Mass & Air

Project Description

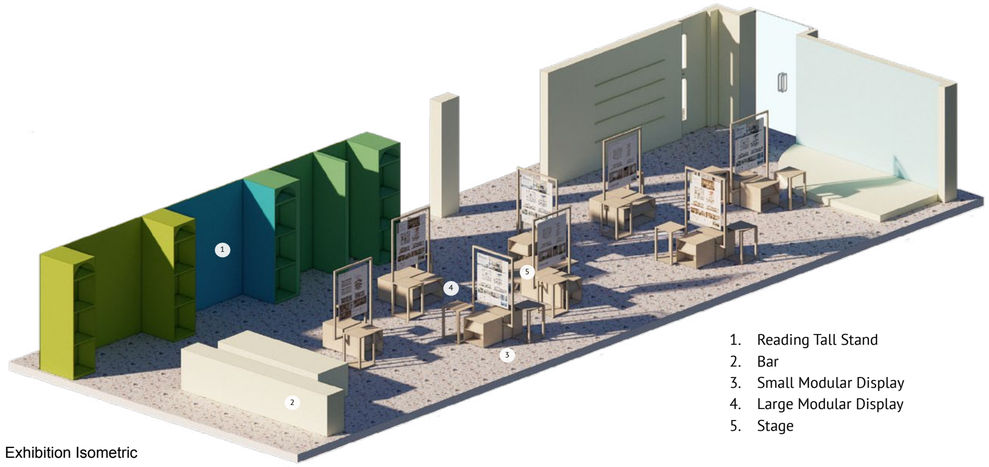
Mass & Air began with a question: how can a temporary exhibition be designed with its end already in mind? The project prioritised material reuse, adaptability, and environmental responsibility from the outset - not as an afterthought, but as the core design driver. Over 50% of materials were reclaimed, including 100% of recoverable timber and plywood from the previous year's exhibition.

Slot-fit joinery and removable fixings were chosen specifically to enable disassembly and future reconfiguration. Following the exhibition, components were retained by the university for graduation displays - proving that designing for reuse, rather than disposal, produces architecture that genuinely outlasts its original purpose.

Exhibition Visualisation

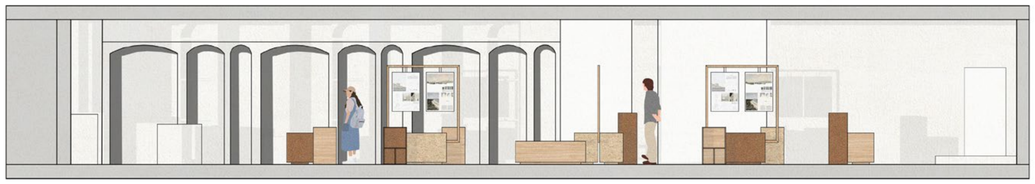
Final Outcome

Concept & Spatial Strategy



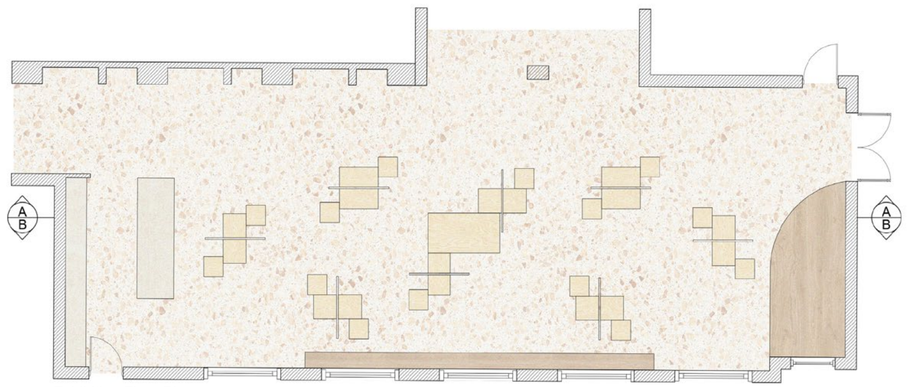
1. Reading Tall Stand
2. Bar
3. Small Modular Display
4. Large Modular Display
5. Stage

Exhibition Isometric



Section AA

Section BB



Exhibition Floor Plan

The spatial configuration was developed to create a clear and accessible exhibition environment that supports circulation, interaction, and adaptability. Modular display elements of varying scales were positioned to balance open movement with defined viewing zones, allowing visitors to engage with models, posters, and process work from multiple perspectives.

Particular consideration was given to accessibility and inclusive circulation, ensuring comfortable movement throughout the space, including for visitors with reduced mobility. The arrangement integrates existing architectural features and flexible presentation areas, supporting both exhibition display and temporary event use within the Innovation Lab.

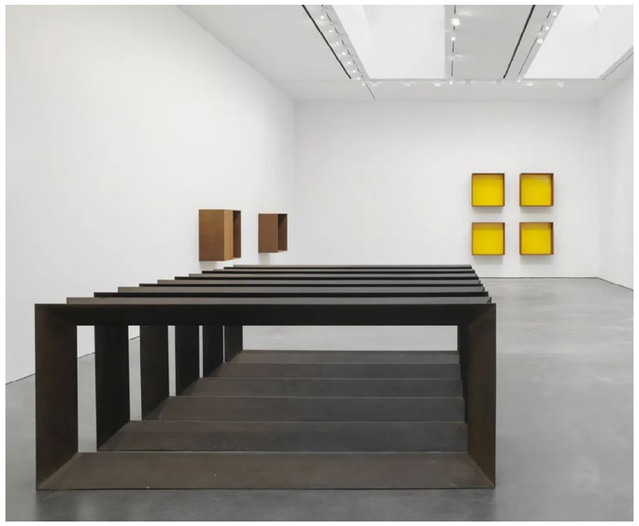
Mass & Air

Precedent Studies & Material Exploration

Jones Neville - Wrong. London, Milan Design Week (2016)

Material Study

Jones Neville's Wrong. London informed the early material exploration of Mass & Air through its use of modular forms and contrasting textures. Initial concepts tested multiple materials and finishes across the display system before evolving into a more cohesive and sustainable solution using untreated birch plywood throughout the final installation.



Donald Judd - David Zwirner, New York (2015)

Modularity Study

Donald Judd's work influenced the project through its emphasis on repetition, proportion, and material honesty. The modular arrangement and exposed structural language informed the development of a simplified plywood system where construction and material became central to the spatial experience.

Final Proposal

Initial Proposal

Small Modular System

Stage

Large Modular System

1. Chipboard
2. Birch Plywood
3. Washi Paper
4. Stained Chipboard
5. Cork

Material Approach

The material strategy evolved through reduction and refinement. Initial proposals explored a variety of textures, finishes, and materials to create contrasting tactile experiences within the modular display system. Through testing and iteration, the palette was simplified into a cohesive birch plywood system, reducing material complexity and waste while strengthening the adaptability and reusability of the installation.

Concept Prototyping

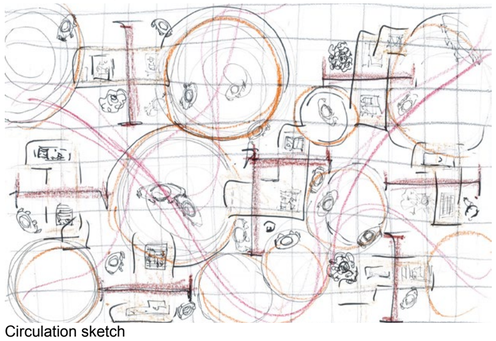
The initial proposal explored a varied material palette, combining birch plywood, chipboard, and cork to create contrasting textures and tactile experiences within the modular display system. Through testing and iteration, the design was refined into a more cohesive and sustainable solution, reducing the number of materials and suspended banners to strengthen visual clarity, adaptability, and material consistency while minimising unnecessary complexity and waste.

Final Fabrication

The final proposal was developed as a cohesive modular exhibition system centred around untreated birch plywood in its natural finish. Through testing and refinement, the material palette was reduced to establish greater visual coherence, spatial clarity, and material consistency while minimising unnecessary waste and complexity.
The installation explores the relationship between grounded modular elements and lightweight suspended display frames, balancing mass and suspension within the exhibition space. Designed as an adaptable and reusable system, the installation enables efficient assembly, disassembly, transportation, and future reconfiguration, supporting a more sustainable approach to temporary exhibition design.

Mass & Air

From Concept to Construction

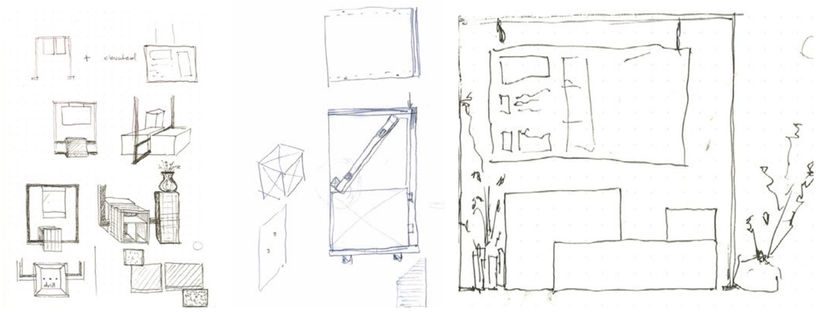


Circulation sketch

Prototype 1

1:20 concept model

1:1 prototype

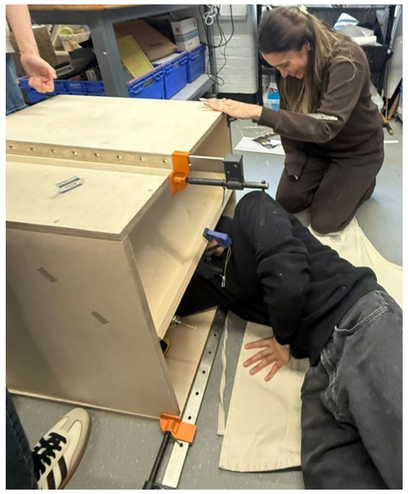


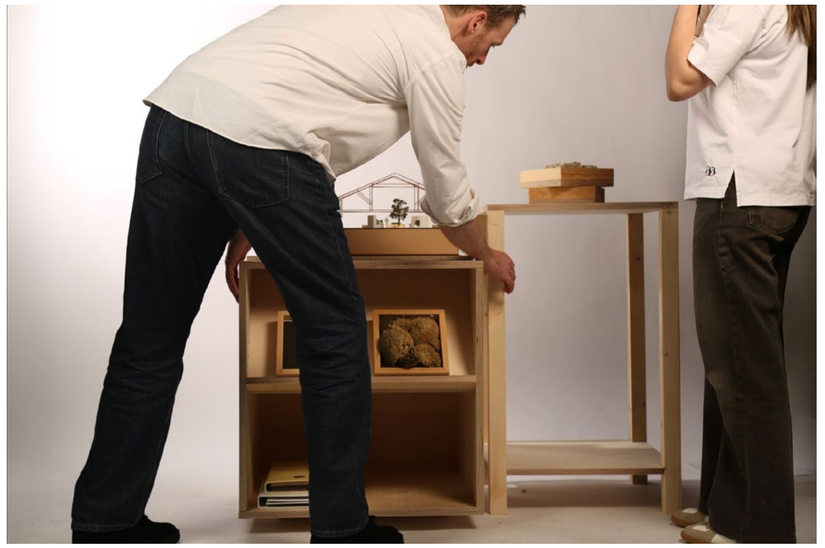
sketches

Material shelf prototype

1:20 model

Fabrication Process





Research & Prototyping

The transition from digital proposal to full-scale construction transformed the project from a conceptual exhibition system into a tangible spatial experience. While drawings, models, and visualisations established the overall design direction, the fabrication stage provided an opportunity to test the project through making. Material connections, structural stability, and assembly sequences were refined through construction, informing the final outcome. This phase revealed how the modular components performed at full scale and contributed to the spatial quality of the installation.

Making & Assembly

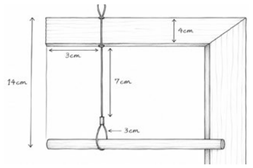
Constructing the modular elements revealed practical considerations that could not be fully understood through design development alone. Material tolerances, assembly sequences, structural stability and spatial relationships were continuously evaluated and refined throughout the process. Working directly with the components enabled the team to assess how individual elements functioned both independently and collectively within the exhibition environment.

Installed Outcome

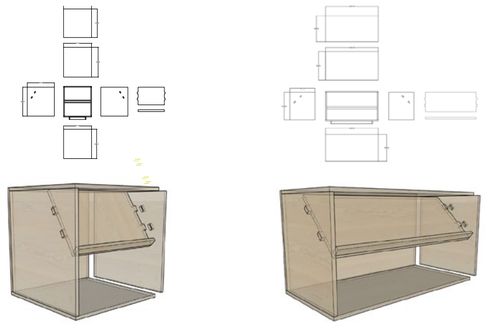
The installation process confirmed the adaptability of the modular system, demonstrating its ability to accommodate display, interaction and circulation while maintaining a clear visual identity. Through iterative testing, assembly and adjustment, the final outcome remained faithful to the original concept while responding to the realities of construction. The project highlights the value of hands-on making as a critical stage in the design process, bridging the gap between intention and built outcome within a full-scale architectural setting.

Mass & Air

Construction & Assembly Strategy



Suspended Banner Connection Detail
The suspended banner system was connected to the timber frame using thin metal wire fixings, creating a lightweight and visually minimal hanging solution.

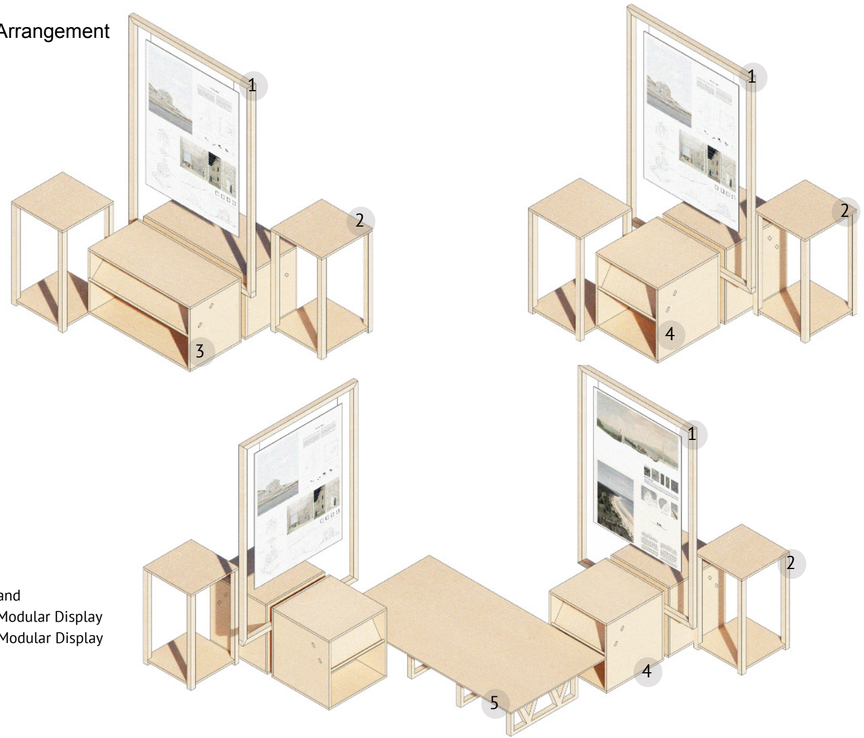


Small and Large Modular Stands Connection Detail
The modular stand was assembled using screw fixings and slot-fit joints. The inclined internal shelf inserted directly into openings within the side panels, structurally stabilising the modular unit while reducing additional fixings.

Tall Modular Stand Connection Detail
The modular stand utilised screw fixings and metal angle brackets to connect the vertical legs to the plywood base, providing structural stability while enabling efficient assembly and reuse.

Modular Frame & Base System
The modular stand utilised screw fixings and metal angle brackets to connect the vertical legs to the plywood base, providing structural stability while enabling efficient assembly and reuse.

Stands Arrangement



1. Frame
2. Tall Stand
3. Large Modular Display
4. Small Modular Display
5. Stage

Construction & Circular Reuse Strategy

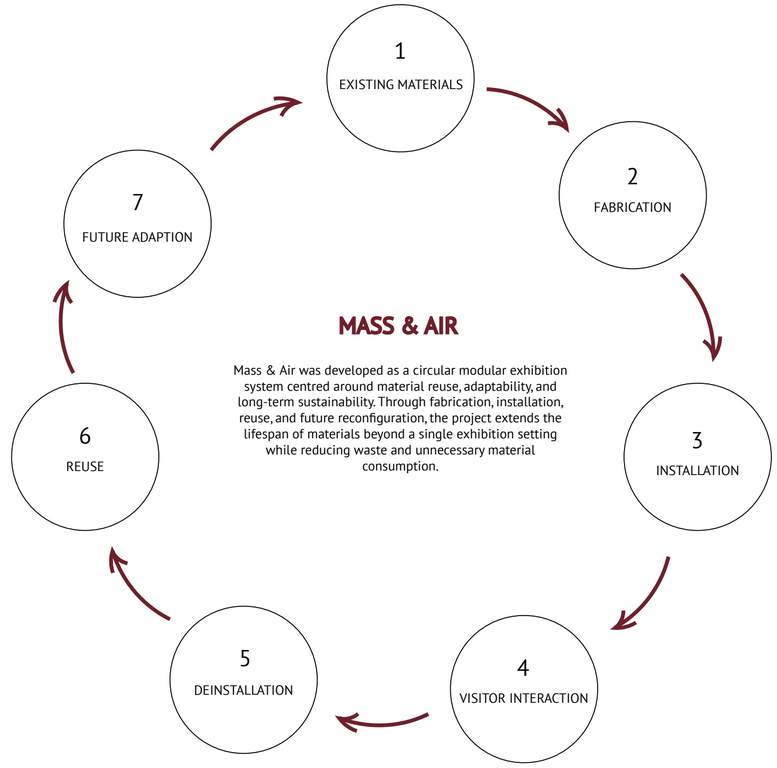
Reuse / Sustainability Diagram

50%
materials reclaimed

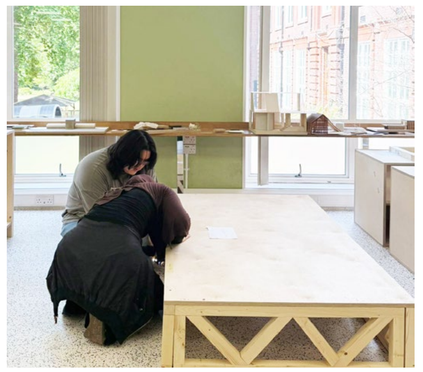
100%
recoverable timber & plywood reused

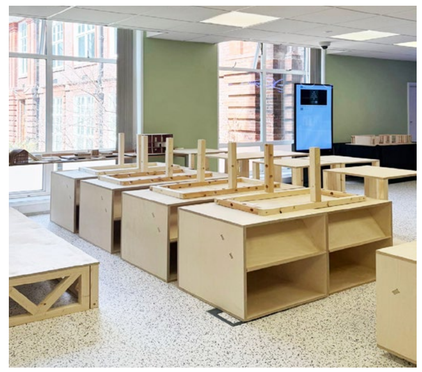
0 glue used
screws only

100%
of usable workshop plywood incorporated



Exhibition Deinstallation





The project adopted a sustainable approach that extended beyond material selection alone. Following the exhibition, the installation was carefully deconstructed on 22 May, with all components handled and stored to preserve their condition for future use. From the beginning of the fabrication process, the system was designed around reuse, adaptability, and long-term material lifespan.

Components were labelled, organised, and prepared for reassembly, including pre-selected fixings attached directly to structural elements to simplify future installation. Several modules were returned to the design studios for continued development, while a significant portion of the installation was retained by the university for reuse during the graduation exhibition. Additional components were stored within the workshop for future projects, ensuring that materials were repurposed, reused, or carefully archived rather than discarded.

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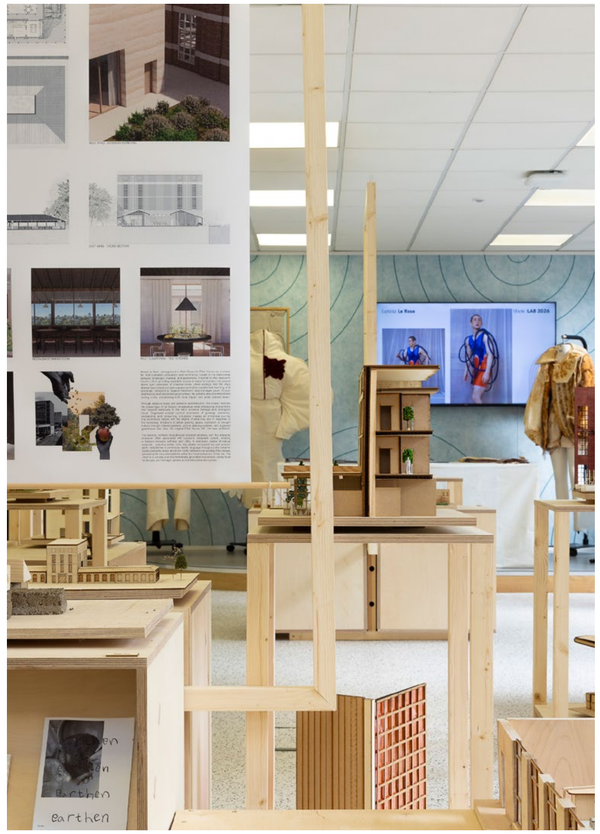
Final Installation & Spatial Experience



Final Installation & Spatial Experience

The final installation was designed to create a clear and individual exhibition environment where each student was provided with a dedicated spatial zone to present their work. The modular system allowed every participant to display multiple physical models, material samples, and supporting presentation elements within a structured yet flexible layout.

Each exhibition space incorporated a suspended presentation banner, a tall modular display stand, integrated shelving, and additional surfaces for items such as booklets, sketchbooks, or material boards. The combination of vertical and horizontal display elements created a balanced composition that enhanced the visibility of the exhibited work while encouraging closer interaction between visitors and the displays. This arrangement also maintained a sense of personal ownership and identity within each student's presentation area.

The open circulation strategy enabled comfortable movement throughout the exhibition, allowing visitors to engage with the projects from multiple perspectives while supporting accessibility and clear visual communication within the space. The careful organization of the modular elements established a cohesive exhibition environment that balanced individual expression with an overall architectural unity, creating an engaging and visually coherent spatial experience. The modular framework also provided a clear spatial order, helping to unify the exhibition while accommodating a range of different presentation styles and project requirements across the shared exhibition setting.

Reflection

Mass & Air investigates how material strategy, modular construction, and environmental awareness can shape more sustainable approaches to temporary exhibition design. Developed through an iterative process of testing, prototyping, and refinement, the project evolved from an initially varied material palette into a cohesive modular system centred around untreated birch plywood in its natural finish.

The installation balances grounded mass with lightweight suspended elements to create a spatial experience that is visually open, tactile, and adaptable. Designed for efficient assembly, disassembly, transportation, and future reconfiguration, the system supports long-term reuse beyond a single exhibition setting. By prioritising reduction, material honesty, and adaptability, the project demonstrates how temporary exhibition environments can respond more consciously to both environmental and spatial considerations while supporting meaningful interaction between visitors and exhibited work.

The project also highlights the role of exhibition architecture as a framework for both display and experience. Rather than acting solely as a backdrop, the installation defines spatial relationships, guides circulation, and establishes a clear dialogue between the exhibited work and its audience. Through its modular logic and restrained material language, Mass & Air explores how simple architectural interventions can create flexible, engaging, and resource-conscious environments for contemporary exhibition practice.