

DOUBLE-DECKER-BUS

Seasonal Archive. Autumn 2025 in Leaf Leather “ME”

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Only Natural Home Competition 2026

MA PRODUCT & FURNITURE DESIGN

Kingston University



Project Summary

Double Decker Bus 'Me' (*Seasonal Archive in Leaf Leather*) explores how everyday acts of attention can transform overlooked natural materials into lasting objects. Developed through the daily collection of fallen leaves during a two-hour commute across London, the project reimagines a material typically regarded as seasonal waste as a translucent leaf leather shade that preserves not only the physical qualities of autumn, but also the atmosphere, memory, and rhythms of a particular place and time.

The project began in Putney, where fallen leaves were routinely gathered into municipal green bags for public safety, standing in contrast to the growing "Leave the Leaves" movement that recognises the ecological value of retaining leaf litter. At first glance, the green bags suggested a return to natural cycles, yet on handling them they felt indistinguishable from conventional plastic, prompting me to question how the collected leaves were ultimately processed and whether they were truly re-entering ecological circulation. Collecting a small number of these leaves before their removal became a quiet daily ritual, one that continued after relocating closer to university and gradually evolved into a material archive of seasonal change, repeated journeys, and careful observation.

Rather than documenting autumn through photographs, the project records it materially. The leaves retain their cellulose patterns, veins, textures, and imperfections, becoming a surface through which light reveals both the character of the material and the passage of time. Inspired by a living space with limited natural daylight, the project also explores how illumination can reconnect interior environments with the changing qualities of autumn mornings, overcast afternoons, golden hour, and evening.

The current prototype uses a commercially available tunable lighting system to communicate this seasonal lighting concept while the design of an integrated fixture and bespoke lighting calibration remains in development. Rather than a fixed lighting solution, this forms an ongoing exploration into how natural materials and light can work together to heighten our awareness of season, atmosphere, and the passing of time.

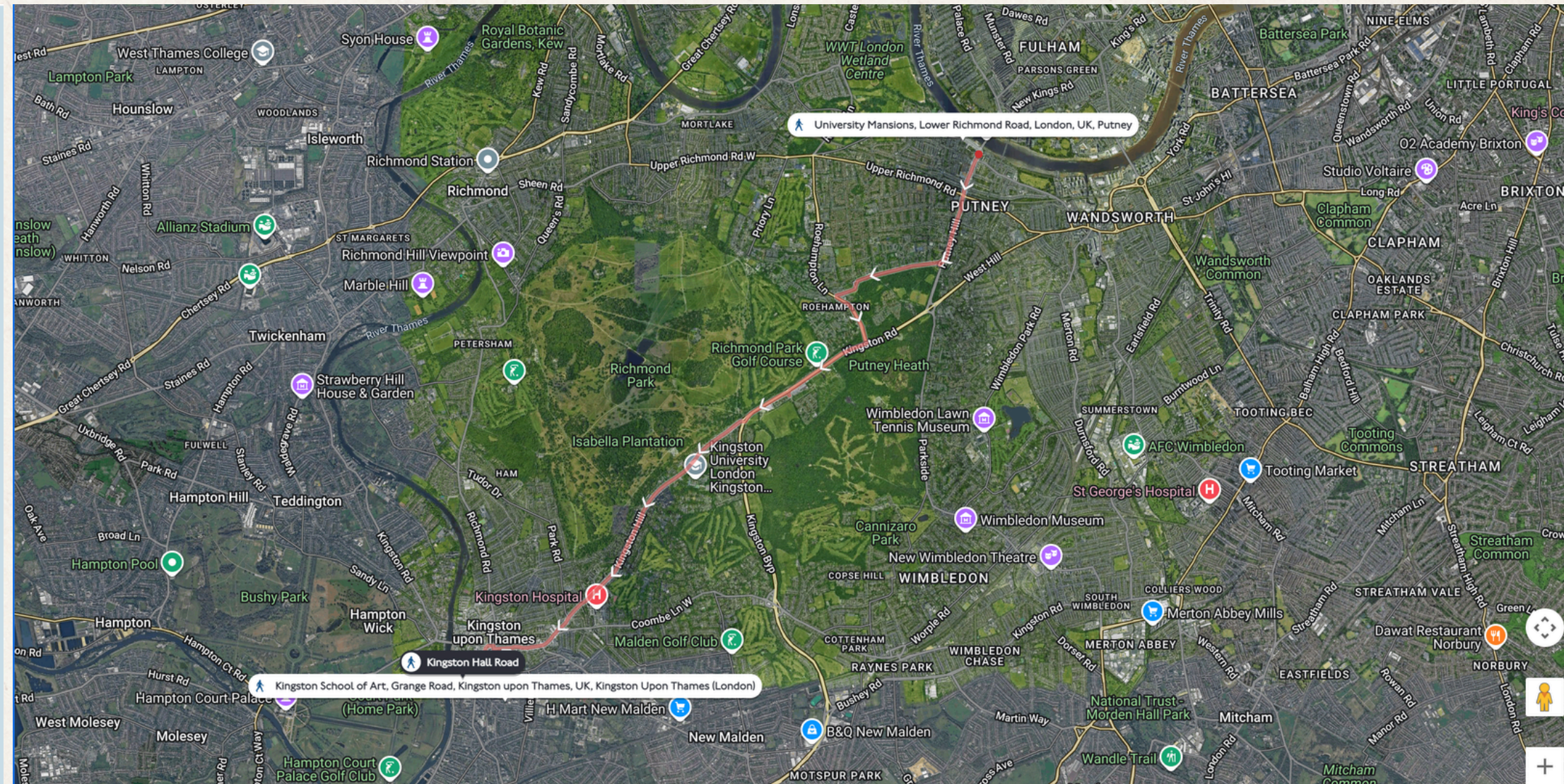
The central contribution of the project lies in the development of leaf leather as a natural material for interior lighting, demonstrating how a seasonal and often overlooked resource can be transformed into a durable object that encourages longevity, repair, and renewed appreciation of natural cycles. Designed as a material to be cared for over time, the leaf leather can be maintained, nourished, preserved flat, and archived between seasons before returning to use as a lampshade. Ultimately, when it reaches the end of its life, it is intended to return naturally to the earth, extending the project's commitment to circularity beyond the object itself.

Seasonal Archive proposes a slower approach to design—one shaped by observation, repetition, and care. Rather than treating natural materials as resources to be consumed, it explores how sustained attention and thoughtful transformation can extend their value, preserving not only the material itself but also the memories, places, and seasons it carries.

£1.75 anytime

6 min [View directions](#)43 min [View stops](#)11 min [View directions](#)[View details](#)

Map view



Attention

A repeated commute through London became an act of observation. Fallen leaves, often cleared from pavements before they could decompose naturally, became objects of attention rather than waste. Collecting them evolved into a daily ritual and, eventually, into a material archive of a particular season, place, and period of life. If leaves must be cleared for safety and aren't composted, what other material futures might they have?





The process reshaped my sense of the season—how time unfolded within it.

It began with questioning the sights, smells, sounds, and details of daily life as a newcomer to the city. Using attention as a way to try and slow time, and reach a better understand place.

Collection



Points of Coll[nn]ection



Transformation

The collected leaves were preserved and developed into a flexible leaf leather through iterative material testing. Rather than concealing their origin, the process sought to retain the veins, colour variations, and imperfections that spoke to their previous life.



What might a vegetable-based rawhide resemble?

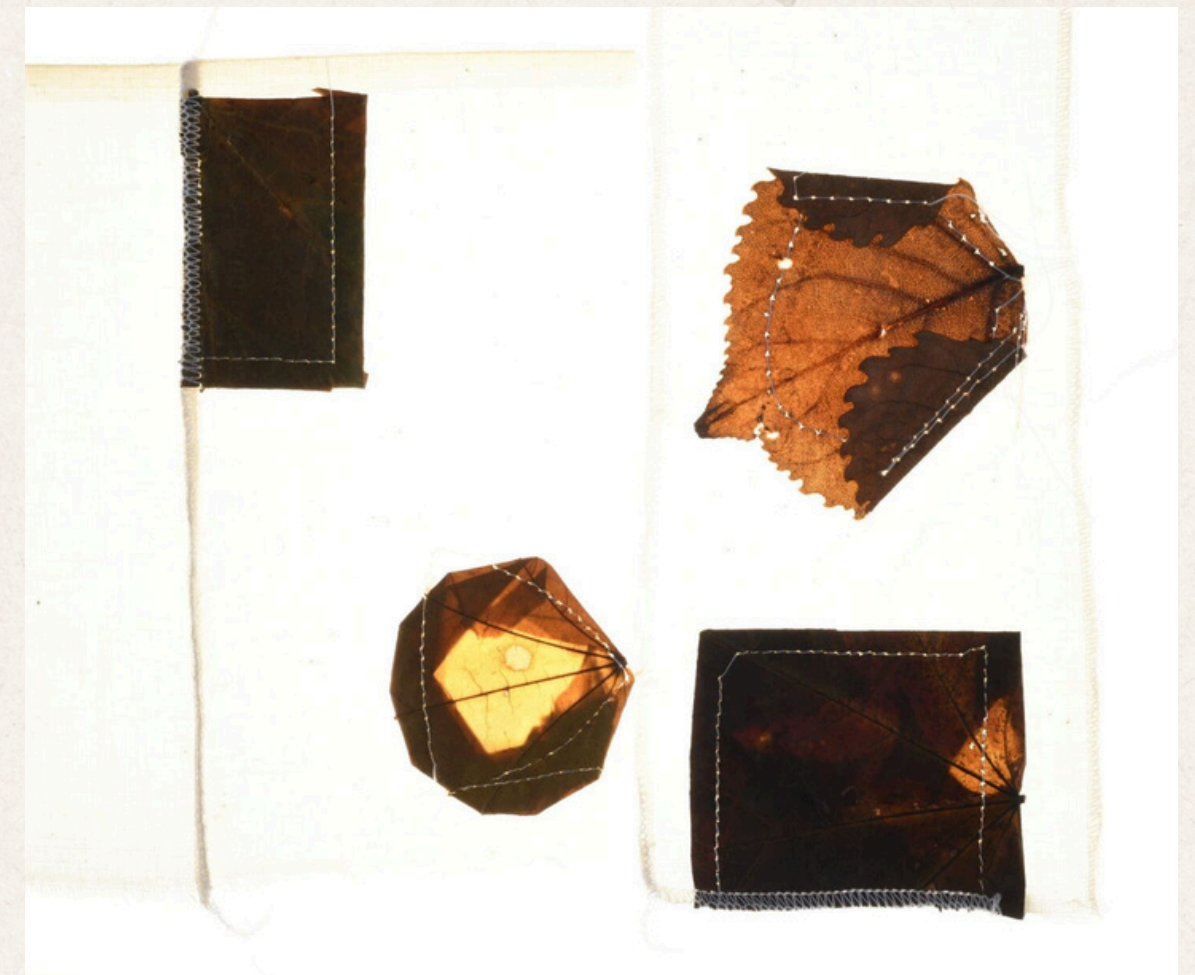
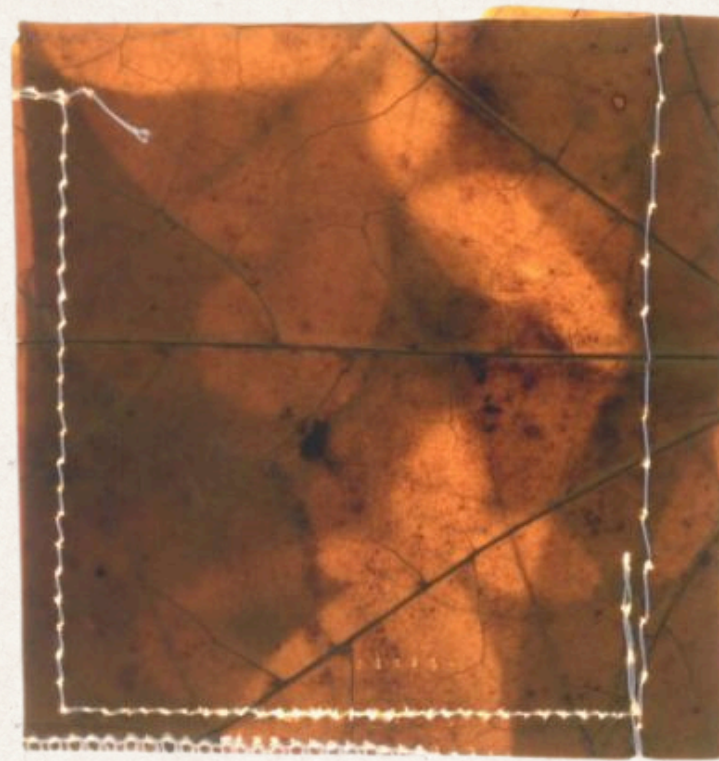
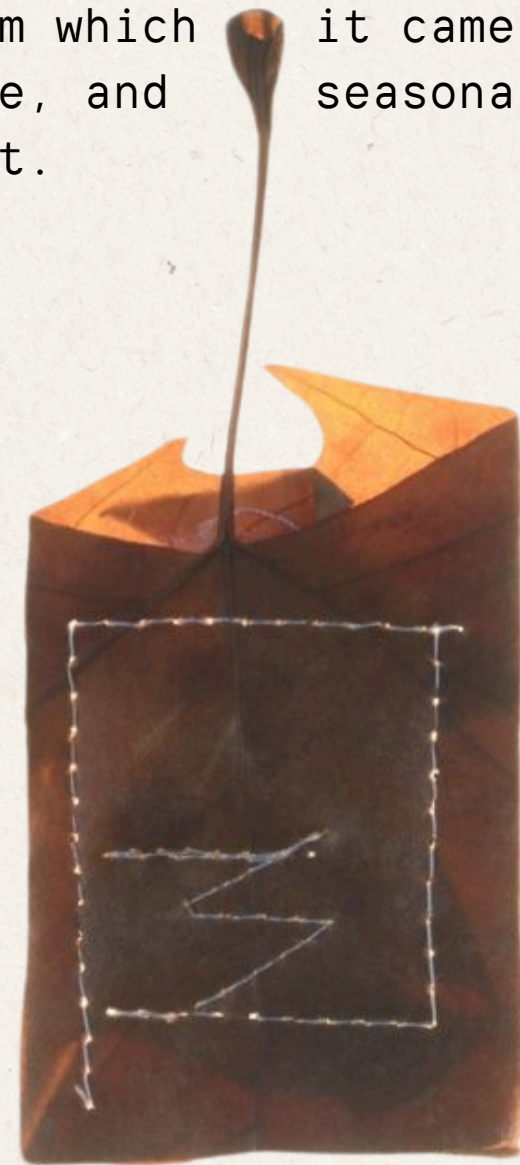
→ Threadless Folds and Creases

→ Overlap, Translucency, Texture



Atmosphere

The finished material was paired with light, not simply to illuminate it, but to recreate the changing qualities of the season from which it came. The current prototype explores how light can reinforce our awareness of time, place, and seasonal change, while the lighting system itself remains an evolving area of development.



Developing → One Day There, the Next Day Gone



Leaves act as quiet records of the season, capturing traces of fungi, microorganisms, and environmental stress. The first frost marked a visible shift, altering their surfaces and leaving behind imprints in the spaces they once occupied. These images document how quickly material conditions change, and how absence can be as informative as presence.

Learning from the Material



Developing the leaf leather required testing three different sewing machines, each revealing a different relationship between speed, control, and the material. Initial trials on an industrial sewing machine highlighted the limitations of high-speed stitching, while a domestic machine offered greater flexibility through slower, more tactile construction. A traditional tissue paper technique, commonly used when sewing silk and other delicate fabrics, was also adopted to support the leaves during stitching.

The turning point came with a 1960s Singer sewing machine. Its steady, controlled pace proved far gentler on the preserved leaves, allowing them to be handled more like a textile than a brittle natural material. Rather than adapting the material to suit the machine, the making process evolved around the needs of the leaves themselves, reinforcing a slower, more attentive approach to construction.

Evolving the Structure

Prototype, interior frame
(acetate)

↓

Problems

- too many components
- leaves are separate patches,
- synthetic support
- complex assembly

↓

Current Design

(wooden dowels) →

Benefits

- simpler
- fewer materials
- natural structure - fan/tent-like
- repairable
- proves leaves capable as a solid structural quilt

Exploring Seasonal Light



Morning
2200-2700K

Midday
3000-4000K

Golden Hour
2500-2800K

Evening
2000-2400K

Early lighting studies explored how artificial illumination might reflect the changing qualities of autumn daylight. Prototype programming investigated colour temperature, brightness, and gradual transitions throughout the day. While the final prototype uses a commercially available tunable light source, the concept continues to inform future development of an integrated seasonal lighting system.

Technical Drawing

DIMENSIONS: TRUNCATED CONE

Ø0-Ø64 × H64 (CM)

ANGLE: 161 (DEG)

R1= 0 (CM)

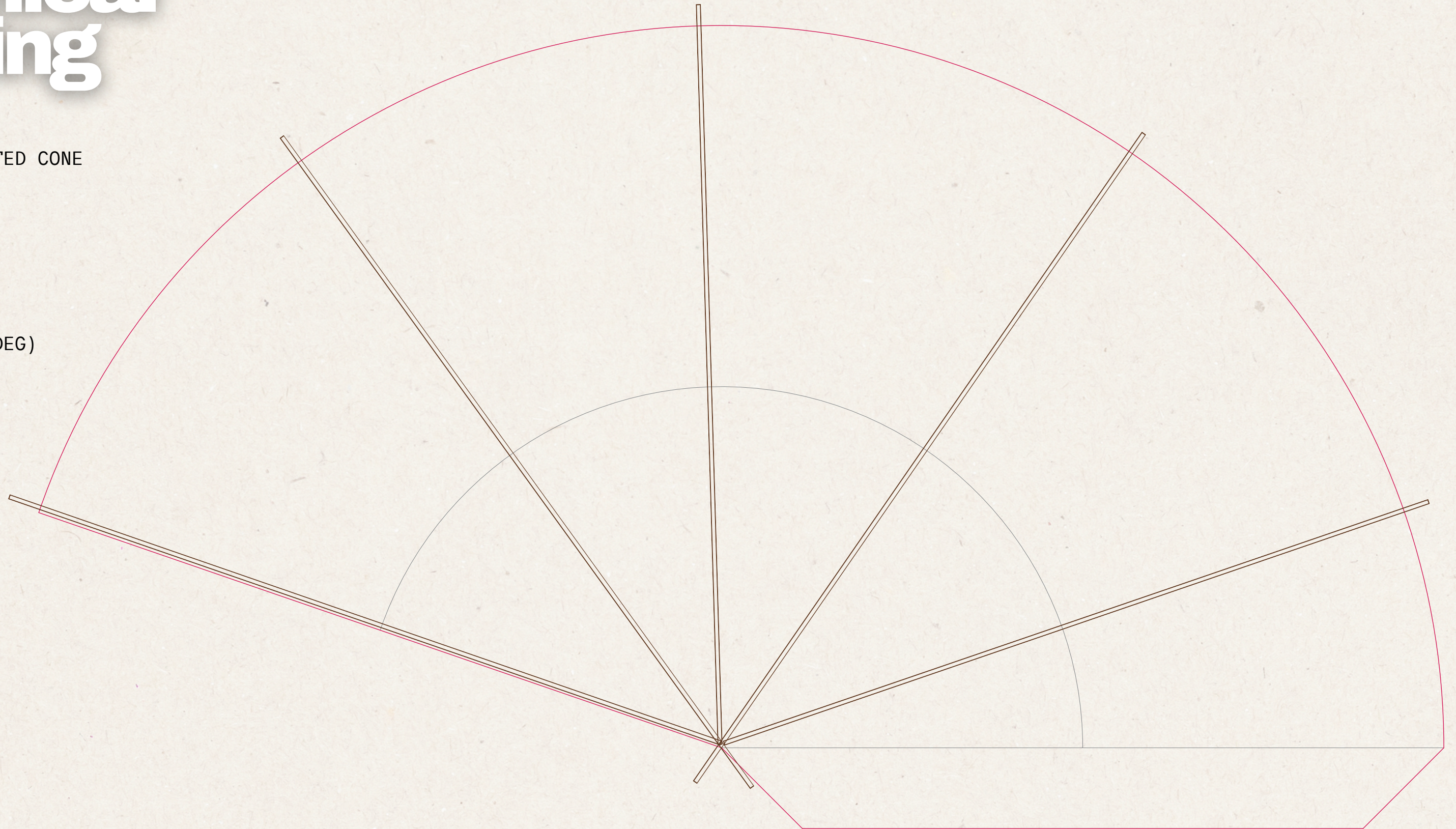
R2 = 71.55 (CM)

APERTURE = 15.13 (DEG)

JOIN FLAP

ANGLE: 45 (DEG)

WIDTH = 8 (CM)



Material Palette & Rationale

Primary Natural Materials

Material	Source	Rationale
Fallen autumn leaves	Collected along routes between Putney, Kingston and Richmond Park	Primary biomaterial. Repurposes an abundant seasonal resource typically treated as waste, preserving the memory, atmosphere and material qualities of a specific place and time.
Vegetable glycerine (CAS: 56-81-5)	Fluid Science Ltd. • 99.5% purity • EP grade • Non-GMO • Palm-free • 100% rapeseed-derived • Vegan • Density: 1.26 g/cm ³	Used to preserve flexibility, translucency and durability within the leaf leather. As a humectant and emollient, glycerine allows the material to remain supple for sewing, repeated handling, seasonal care and long-term use while avoiding petroleum-derived plasticisers.
Cotton thread	Commercial sewing thread	Natural fibre selected for its compatibility with the leaf leather, durability and ease of repair.
Methyl cellulose adhesive	Brand: Natural Earth Paint. Powder mixed with water	A reversible, non-toxic adhesive commonly used in paper conservation. Selected for its compatibility with cellulose-based materials and its ability to allow future repair or disassembly.

Hardwood dowel rods (4 mm)	Commercial timber dowels	Lightweight internal framework providing structural support while maintaining a predominantly natural material palette. Easily repairable, replaceable and adaptable for future iterations.
Waste wool spinner's fibres	Spinner's waste from Fernhill Farm, Somerset	Used sparingly within selected leaf seams to introduce subtle reinforcement while repurposing a by-product of wool processing that would otherwise have little material value.

Prototype & Making Materials

Material	Source	Rationale
Tissue paper	Lightweight, recycled gift wrap tissue	Used as a temporary sewing aid following a traditional technique for delicate fabrics such as silk. The tissue stabilised the preserved leaves during stitching and was removed after construction, reducing tearing and distortion.
Water-activated gummed kraft paper tape	Commercial paper tape	Used as a temporary positioning aid while preserved leaves remained moist. The paper backing and water-activated adhesive allowed delicate components to be held during drying with minimal disturbance to the material.

Philips Hue smart bulb	Commercial lighting component	Used as a prototyping platform to explore seasonal colour temperature, brightness and atmosphere while the integrated lighting concept continues to develop.
IKEA simple metal bulb fixture	Commercially available fitting	Existing compliant fitting used during prototyping, allowing development to focus on the leaf leather material and lighting experience while a bespoke housing remains in development.

Future Development

Material	Source	Rationale
Scoured wool fleece (felted housing)	Fernhill Farm, Somerset	Proposed as a renewable, biodegradable outer housing. The scoured fleece can be wet felted into a durable form, complementing the natural material palette while introducing warmth, tactility and acoustic softness.
Shellac-beeswax finish	Handmade finish using shellac flakes, beeswax and isopropyl alcohol	Proposed protective finish for future iterations. Inspired by biodegradable cardboard waterproofing research (Posch, 2025), the finish strengthens and seals cellulose-based surfaces without relying on plastic coatings, while maintaining a material language rooted in paper, fibre and natural resins.







