

The image shows a bright, modern interior space, likely a showroom or a community center. The room is filled with large windows on the left side, providing natural light. The floor is made of light-colored tiles. In the foreground, there are several wooden tables and chairs. A prominent table in the center has a dark top and light-colored legs. To the right, two people are standing near a table, looking at something. The background features a large display area with various items, including a tall wooden structure and a table with a laptop. The overall atmosphere is clean, bright, and organized.

Without Waste Homeware Range Project Report

Jack Wells

Provenance Research



Millions of offcuts are produced every year from unwanted material of products. But can this be avoided?

Made 'Without Waste' is a design philosophy based on minimizing offcuts to usable shapes and, if possible, eliminating them completely. This involves planning stock form dimensions and material use. However, the designs must also remain aesthetic and creative despite these restrictions.

The homeware range will be designed for the hallway maintaining an organised and relaxing environment in the transition from outside to the comfort of the home.



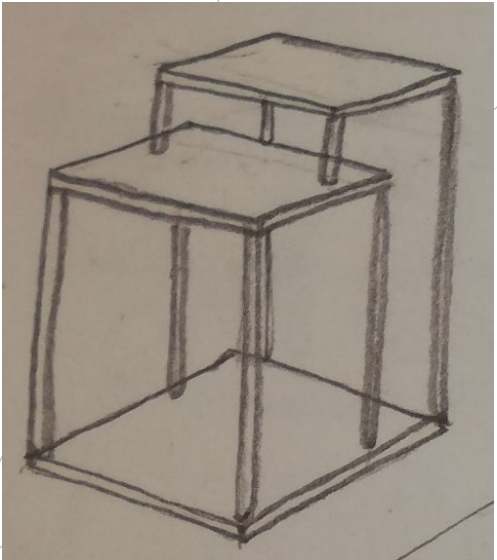
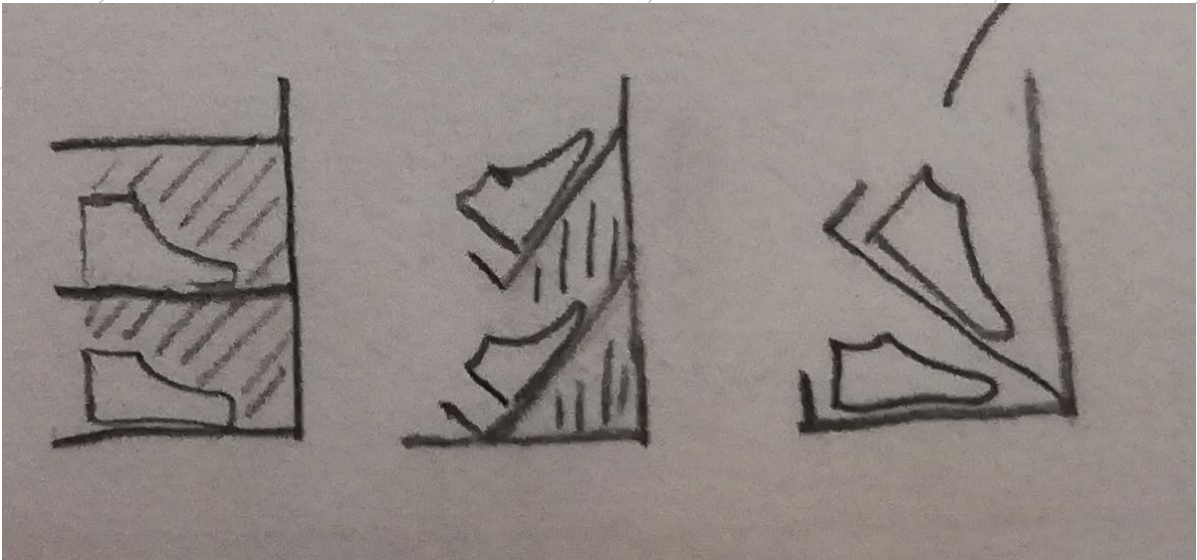
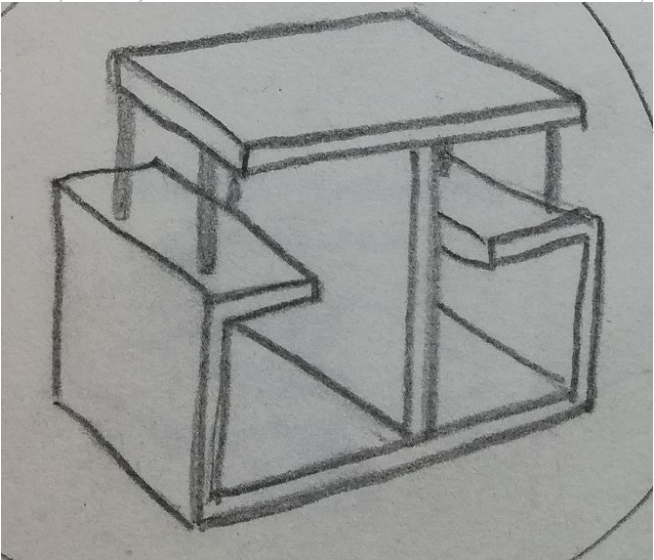
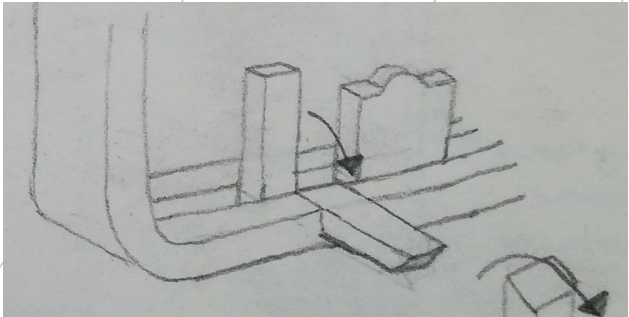
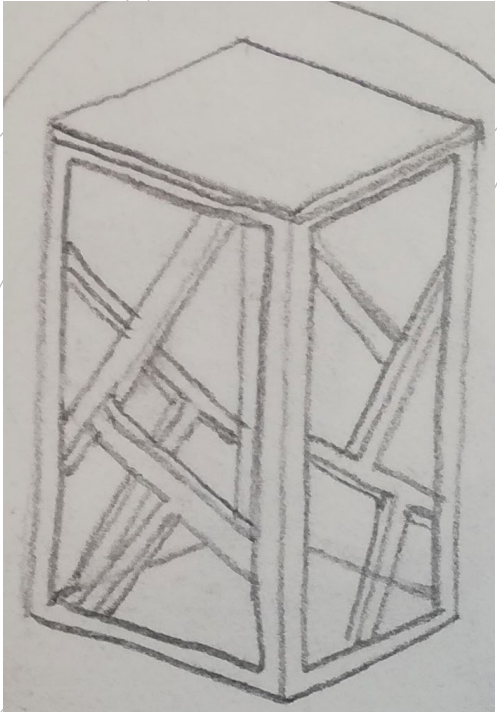
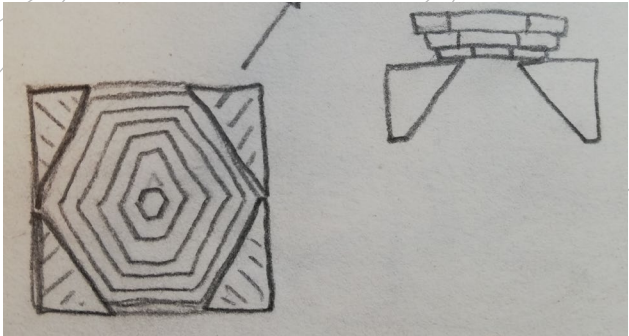
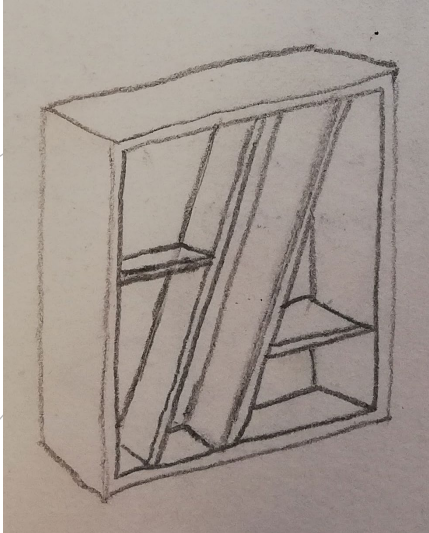
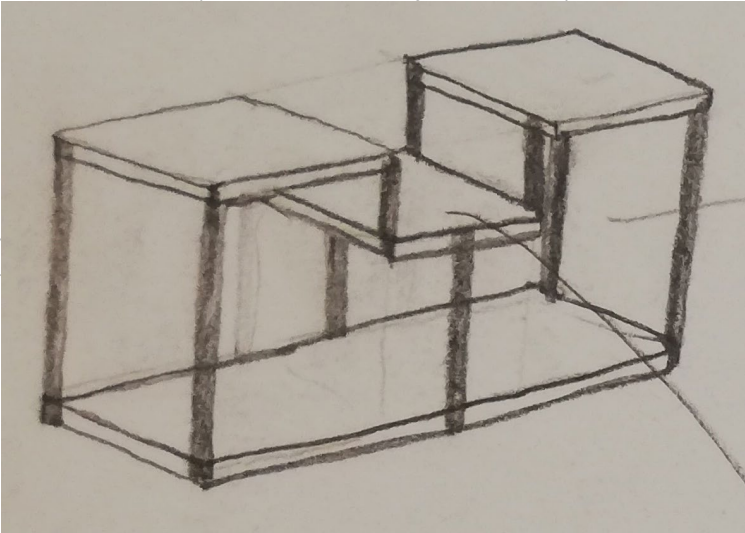
Homeware Inspiration

I took some inspiration from the sophisticated and industrial aesthetic of Alessi kitchenware.



I also researched the colourful and abstract forms of Memphis homeware.

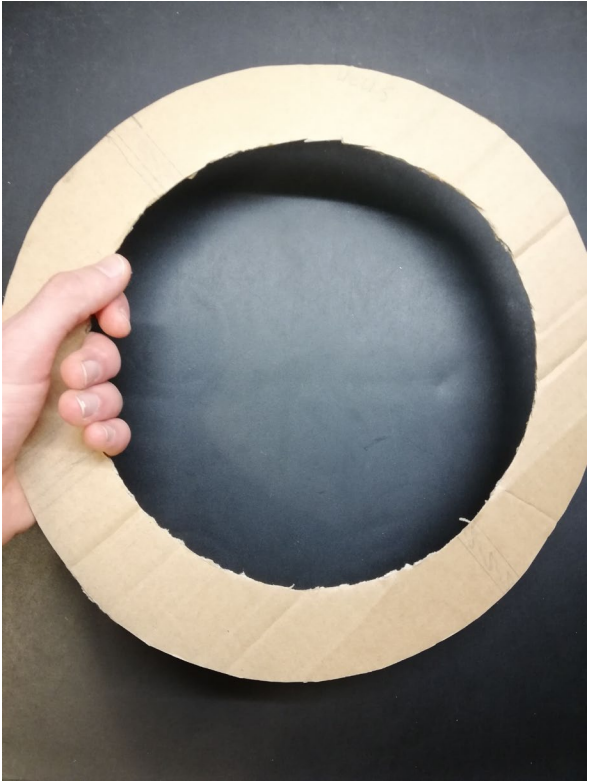
Initial Concept Sketches



Cardboard Prototypes



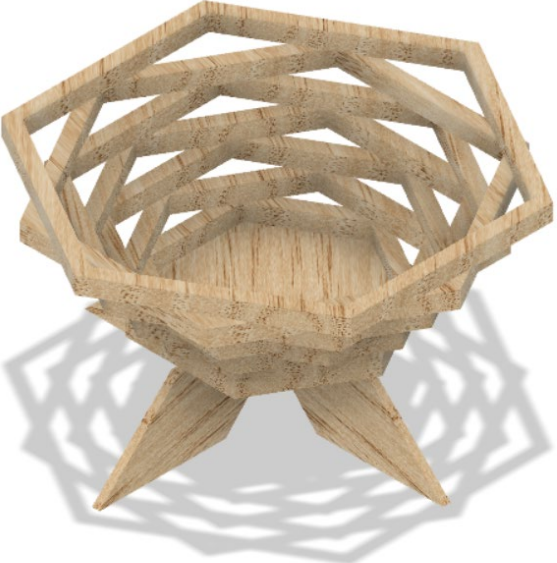
Shoe shelf model – displays dimensions and aesthetic



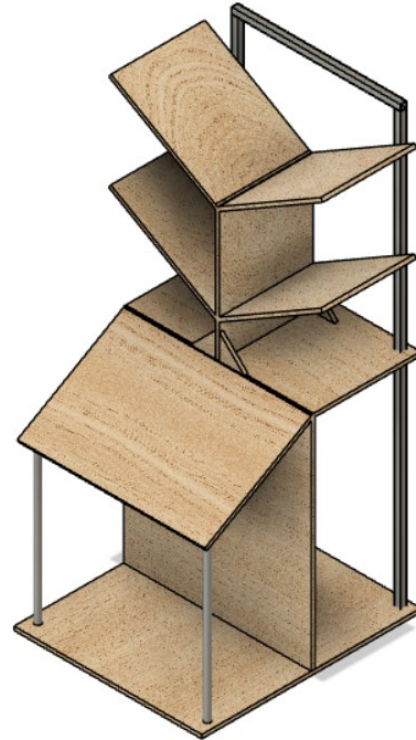
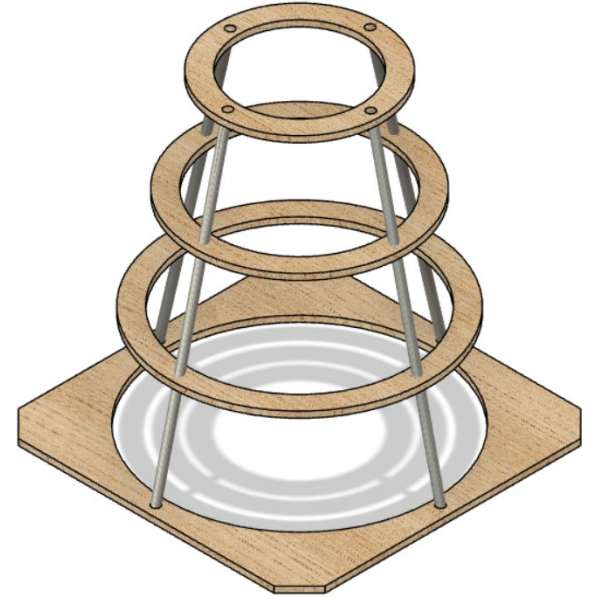
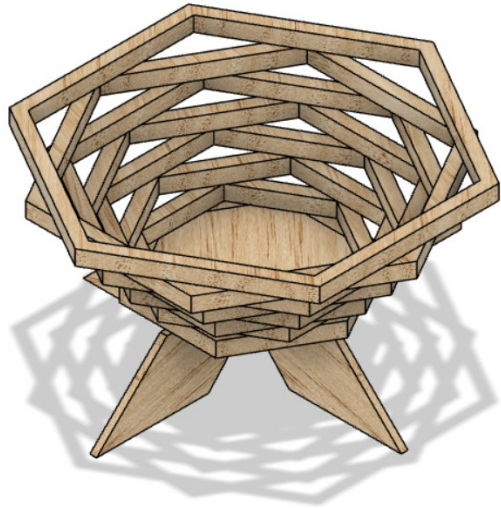
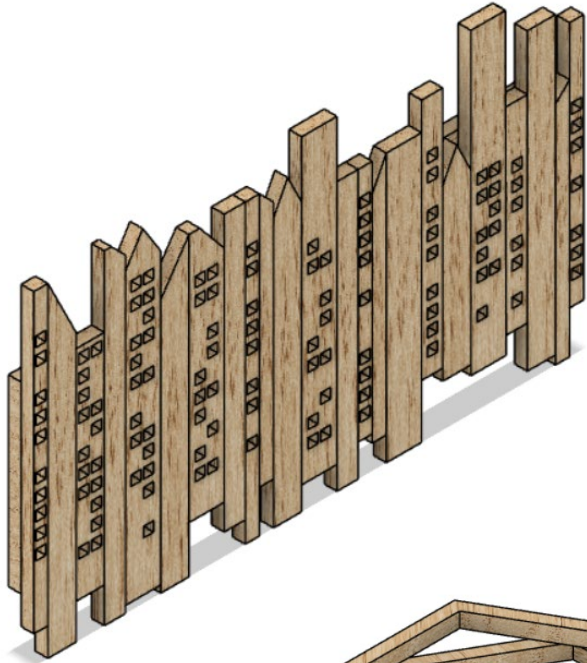
Umbrella stand top ring model – tests storage capabilities

Folding coat hooks model – displays wall art aesthetic and secret functionality

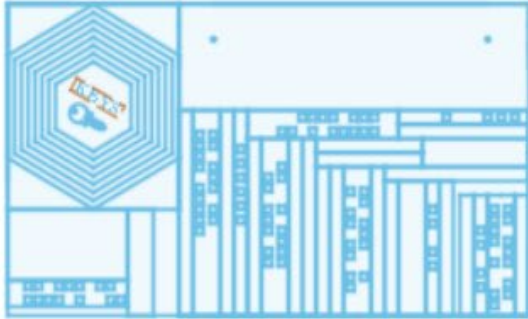
Initial CAD Modelling



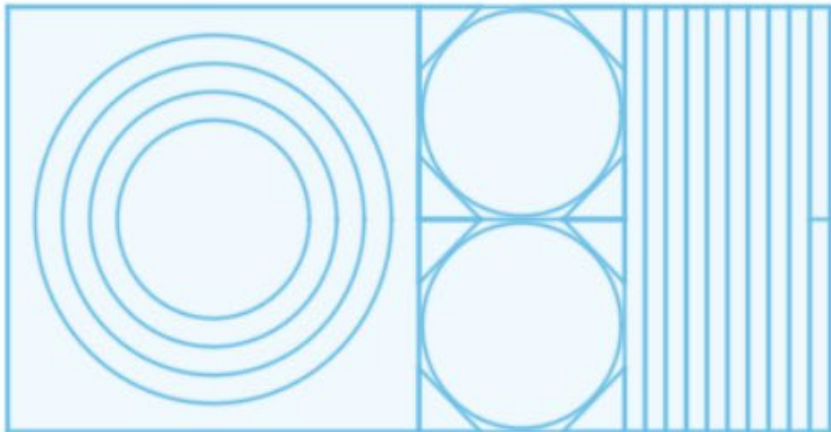
Finalised CAD Modelling



Material Use



Birch Plywood
760mm x 440mm x 9mm
£7.14

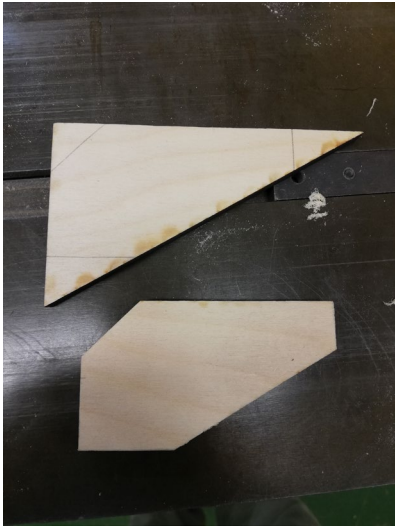


Birch Plywood
1200mm x 600mm x 12mm
£17.53

Tubular Steel
3000mm x 16mm x 16mm
£6.84

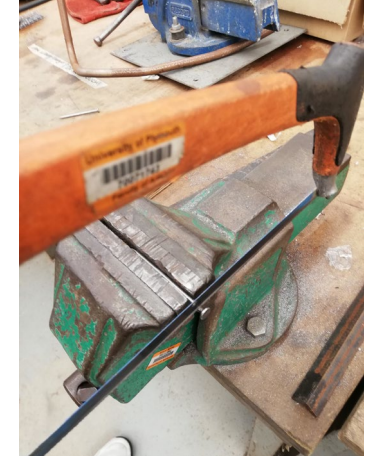
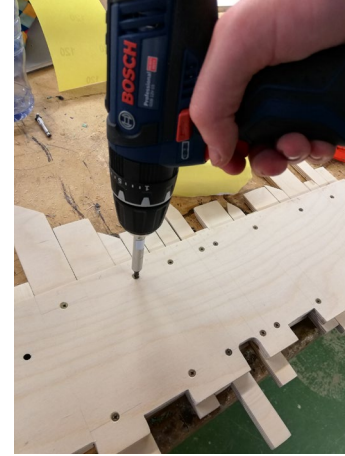
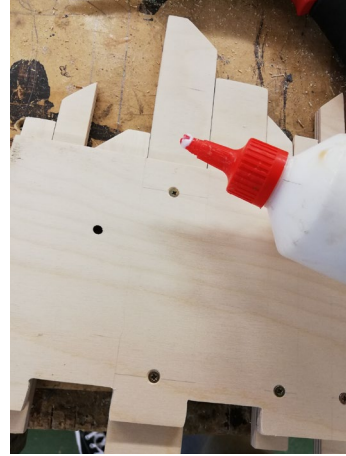
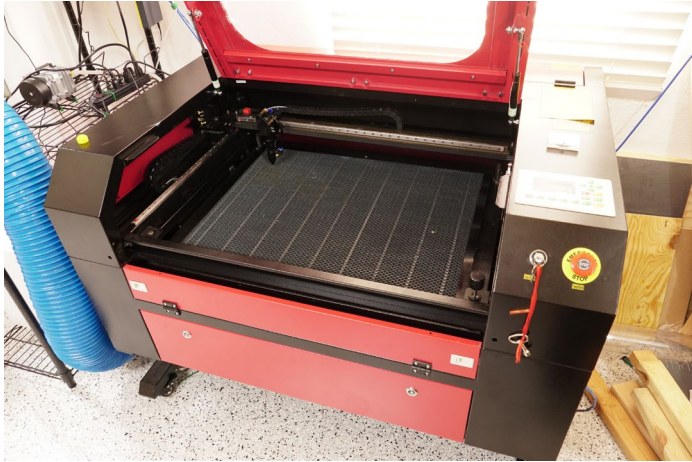


Manufacturing – Key Bowl



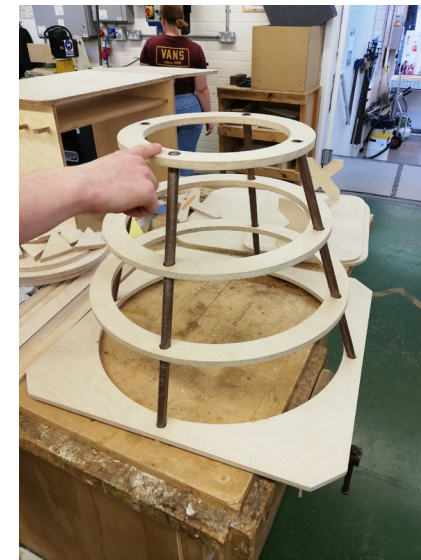
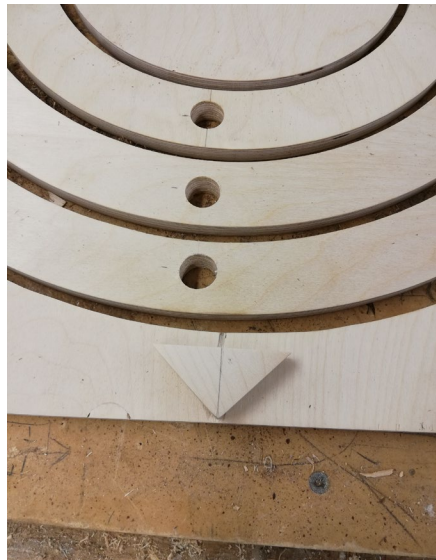
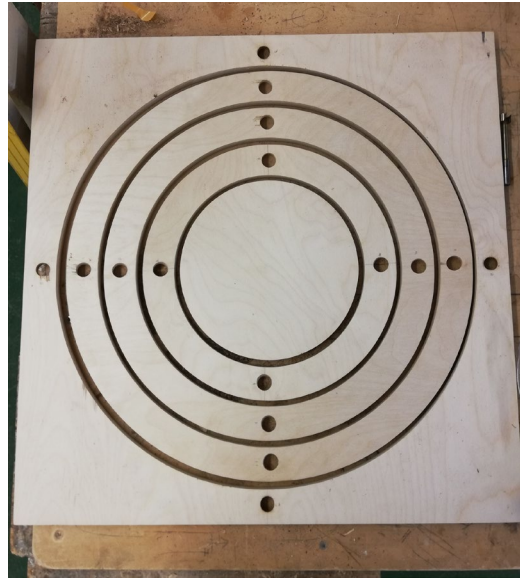
By using the corners of the sheet as the legs of the key bowl, I was able to increase the stability and prevent any offcuts being produced.

Manufacturing – Coat Hooks



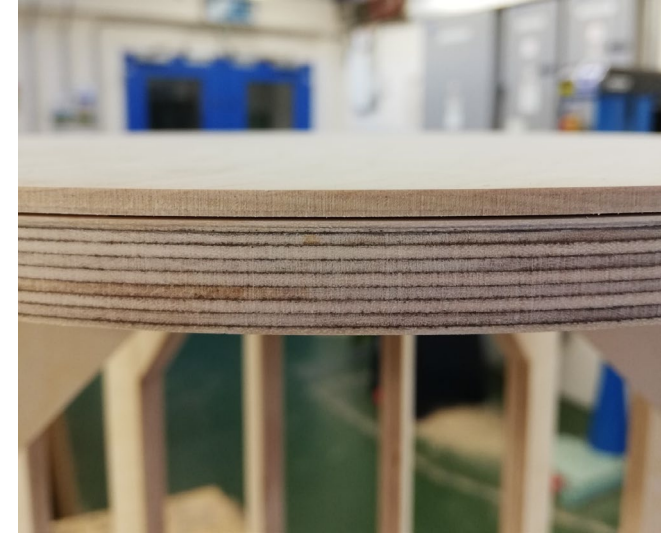
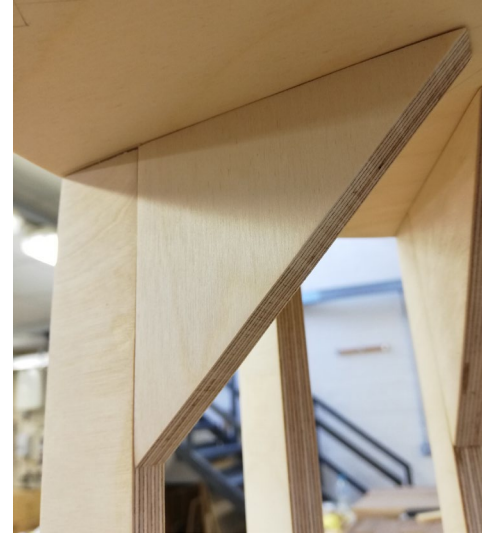
By nesting the buildings on the laser plywood, I was able to produce no offcuts and reduce waste to only dust produced by sanding.

Manufacturing – Umbrella Stand



The centre circle of this umbrella stand is used as the shelf for the side table. The corners of the base were cut off and attached as feet to create an aesthetic shadow and ensure user safety.

Manufacturing – Side Table



I used the corners of the circle to create shelf supports for the middle shelf and top shelf. This meant that zero offcuts were produced and the spare pieces were used for a structural and aesthetic purpose.

Packaging



The flatpack box is designed for ease of transport, both in terms of stackability in carrier lorries (thus reducing fuel costs by saving space), and carrying by an individual. It is based on IKEA packaging with an understandable design, reflecting the intended simplicity of the assembly instructions.

The green card sleeve contains all necessary information about the contents of the box and the Without Waste design approach, providing the shop customer with the option to choose an environmentally-friendly product. The boxes will be arranged to form a sheet form, thus displaying the nesting plan used to reduce material waste.



Online Shop



Without Waste Key Bowl

£16.00

Quantity

Add to Basket

Get it Thursday, 25th May
Order within **22 Hrs 49 Mins**

Product Description ∨

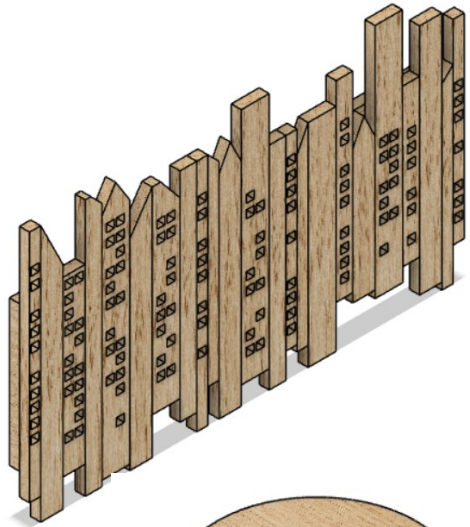
Delivery ∨

Returns ∨

In-Store Puzzle Layout

<p>block</p> <p>WITHOUT WASTE KEY BOWL</p>  <p>Dimensions: 200mm x 200mm x 100mm Materials: Plywood Weight: 40g</p> <p>£16.00</p>	<p>block</p> <p>WITHOUT WASTE HOOKS</p>  <p>Wall-mounted, engaging, and waste-free cast hooks</p> <p>Dimensions: 490mm x 200mm x 30mm Materials: Plywood, Steel Rod Weight: 420g</p> <p>£33.00</p>	<p>block</p> <p>WITHOUT WASTE MIRROR</p> <p>IN DEVELOPMENT</p>
<p>block</p> <p>TOOL KIT</p> <ul style="list-style-type: none">1 Saw1 Hammer1 Screwdriver1 Pencil1 Square1 Spirit Level1 Tape Measure1 Pair of Pliers1 Pair of Side Cutters1 Pair of Long Nose Pliers1 Pair of Wire Cutters1 Pair of Needle Nose Pliers1 Pair of Flat Nose Pliers1 Pair of Round Nose Pliers1 Pair of Side Cutters1 Pair of Wire Cutters1 Pair of Needle Nose Pliers1 Pair of Flat Nose Pliers1 Pair of Round Nose Pliers <p>£8.00</p>		
<p>block</p> <p>WITHOUT WASTE UMBRELLA STAND</p>  <p>An abstract, sculptural, waste-free umbrella stand</p> <p>Dimensions: 600mm x 600mm x 440mm Materials: Plywood, Tubular Steel Weight: 1.42kg</p> <p>£52.00</p>		
		<p>block</p> <p>WITHOUT WASTE SIDE TABLE</p>  <p>A multilayered, functional, waste-free umbrella stand</p> <p>Dimensions: 290mm x 290mm x 650mm Materials: Plywood Weight: 1.21kg</p> <p>£39.00</p>

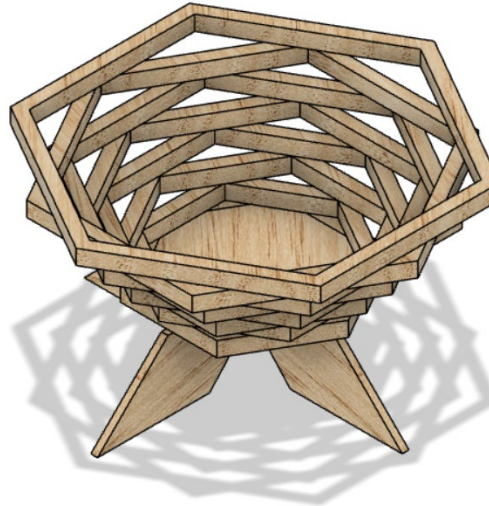
Batch Production Developments



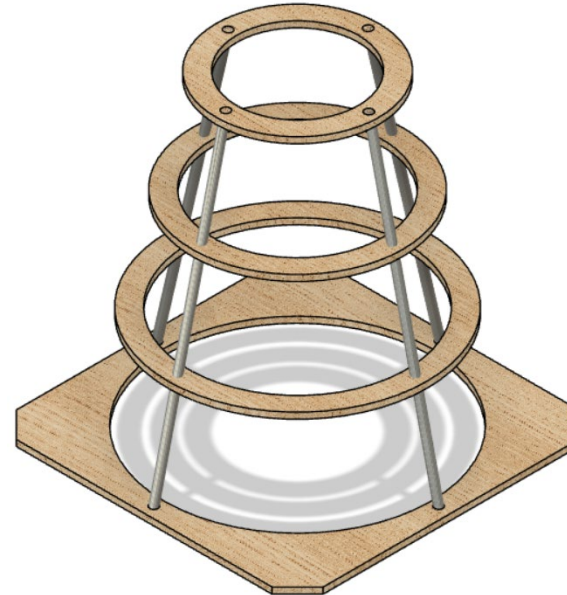
- ❖ Laser cutting
- ❖ Nest multiple products on one larger laser plywood sheet
- ❖ Line up hooks so one metal rod can go through the whole product to save time – would increase wastage



- ❖ CNC laser cut or mill all components
- ❖ Create drilling jig for dowels connecting top and base to legs to save time and ensure accuracy



- ❖ Laser cutting
- ❖ Nest multiple products on one larger laser plywood sheet
- ❖ Jig for metal pins – quicker than drying time of PVA glue



- ❖ CNC milling to save time and create a smooth curve
- ❖ Create pillar drill jig to angle the holes and enable all rings to be drilled at once – a quicker and more precise process
- ❖ Create a jig to hold the rings in position whilst sliding the tubular steel supports in

Exhibition



Exhibition Posters



Made Without Waste



Made Without Waste



Made Without Waste

Exhibition Posters



Photoshoot

