AREA WARE x KJB

CONTOUR SHAKER

A project by
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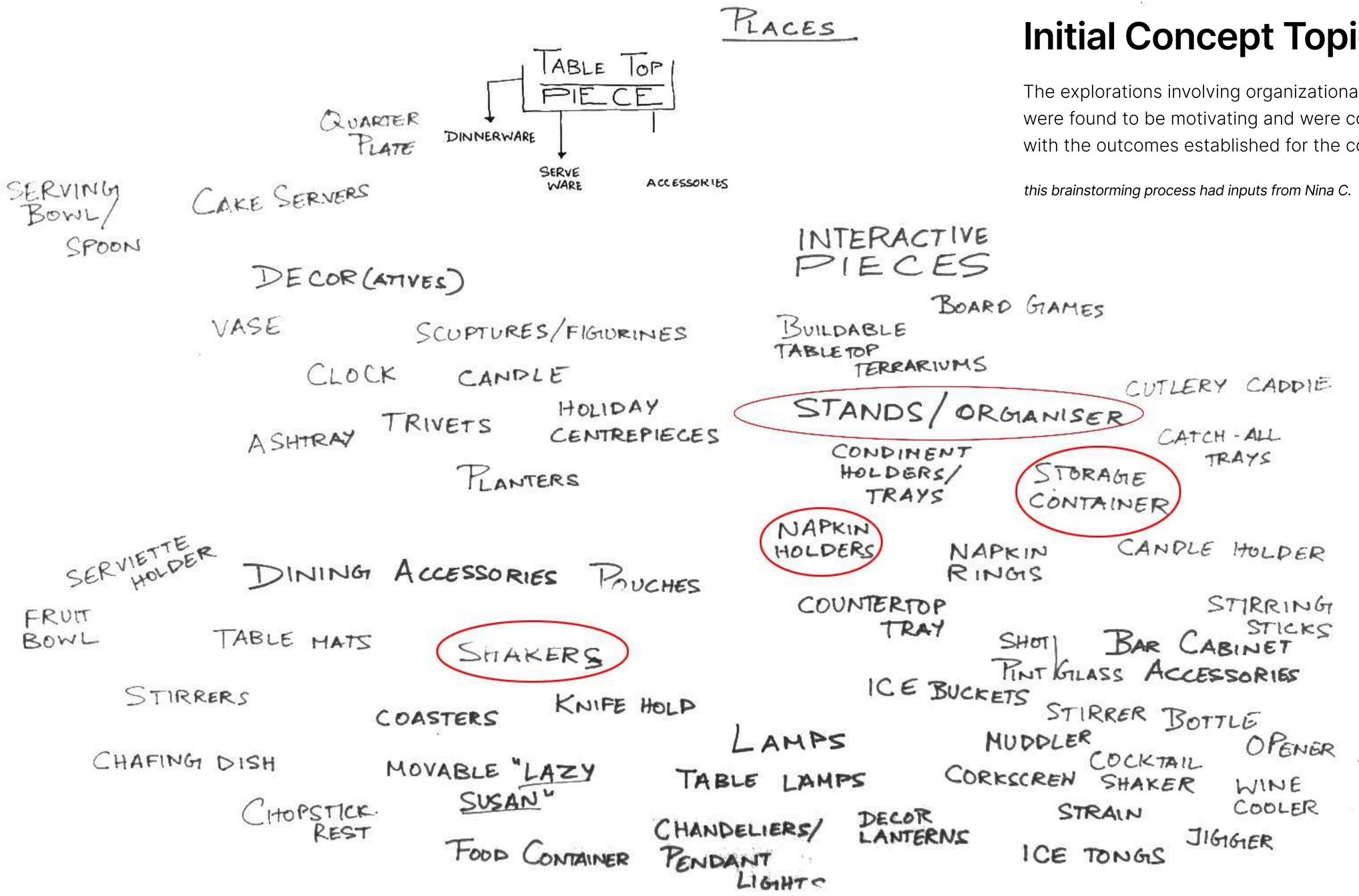
Design Studio 2 Local Production : Professor Mark Becthel

Project Brief

Contour Shaker is a sculptural two-piece salt and pepper set that **promotes local production in the USA**. Designed for efficient wood-lathe manufacturing, it has a simple nested composition balancing with expressive form, aligning with Areaware’s commitment to thoughtful, well-crafted tabletop objects**.**



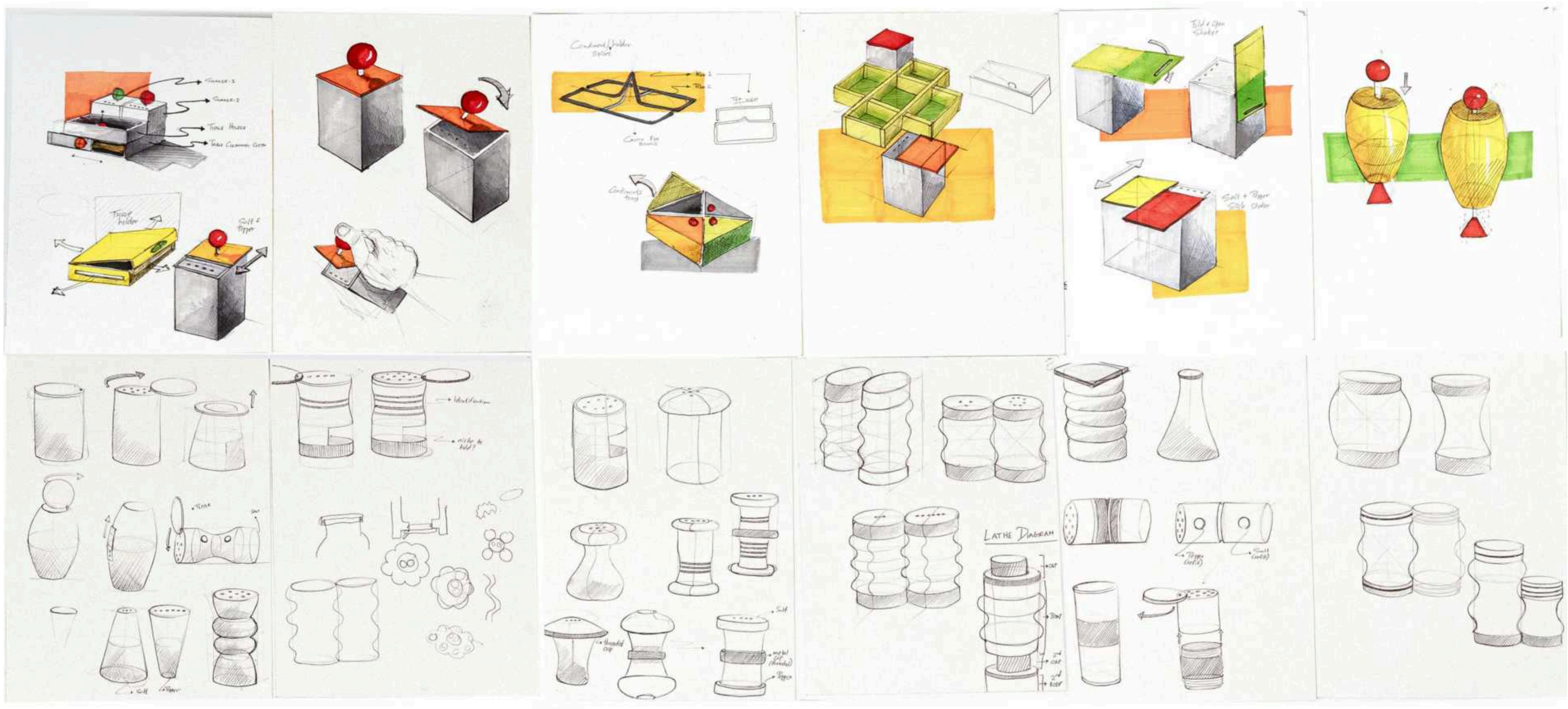
Initial Concept Topics

The explorations involving organizational aid and tabletop activities were found to be motivating and were considered well-aligned with the outcomes established for the collaborative project.

this brainstorming process had inputs from Nina C.

Sketches

Various geometric and organic forms were explored , focusing on ergonomics and tabletop function. This lead on to various explorations of form and sketch explorations focused on silhouette, proportion, and how form could suggest function and comfort.



Final Form

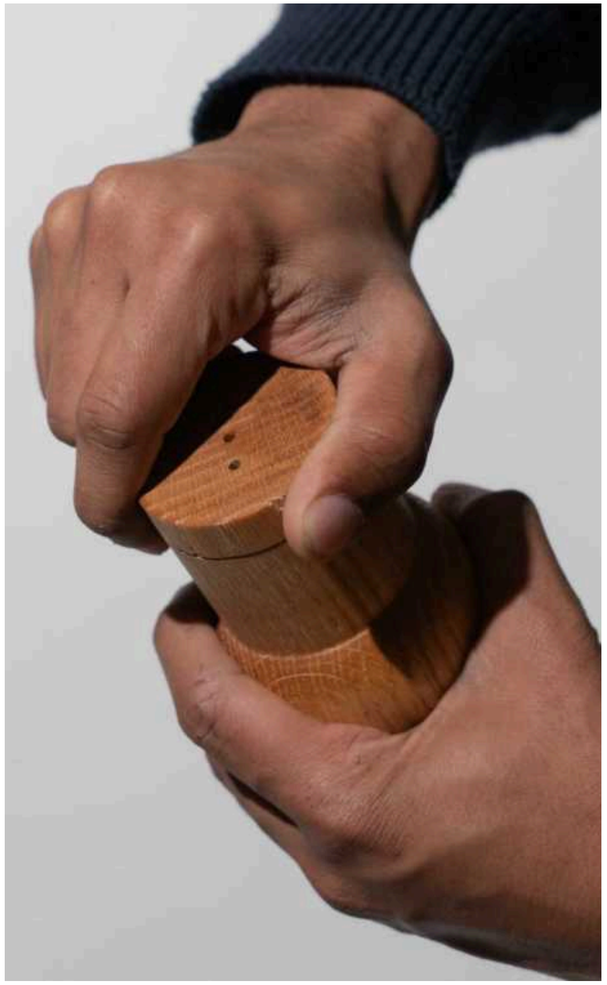
The final design evolved into a **convex and concave** form set that **nests together seamlessly**, shaped by early sketches, 3D-printed prototypes, and refined through iterative testing of proportions, balance, and fit.

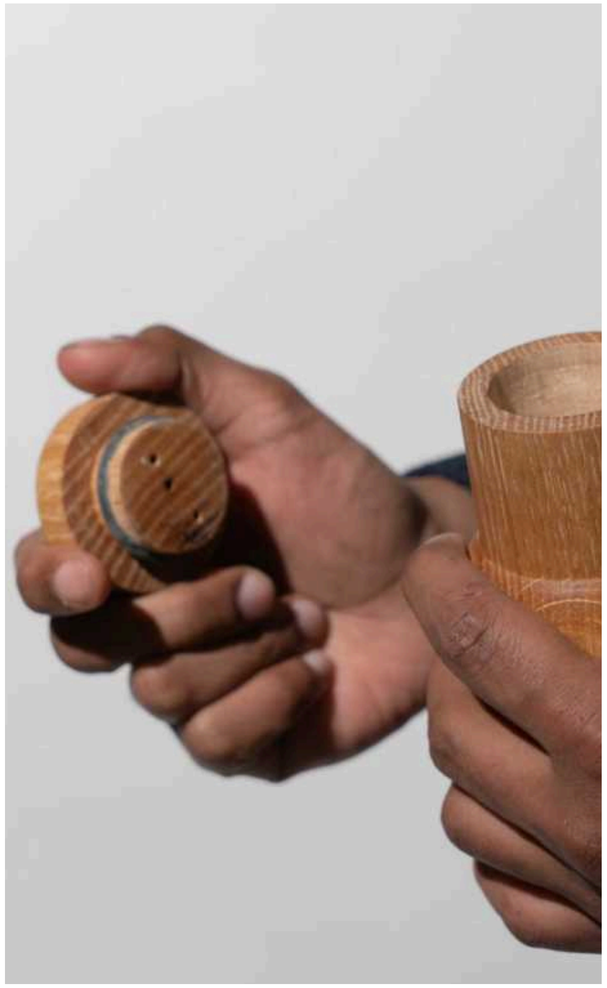
Material Selection

Red oak was chosen as final production material due to its **open grain nature** that exposes the **grain pattern well after staining**. Red oak is also a hardwood abundant in the Northeast region of the United States, which can be sourced easily.

We used walnut scrapwood collected locally for test pieces to refine our skills before working with the final material.

Using the Shaker is Simple & Obvious...



...as it should be!

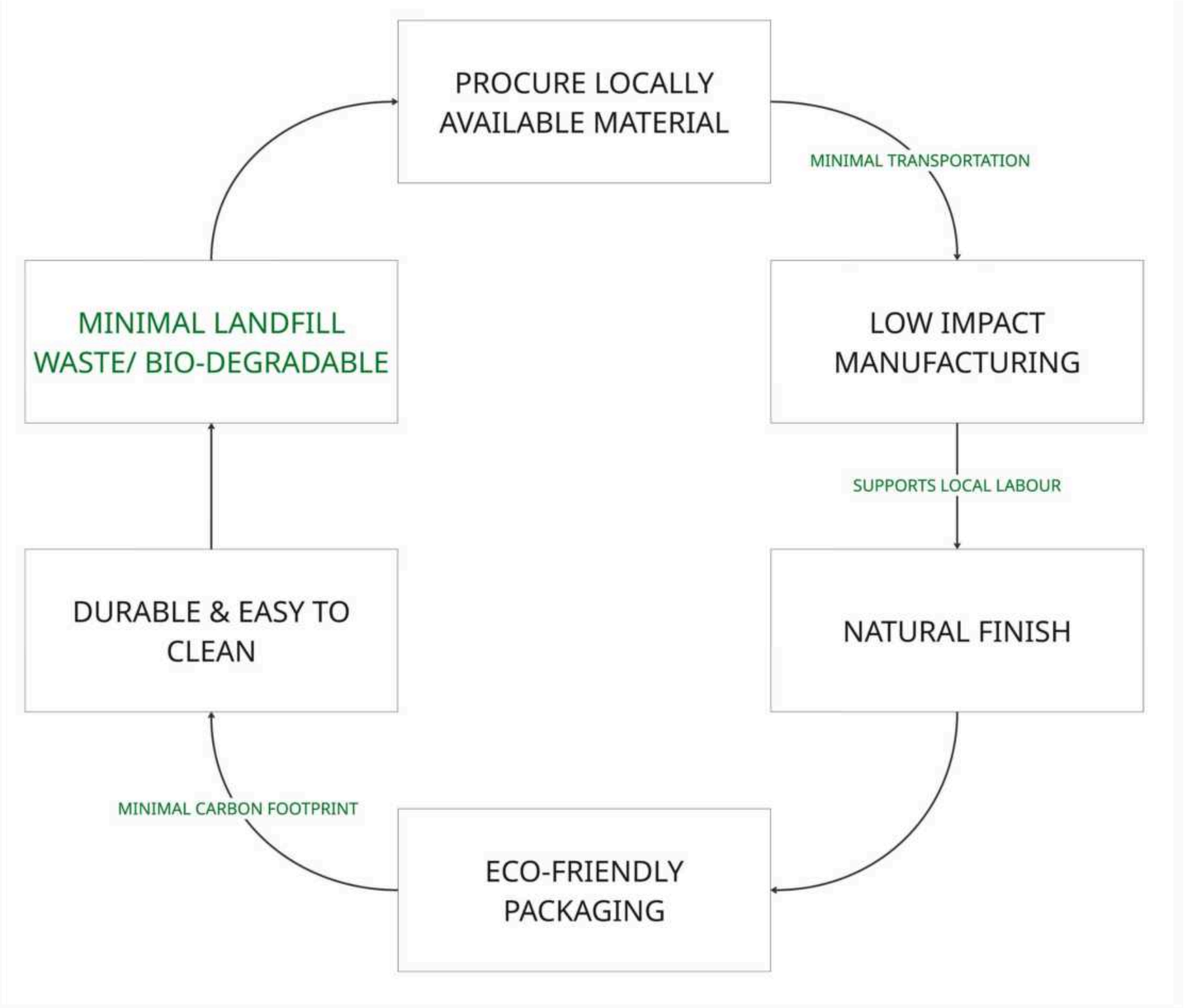
User Feedback

“The merging shapes form a simple yet distinct design. I’d prefer a wooden version to match typical New York flooring. “

-Chris, 50, New York

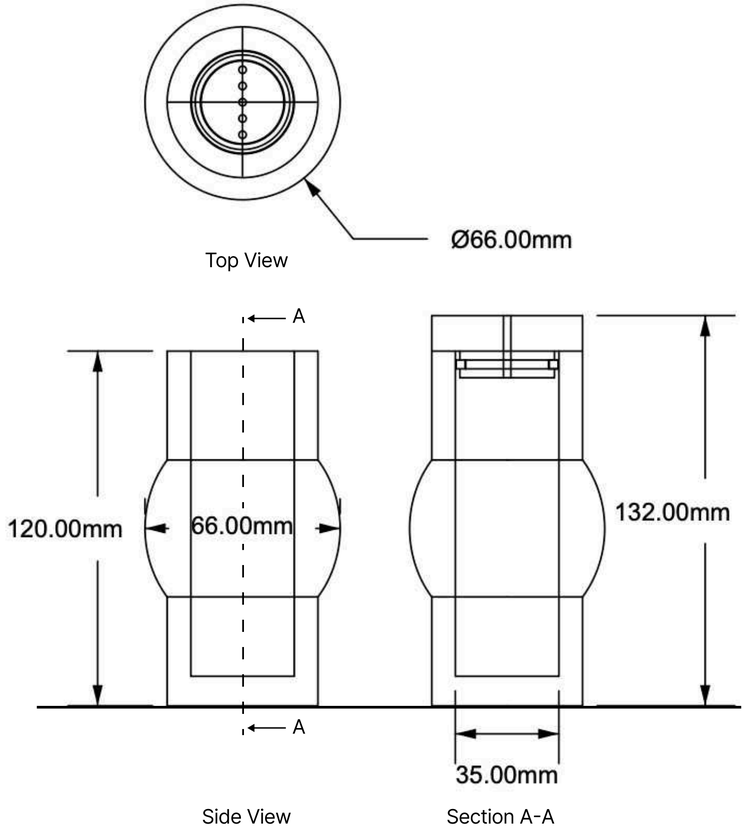
Process Tree

Made from locally sourced red oak, these shakers combine sustainability with simple, functional design.
Wood turning highlights the material's warmth and grain while minimizing waste.
Local production supports regional craft and reduces environmental impact.

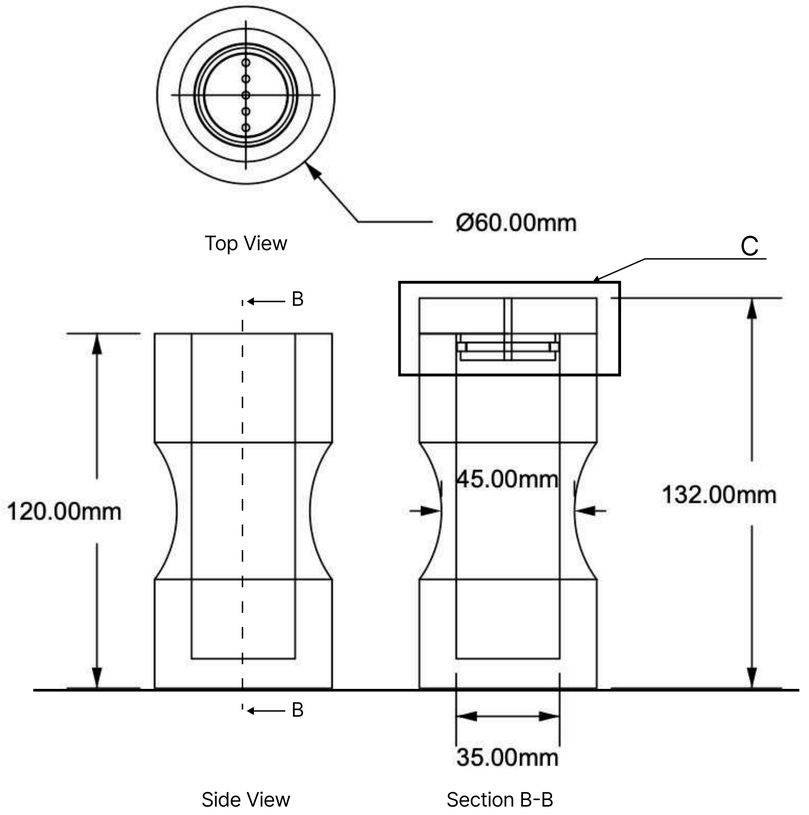


Technical Drawing

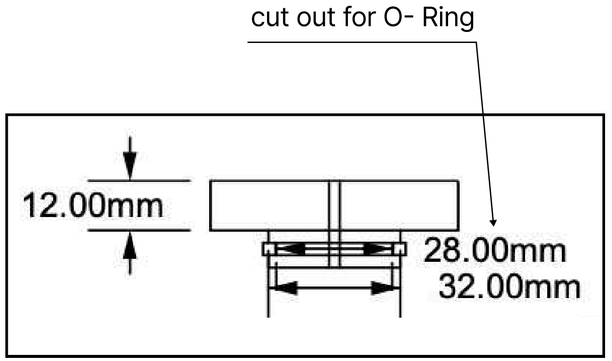
Rhino was used to define measurements and make customized jigs for lathe setups, ensuring precision for batch production. This process helped finalize our scale and streamline production.



Convex Shaker Specification



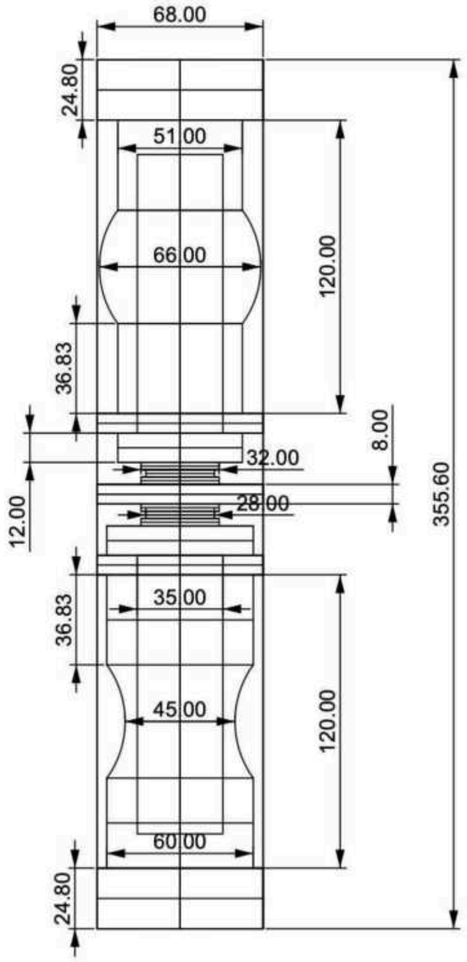
Concave Shaker Specification



Detail C

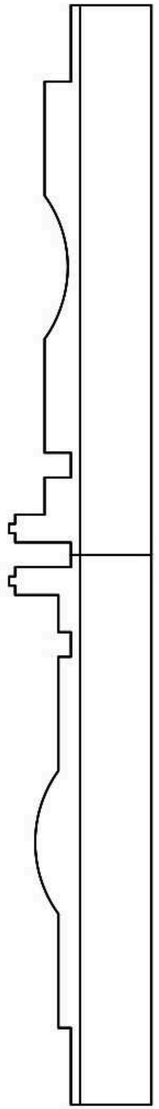
Turning Plan

In addition to creating customized jigs, block diagrams proved useful for making design adjustments, optimizing dimensions, reducing production costs, and minimizing material waste.

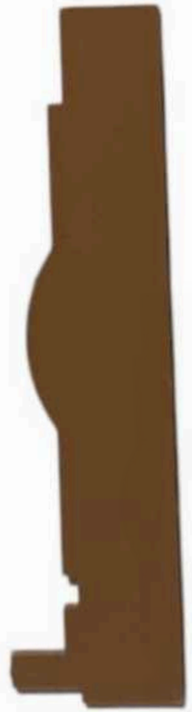


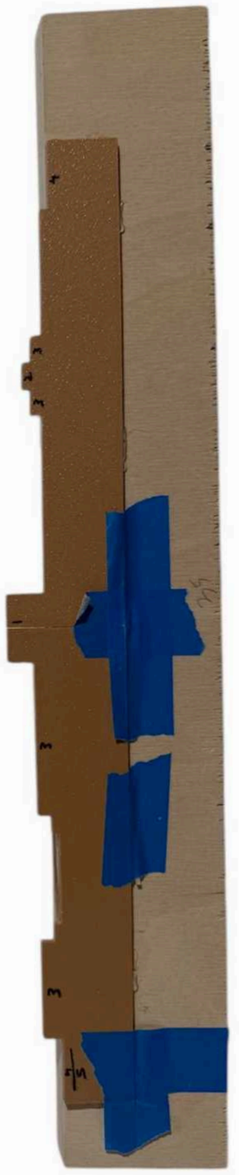
Initial Block Diagram

Detail D



Final Block Diagram





Final Template

1. Procurement

Red Oak wood was procured from M.L Condon Lumber , White Plains, New York.

2. Cutting

Procured material was cut to the approximate size to transport to New York City.

3. Chamfering

The blanks were chamfered to conduct roughing efficiently.

4. Roughing

The roughing process created a cylindrical shape before adding details.

5. Parting

Rectangular cut out profile was carved to get the right dimension

6. Detailing

The sharp profile was then fillet turned to get the final shape

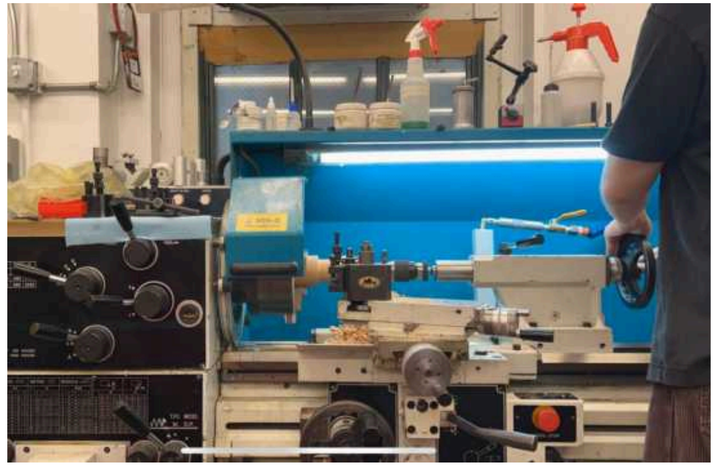
7. Sanding

The turned blank was sanded to achieve a polished finish.

8. Cutting

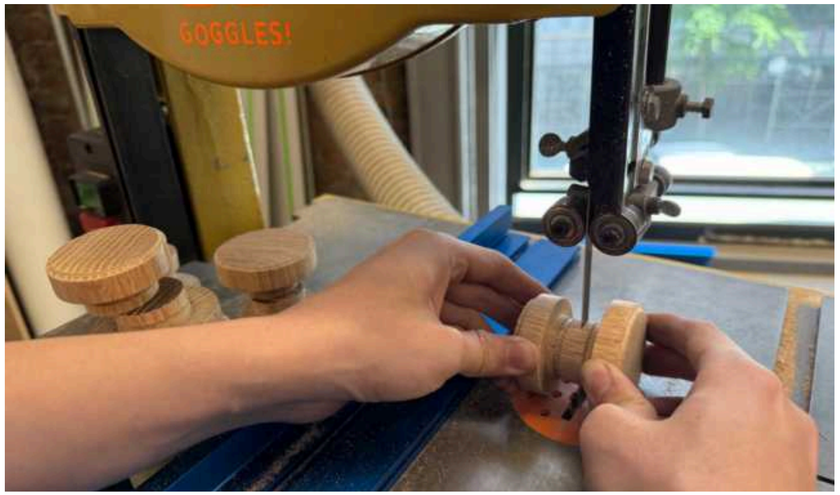
The polished blank was cut into individual shakers in the bandsaw.

9. Hollowing



The shakers were then hollowed out internally using a drill press/ metal lathe.

10. Cutting



The caps were cut to size using a bandsaw.

11. Sandingg

The caps were sanded to have a flat surface.

12. Sandinggg...

The shakers were simultaneously sanded for a smooth finish.

13. Cutting Pour Holes

Pour holes in the lid were drilled using the drill press.

14. Routing

The shaker's cavity was routed for the lid to fit.

15. Sanding Again!

The routed cavity was sanded to obtain a smooth surface.

16. Cleaning

All the pieces were thoroughly cleaned using an air blower gun and paper.

17. Oil & Dry

The final pieces were oiled with 2 coats of Tung Oil and set to dry.

18. Packaging

Shaker set was packed with branded packaging sleeve.

Expenditure

The depth of analysis and curiosity facilitated a generous 49% discount on the material procured, bringing the material cost calculation close to that of mass manufacturing. As this project was completed within a school setting, costs for labor, electricity, and tooling were not incurred.

BOM– 5000 sets

Upon gathering local vendor information and keeping in mind Areaware's profit factor an appropriate BOM was calculated. With the current cost analysis 6% of royalty would mean $3966 for the design team

SR. NO	PROCESS	ASSUMPTIONS & SOURCES	HOURLY COST	COST PER SHAKER	COST FOR 10000 SHAKERS
1	Raw Material	Red Oak priced at $3.20 per board foot for 1000+ BF Wood Vendors. - Each shaker requires approximately 0.3125 BF (3"x3"x9") = $1.00 per shaker.	N/A	$1.00	$10,000
2	Labor	- Average hourly wage for woodworkers in the US is $22.11 ZipRecruiter. - 7.5 minutes per 2 shakers = 3.75 minutes per shaker = 0.0625 hours. - $22.11 * 0.0625 = $1.38 per shaker.	$22.11	$1.66	$16,600
3	Machining	Industrial woodworking machine usage estimated at $30/hour. (Industry avg from CNC routing and turning service rates)	$30.00	$2.00	$20,000
4	Finishing (Tung Oil & Paint)	Tung oil material + manual application cost estimated at $10/hour. (Based on Real Milk Paint Co.)	$25.00	$1.25	$12,500
5	Packaging	Materials (boxes, inserts) + labor approx. $0.30/shaker. (Based on ULINE rates for small item packaging)	N/A	$0.10	$1,000
6	Storage	Warehouse cost ~ $0.10/unit/month. (Assumption from Flexe.com)	N/A	$0.10	$1,000
7	Shipping (Domestic)	Truck freight to NYC approx. $0.50/shaker from Midwest. (Source: Freightquote)	N/A	$0.50	$5,000

TOTAL MANUFACTURING COST	
1 SHAKER	$6.61
5000 SETS	$66,100
1 SHAKER SET	**$13**
PROFIT FACTOR	7
RETAIL PRICE	**$93**

Packaging


Designed by Kerry Xu, Hitesh Beedu & Jess De-Graft
CONTOUR SHAKER
A hand-crafted shaker set
produced locally here in the USA
AREA
WARE
Designed by: Kerry Xu, Hitesh Beedu & Jess De-Graft Quansah
Patent Pending
Certifications pending
Manufactured for Areaware
New York, NY 10003
areaware.com © Areaware

“A design’s true essence lies in the space between the lines, where **contour** meets emptiness and meaning is born.”

— Yves Béhar, Fuse Project

and thus... the **Contour Shaker** came to life!

We would like to express our heartfelt gratitude to:

1. *Roberto Fantauzzi*, Chief Design Officer, Areaware, NY
2. *Dara O*, Product Developer, Areaware, NY
3. *Alexander Julian*, Designer, Areaware, NY

For giving us this wonderful opportunity to collaborate.

4. *Mark Bechtel,* Assistant Professor, Parsons School of Design

For guiding, mentoring & arranging for this project.

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For giving insights on wood working and material finish

6. Eva Warne, Wood/ Metal Shop Technician, Parsons School ofDesign
7. Nate Robison, Wood/ Metal Shop Techniciam, Parsons School of Design

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11. *Kip Place*, President, Pruitt Machinery Inc, NC

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For making the product video

13. *Boobalan Ramesh,* *Graduate Student, Media Management, The New School*