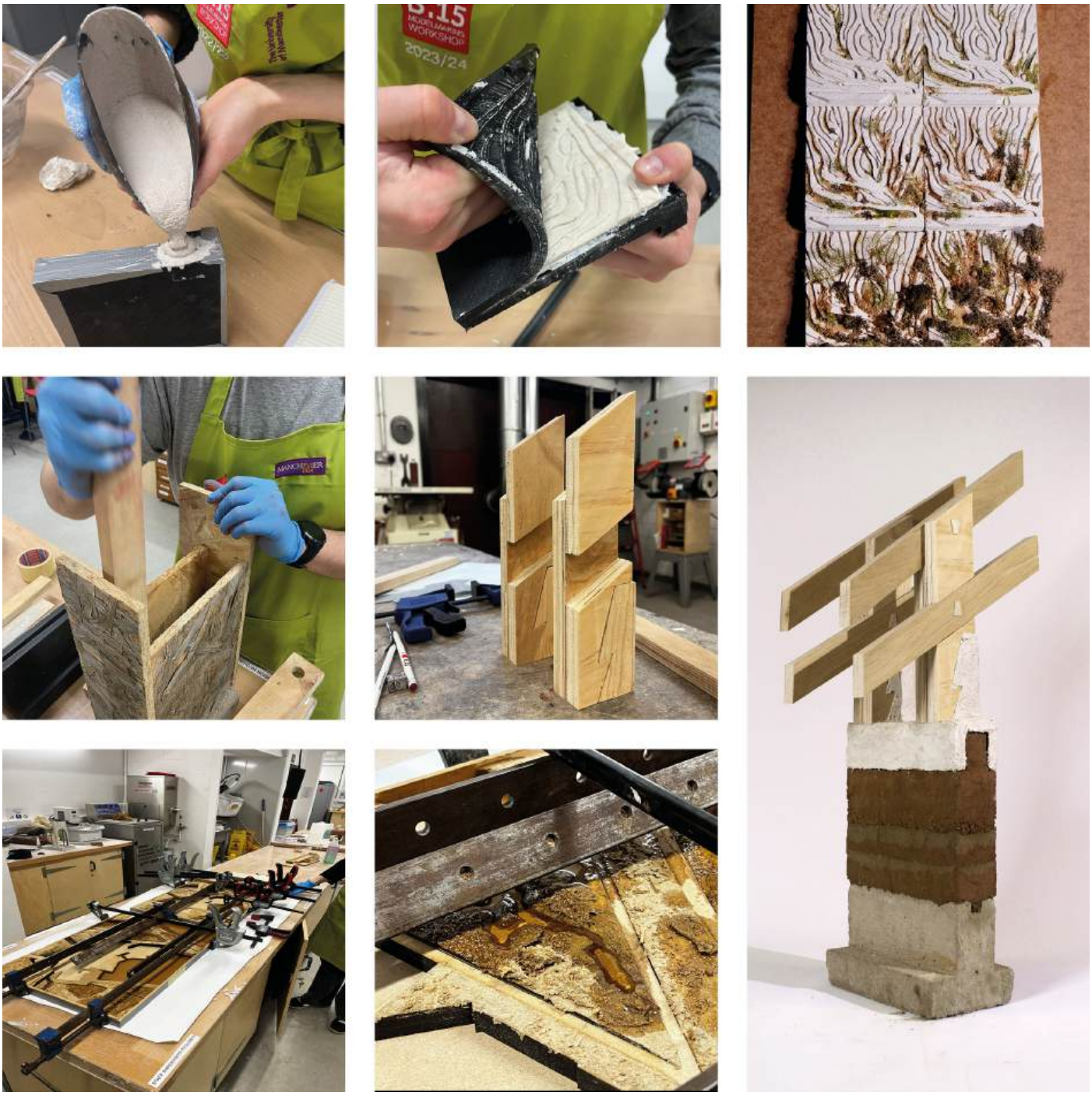
Sculpting Serenity - An exploration into the decay of a building.

Francis Richardson & Karolina Olszewska

Master of Architecture
Year 2
Some Kind of Nature



1:200 site Models showing the process of decal throughout the buildings life cycle.



Detailed exploration into the fabric of the building, focusing on material qualities and how they interact with nature.

Pragnya Thakur

Master of Architecture
Year 2
Some Kind of Nature

“This proposal advocates for a comprehensive retrofitting of housing stock in South Manchester to EnerPHit standards, aiming for community-wide implementation. It emphasizes creating a sustainable living environment that reduces energy costs, carbon footprint, and fosters integration between humans and their surroundings. The residents are empowered to make informed decisions, contributing to energy efficiency and financial savings. By addressing social and environmental impacts, including multi-generational living, remote work integration, and biodiversity support, the proposal aims to create resilient communities that thrive harmoniously with their environment, blurring the boundaries between humans and non-humans.

The idea is to pick a housing unit prototype that gets repeated across the chosen community (might differ in orientation) and to upgrade it through EnerPHit retrofitting standards, whose design approach and construction details can be applied to all the repetitive housing units, all across the community hence attaining a self-sufficient Southern Manchester.

My model depicts a FABRIC-FIRST APPROACH to design, with a detail section covering all the important construction aspects of my building envelope that contributes to attaining indoor comfort, without traditional heating systems, demonstrating their efficacy in reducing energy consumption while maintaining optimal living conditions. Outlining the fundamental elements of EnerPHit principles (for the existing fabric) and passive house principles (for the new construction): insulation, triple-glazed windows, airtightness, thermal bridging and ventilation system.”

A proposed sectional detail model (1:20 scale) of a housing unit in South Manchester addressing comprehensive retrofitting, embodied carbon and biodiversity enhancement.

Pragnya Thakur

Master of Architecture
Year 2
Some Kind of Nature

A collage depicting my material, structural and retrofit strategy at 1:20 scale with all the construction details incorporated along with habitat for biodiversity.

A collage depicting the various EnerPHit retrofit strategies and more-than-human aspects of my design and how the "fabric-first approach" is blurring the boundaries between humans and non-humans with the building envelope.

Izzat Hakimi Bin Abd Ghani

Master of Architecture
Year 3
Continuity in Architecture

Manipulating The Essence of Todmorden's Vernacular: A Celebration of Everyday Elements in Todmorden's Town Centre Through Heteroglossia & Heterotopia

This project explores the potential of everyday and banal elements within the urban landscape to act as catalysts for Todmorden town centre regeneration. Through the creation of a physical model, I investigated how the preservation and integration of these vernacular elements can foster a sense of place, community identity, and a more vibrant public realm. I aimed to communicate the essence and characters extracted from the vernaculars and how it is integrated into the design as well as fitting into the urban grain of Todmorden.

A collection of models is produced ranging from site key plan model, massing iterations, design sculptural intervention (Heteroglossia) and a bricolage of design elements including the facade design model of Heterotopia (Everyday Vernacular Civic Hub). The model employs collaging, layering and juxtaposition techniques to showcase the harmonious yet messy integration of the vernacular elements symbolising the constantly evolving, ever-changing and theatricality of everyday dramas in Todmorden. Vernacular elements are interwoven with contemporary design features, creating a visually cohesive and dynamic composition.

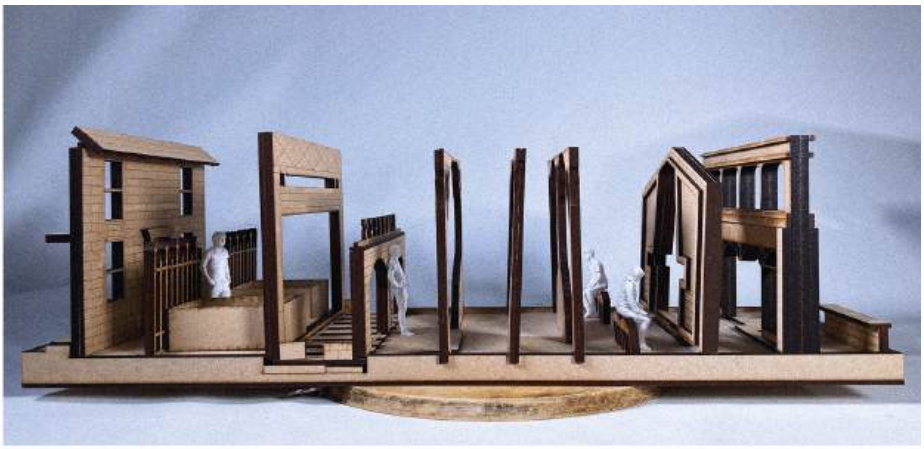
The inspiration for this project stemmed from the growing recognition of the importance of everyday elements in shaping our experience of place. Often overlooked or disregarded, these vernacular details hold significant cultural and historical value, acting as tangible links to the collective memories of a community hence adding a sense of belonging and familiarity to the place.

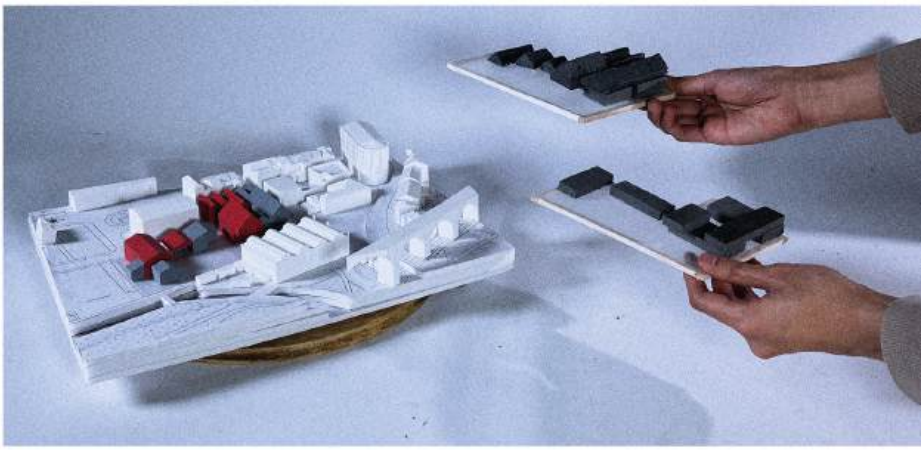
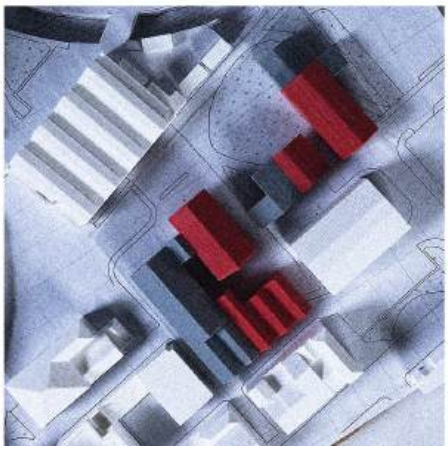
By embracing the diverse voices and elements that make up a place, Heteroglossia-Heterotopia offers a new approach to urban regeneration, one that celebrates the richness of the everyday and fosters a more connected and vibrant community of Todmorden.

"Todmorden's Bricolage: Unveiling Todmorden's Soul. This model collection explores how everyday objects, local stories, and architectural fragments can be reimagined to create a more resilient, inclusive, and vibrant town centre. Through layering and juxtaposition, the models showcase a ""bricolage"" approach, celebrating the beauty of Todmorden's messy and ever-evolving urban fabric.
"

Izzat Hakimi Bin Abd Ghani

Master of Architecture
Year 3
Continuity in Architecture


"Heteroglossia & Heterotopia: Todmorden's Stage Set For All A simple act of walking to the market for groceries, a ubiquitous and relatable daily routine, provides a rich framework for depicting the diverse experiences and interactions that unfold in Todmorden’s everyday life. This narrative is interpreted into Heteroglossia and Heterotopia, a civic folly and hub in the heart of Todmorden's town. This stage set comprises of a selected few of the banal and mundane elements to evoke a sense of familiarity and identity of the town. These were then tested and iterated to fit into the context and the urban fabric of Todmorden."

"Heterotopia : A New Symbol Of Todmorden
This unique structure transcends mere function, embodying Michel Foucault's concept of heterotopia. Here, the echoes of Todmorden's history - the imposing train viaduct's arches - interweave with the vibrant pulse of the market hall, its grand entrance mirroring the viaduct's scale. Bronze rainscreen cladding whispers a modern language, seamlessly merging with the market's playful arch variations. Even the ground, a patchwork of grasscrete paving, reflects the town's landscape. This architectural collage model is a symbol of Todmorden's one-of-a-kind identity."