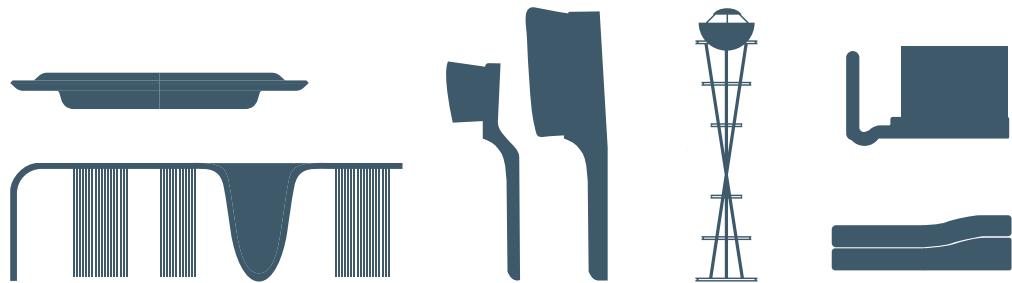


PORTFOLIO 2025

INDUSTRIAL DESIGN



HANES HSU

| INDUSTRIAL DESIGNER

**“You can not understand
good design, if you do not
understand peoples.”**

- Dieter Rams

about me

I am an industrial designer passionate about how design can shape the way people engage with objects, technologies, and each other. I see design not only as a way to solve problems but as a powerful storytelling tool that transforms user experiences and bridges the gap between technology and human needs.

Hanes Hsu



2025

I believe in the power of design to create positive social change, shaping experiences that improve accessibility, usability, and quality of life. Whether enhancing comfort, simplifying interactions, or helping users navigate complex systems, I aim to make technology and design intuitive, inclusive, and life-enhancing.

Through a diverse range of experiences, from prop and set design to product and user experience design, I've developed a holistic, interdisciplinary approach to problem-solving. Each project allows me to explore new design avenues—whether through physical interfaces, digital solutions, or a combination of both. I thrive on collaboration, using rapid prototyping and design thinking to ensure every solution is both functional and meaningful.

For me, design isn't just about aesthetics—it's about crafting meaningful experiences that resonate with people and impact their lives in profound ways.

let's connect!



haneshsu.github.io



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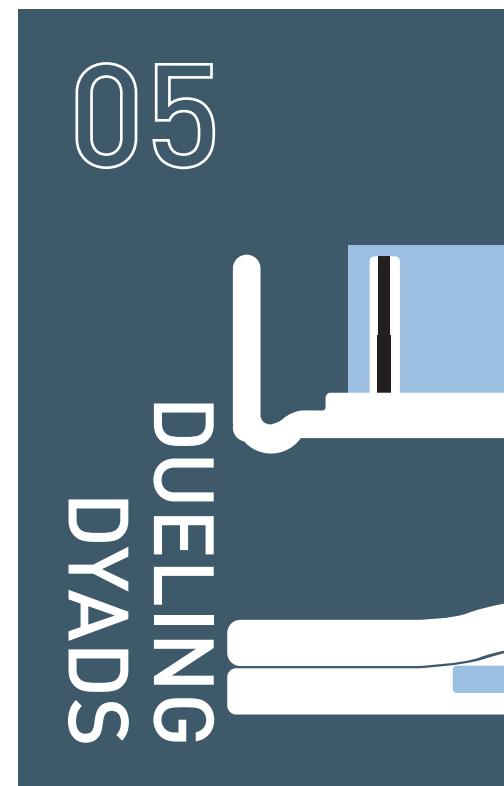
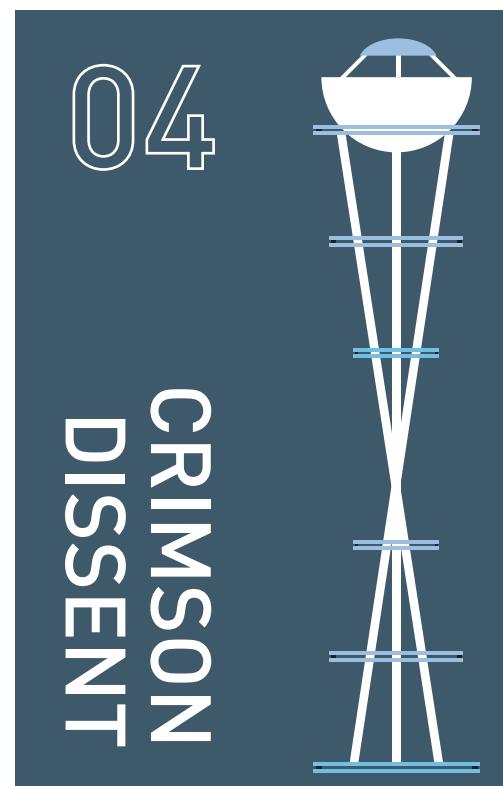
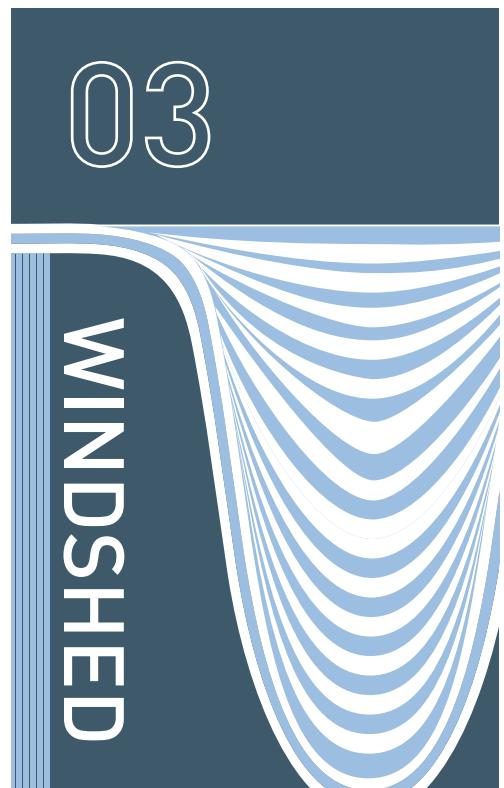
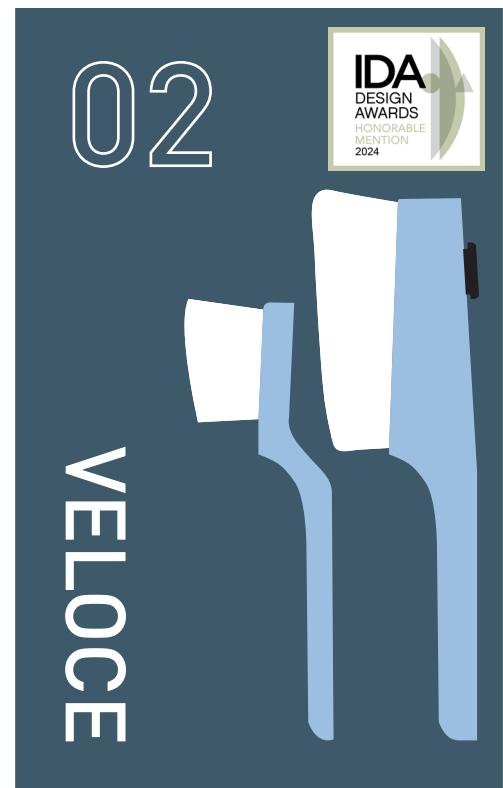
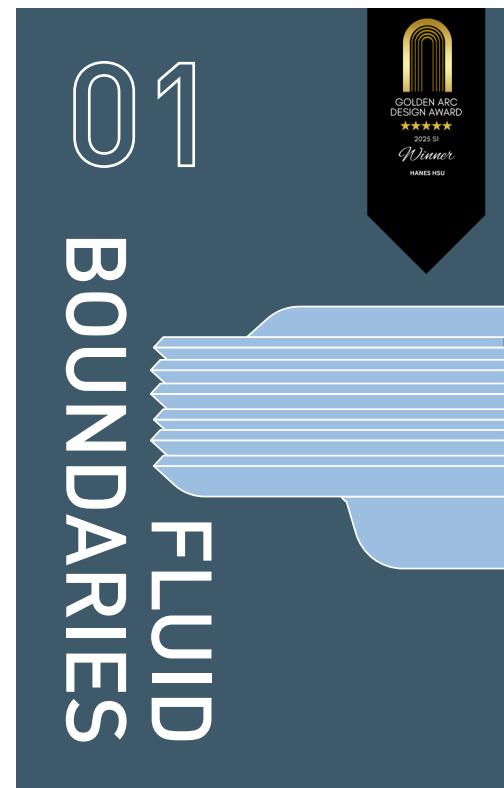
hanes.hsu.design@outlook.com



www.linkedin.com/in/hanes-hsu/

SELECTED WORKS

A collection of work driven by curiosity, collaboration, and a belief in design as a tool for meaningful change.

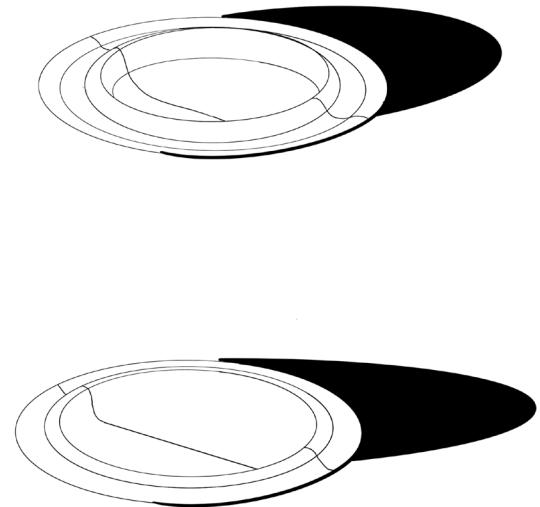
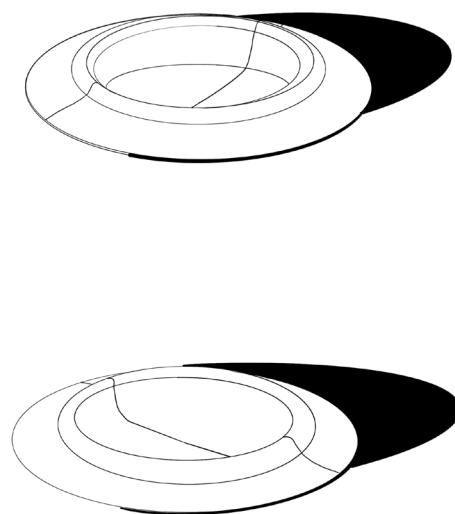




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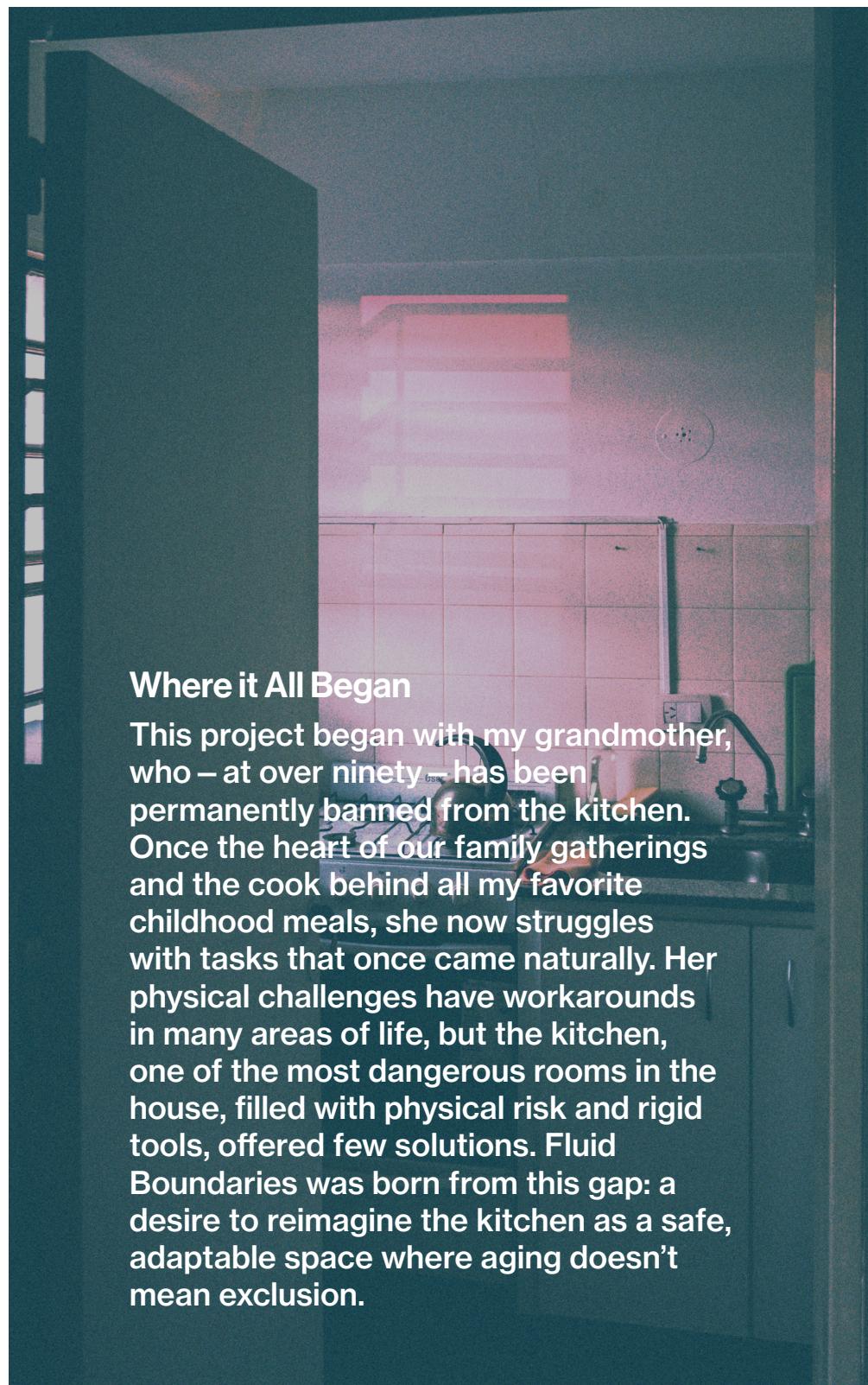
FLUID BOUNDARIES

Redefining stability
and adaptability in
the kitchen space.



Exploring aging, care, and adaptability through design.

This project investigates the evolving relationship between older adults and everyday objects in the kitchen. Through interviews, film, and object design, Fluid Boundaries reveals how care, independence, and adaptability intersect in domestic spaces. It centers the voices of older adults and caregivers to shape design solutions that respond with empathy, respect, and utility – bridging physical limitations and emotional needs with thoughtful, human-centered design.



Where it All Began

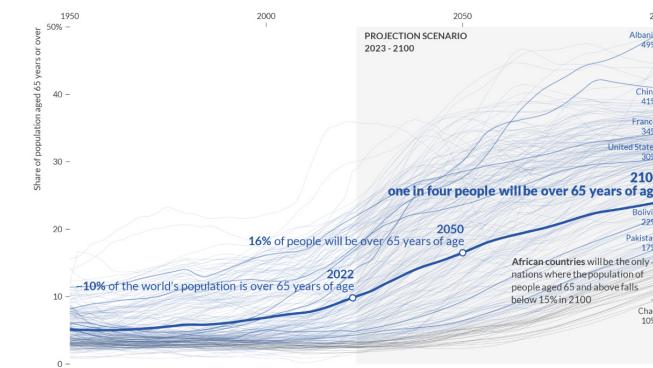
This project began with my grandmother, who – at over ninety – has been permanently banned from the kitchen. Once the heart of our family gatherings and the cook behind all my favorite childhood meals, she now struggles with tasks that once came naturally. Her physical challenges have workarounds in many areas of life, but the kitchen, one of the most dangerous rooms in the house, filled with physical risk and rigid tools, offered few solutions. Fluid Boundaries was born from this gap: a desire to reimagine the kitchen as a safe, adaptable space where aging doesn't mean exclusion.

Photo by Francisco Andreotti on Unsplash

Reclaiming the Kitchen

Fluid Boundaries explores how adaptive kitchenware can support older adults in maintaining agency, comfort, and dignity while cooking, eating, and navigating domestic routines. The project investigates how design can empower aging individuals by reshaping tools and spaces they once relied on – rather than removing them from those environments.

Social Shifts in Aging and Domestic Care



The estimated rise of the world's population that are 65 and above.

As global populations age, the urgency to design with empathy and foresight grows. This project frames aging not as decline, but as a transition requiring thoughtful, inclusive design. Through interviews, observation, and prototyping, it explores how the kitchen – a site of memory, care, and identity – can evolve to meet users where they are.

The Everyday Kitchen as a Daily Obstacle

Tremors & Intention Tremors:
Involuntary shaking during movement makes carrying plates or liquids unpredictable, often leading to spills.

Physical Strain & Grip Pain:
Conditions like arthritis and carpal tunnel make tight grips and awkward wrist angles painful.

Reduced Range of Motion:
Standard tools rarely support neutral wrist alignment, increasing fatigue and risk.

Spills During Transport:
Slippery surfaces and unbalanced loads lead to accidents – especially when mobility is limited.

Low Visual Contrast:
Poor visibility of food or plate edges causes confusion, spills, or missed bites.

Stacking:
Plates stick together or require awkward pulling forces to separate.

Stigma Through Design:
Many “adaptive” tools visibly mark users as needing help, compromising self-confidence, autonomy, and dignity.

Inclusive Design Shouldn't Announce Itself

Design that Blends In:
No loud colors or clunky forms – just well-proportioned objects that don’t draw attention.

Hidden Functionality:
Spill guards, ergonomic grips, and neutral wrist angles built into elegant forms.

Respect Through Usability:
Adaptive for those who need support.
Seamless for those who don’t.

Dignity by Default:
Subtlety isn’t a compromise – it’s care.
The product offers assistance without signaling dependence.

One Kitchen, Many Users:
A shared space deserves shared tools.
This system works across ages and abilities.



Photo by New York Public Library on Unsplash

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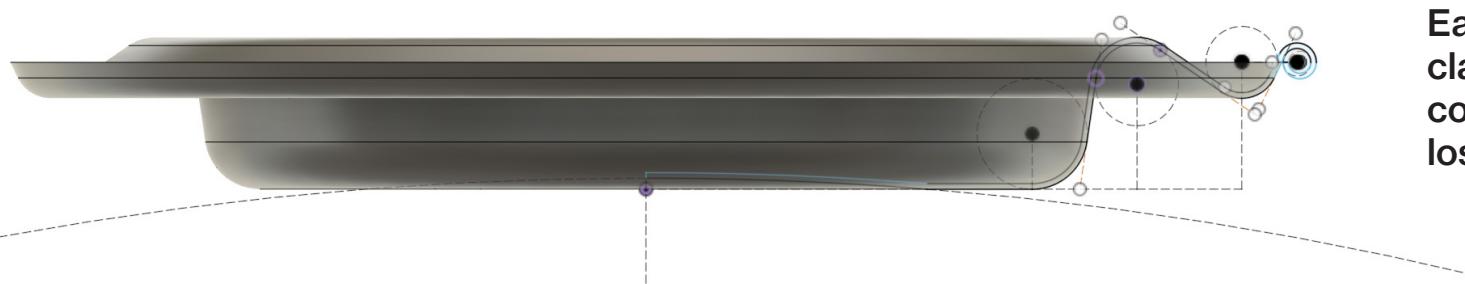
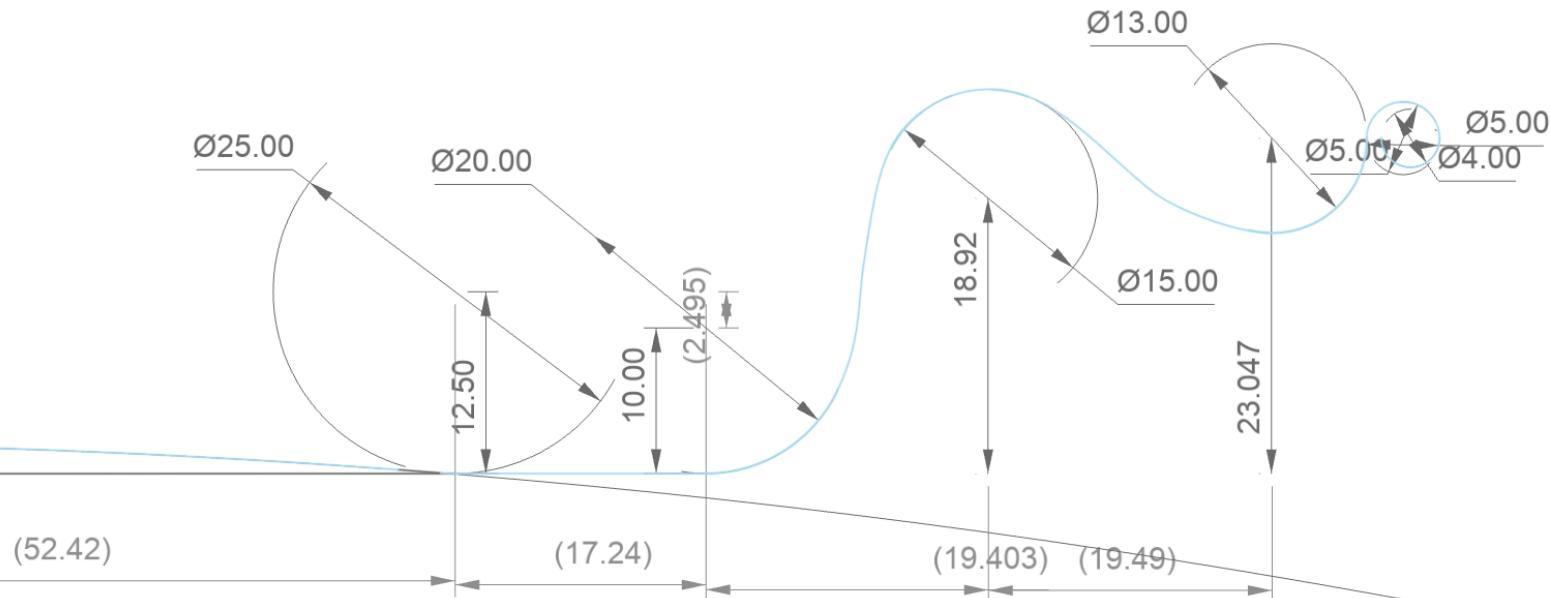


Adaptive tools often highlight difference. Fluid Boundaries takes a different approach: inclusive support that blends in – never shames, never isolates.

Fluid Boundaries is a modular plate and tray system designed to restore confidence, comfort, and control in the kitchen. Subtle textures, intuitive contours, and a discreet magnetic connection support daily tasks – without feeling clinical or calling attention to the user's needs.

Everyday kitchen tasks become hurdles – made harder by poor visibility, painful grips, and inflexible tools not designed with aging in mind.

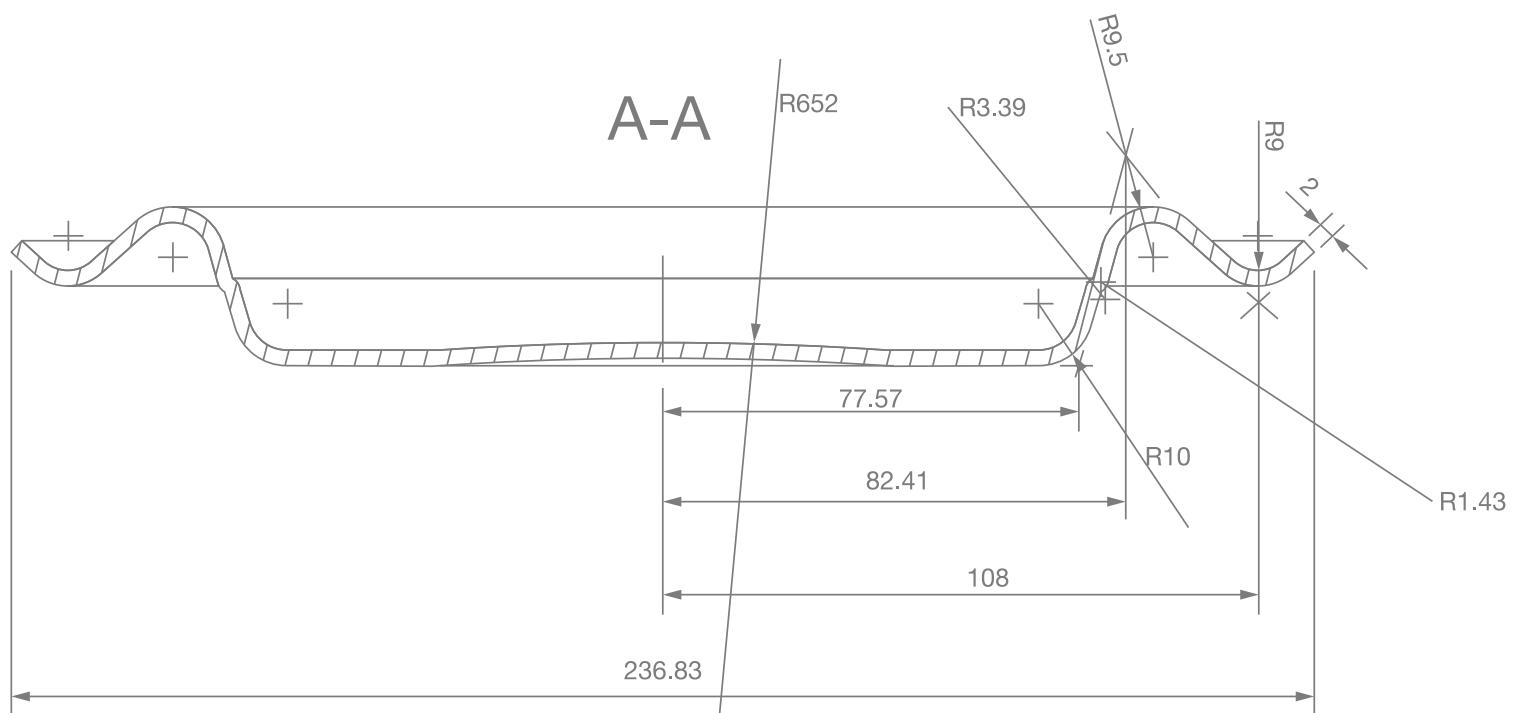




Early stage prototypes were fabricated using clay and foamcore while usability tests were conducted through added weights to simulate loss of strength and tremors.



Higher fidelity looks-like and feels-like models were prototyped using FDM 3D printing and metal spinning. These models were used in usability tests to determine the final dimensions.





RIPPLE

Designed to support independence and comfort, the plate features ergonomic grips that double as spill guards, deep walls to aid scooping, and a sloped base that subtly guides liquids outward – enhancing ease of use for individuals with reduced mobility, strength, or vision.

Its design balances technical function with a sense of dignity, encouraging users to engage with meals on their own terms.

Function in Subtlety



A gently sloped base subtly directs liquids toward the plate's perimeter, preventing pooling in the center. Combined with deep, high walls, this design supports easier scooping and helps prevent spills – especially for users with tremors, limited dexterity, or reduced wrist mobility.



The integrated ergonomic grip is shaped using finger-width data to fit most users. It encourages a neutral wrist position to reduce strain from arthritis or carpal tunnel, while also acting as a built-in spill guard.

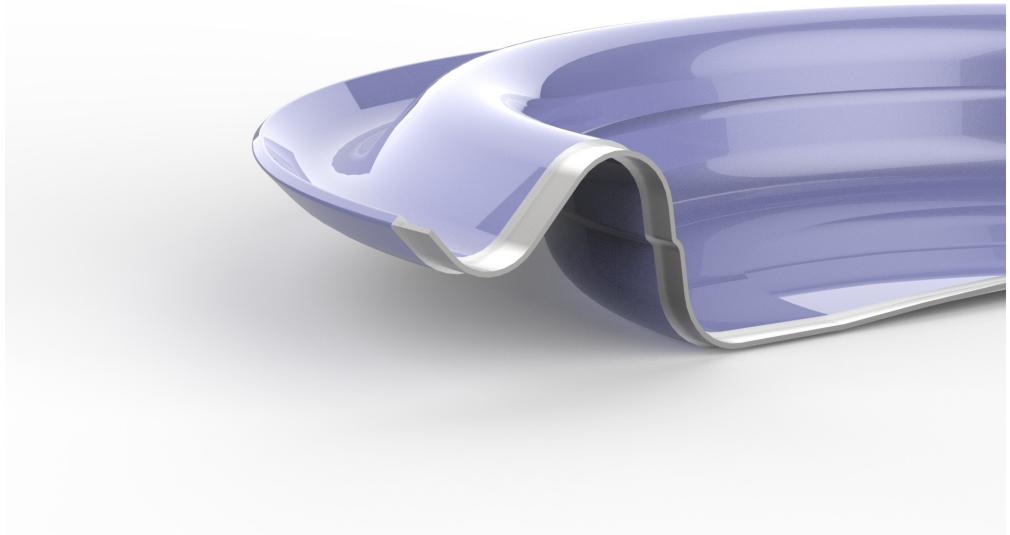


A gentle contour along the deep wall prevents plates from nesting too tightly. This creates a small gap that makes it easier to grip and separate plates – reducing strain and frustration for individuals with arthritis, hand tremors, or reduced dexterity.



Bright, saturated plate colors enhance contrast – helping users with visual impairments better distinguish food and edges.

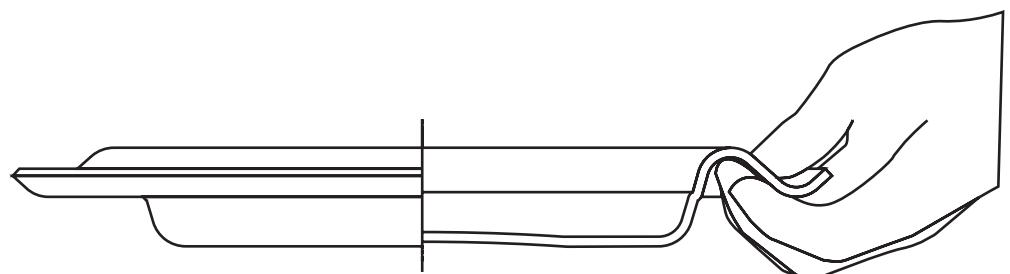
Materiality & Construction



The plate features a 3-ply aluminum - stainless steel - aluminum construction for its balance of weight, strength, and heat regulation. The magnetic properties of the stainless steel base allow for secure attachment to the tray, reducing movement and supporting users with tremors or limited stability. The outward facing aluminum surfaces are finished with natural anodizing to enhance durability, tactility, and visual refinement, creating a product that is both utilitarian and dignified in daily use.

The outer walls are deep and gently curved, supporting scooping and guiding liquids outward. A specially designed ergonomic grip accommodates a wide range of finger widths and promotes neutral wrist positions, alleviating pressure points for individuals with arthritis, carpal tunnel, or reduced dexterity. This grip also acts as a spill guard, improving control without looking medical.

Every detail – from the material palette to the form factor – has been selected to blend seamlessly with standard kitchenware, ensuring the user feels supported without being singled out.



Easy of Use in Daily Life



Fluid Boundaries was designed to be easy to clean, hold, and store.

The ergonomic grip ensures a secure, natural hold even when the plate is wet, reducing strain on the wrist and fingers.

The curved form minimizes water pooling and allows for quick drying, while the durable, food-safe materials withstand daily use without compromise.

This attention to everyday tasks – like washing and drying – reinforces the goal of seamless integration into the lives of older adults without drawing attention to the support features embedded in the design.



BALANCE

The tray complements the plate by adding stability, warmth, and adaptability to daily routines. Embedded magnets prevent the plate from sliding and secure metal utensils – reducing spills and minimizing the risk of knives or tools falling, whether in tray or cutting board mode.

Its ergonomic handle keeps the wrist in a neutral position, improving comfort. When flipped, the HDPE surface becomes a cutting board, with the offset handle doubling as a juice groove. A maple wood insert brings warmth to the design, blending function with familiarity.



A System of Support

The tray is built for adaptability. Its ergonomic grip mirrors the plate's, supporting a neutral wrist position to reduce strain and improve stability when carrying.

The embedded magnets serve multiple roles – anchoring the plate securely during transport, preventing slips while eating, and holding metal utensils in place to reduce the risk of spills or accidents.

When flipped, the tray becomes a cutting board. The same handle forms a juice groove while staying offset from the prep surface, keeping the workspace clear and safe.



Materiality and Construction



The tray is made from food-safe, durable HDPE, offering an easy-to-clean, lightweight surface that supports both preparation and serving.

A maple wood insert adds warmth and contrast – balancing the utilitarian nature of the plastic with a sense of home and care.

Embedded magnets not only stabilize the plate during transport and mealtimes, but also secure knives and metal utensils in place when used as a cutting board – reducing the risk of accidents from falling tools.

Every detail reflects a balance of safety, emotion, and utility – inviting users of all abilities into the kitchen with confidence.



The plate and tray were conceived not just as individual products, but as a cohesive system supporting independence across the full mealtime experience – preparation, serving, and eating.

With aligned ergonomic grips, embedded magnets, and durable, easy-to-clean materials, the two objects work in tandem to reduce spills, improve handling, and adapt to shifting needs without calling attention to themselves.

Subtle in form but thoughtful in function, the system integrates universal design principles to support dignity without stigma – serving both those with accessibility needs and those without.

Designing with Empathy, Living with Dignity

Fluid Boundaries is more than a kitchenware set – it is a conversation about care, autonomy, and the power of design to meet people where they are.

By blending aesthetic subtlety with technical function, the RIPPLE plate and the BALANCE tray avoids stigmatization while providing real support for those facing mobility, strength, and sensory challenges.

The universal design approach ensures that these tools fit seamlessly into any home, offering support without signaling difference – so that dignity is preserved, not negotiated.

This work is a call to reimagine everyday tools not as static objects, but as evolving companions in our changing lives.



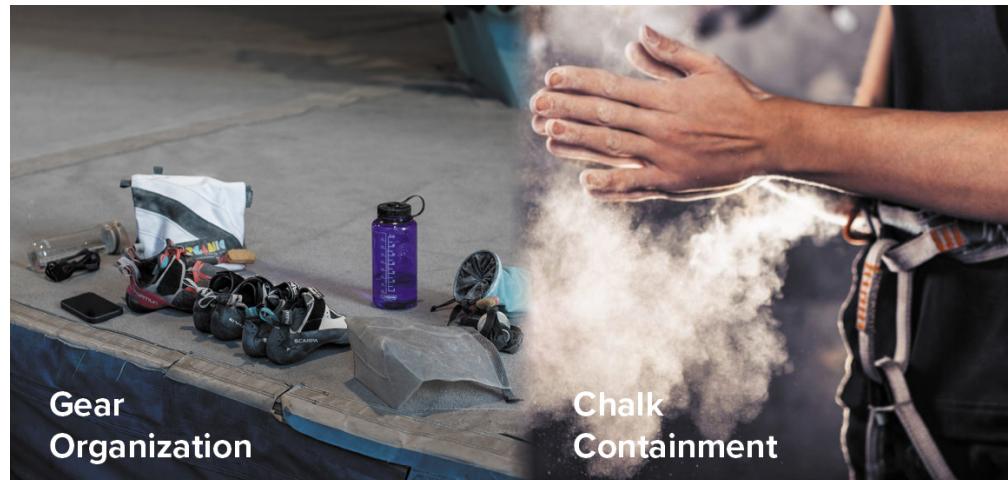


02

VELOCE: BOULDERING COLLECTION

Revolutionizing bouldering gear storage with innovative solutions to keep equipment clean, organized, and accessible.

Hanes Hsu 2025



Veloce Bouldering Gear Organization addresses common frustrations faced by climbers, providing innovative solutions to maintain cleanliness and organization.

Climbers face a lot of inconveniences during their climbing sessions at the climbing gym. Two of the main issues that they face are how to deal with loose chalk and efficient gear management. This collection is thoughtfully designed to solve the pervasive issue of loose chalk and disorganized climbing gear. Veloce ensures a cleaner and more organized climbing experience whether you are storing your climbing shoes, chalk bag, or chalk brushes.





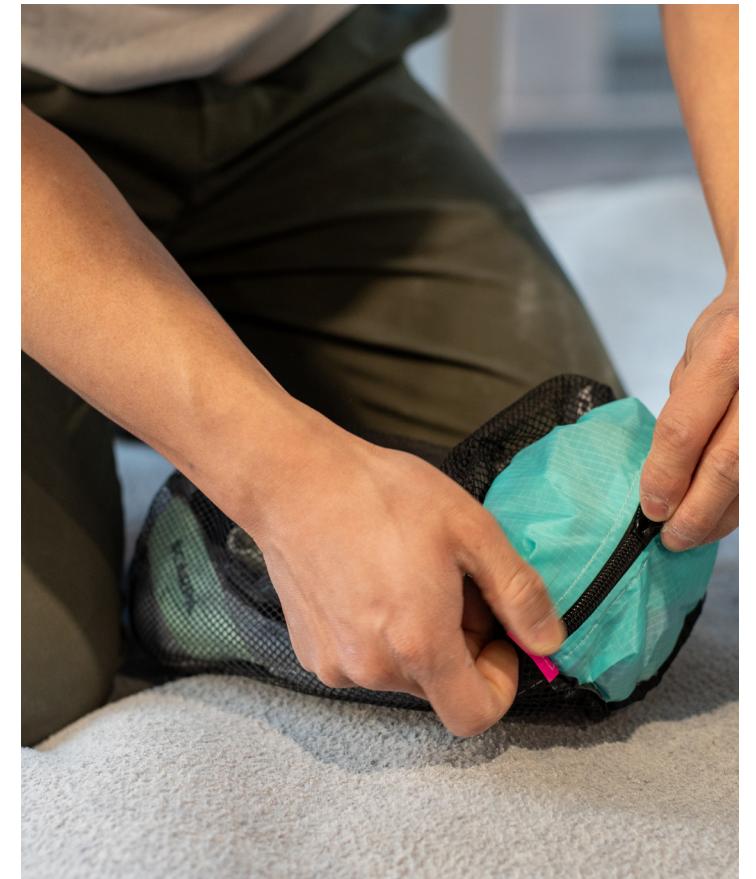
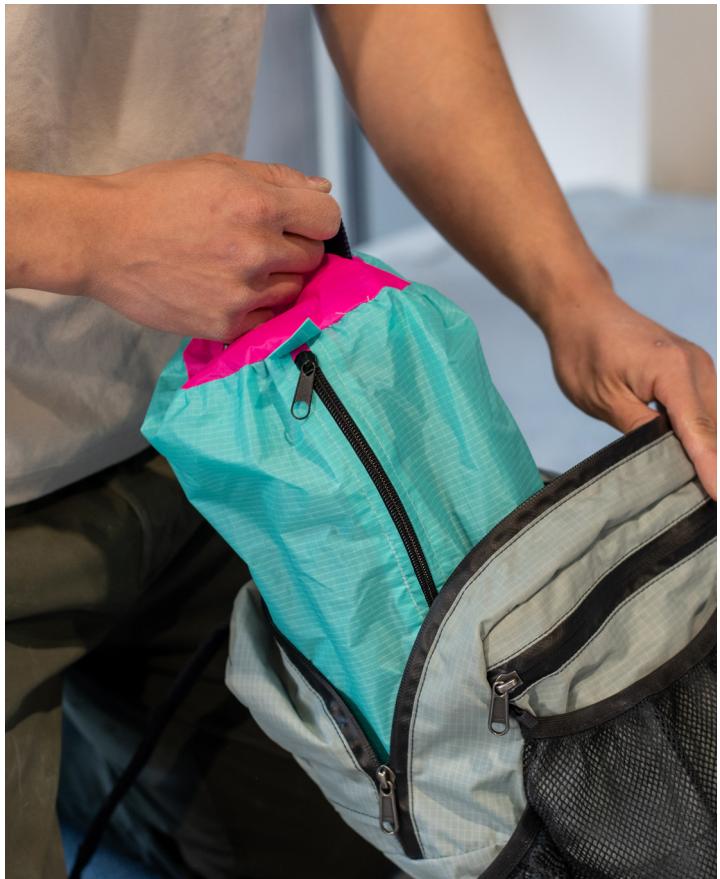
Designed for the Climb

Veloce is a three-piece climbing gear collection designed to improve cleanliness, organization, and efficiency while climbing. The chalk bag and shoe bag feature a lightweight 20-denier nylon flip system that contains loose chalk, preventing unwanted mess and gear contamination. The chalk brushes nest together magnetically, with the smaller brush embedded inside the larger one – eliminating the need to carry multiple brushes and saving space in your kit. Together, these products offer a clean, compact, and intuitive solution for climbers who value streamlined gear.



VELOCE: SHOE BAG





Shoe Bag Workflow

The shoe bag has a “clean” outer layer that is made from a 20 denier ripstock nylon material that keeps odors and loose chalk from escaping the shoebag and contaminating other gear when stored or transported. The “clean” outer layer can be stored inside of a zippered pocket also made from the same material to keep it clean when the shoes are being carried around the gym. This reveals a “working” layer made from a mesh material to prevent chalk buildup. A nylon carrying loop also makes carrying the shoes around the gym easier, reducing the need to keep track of individual shoes. The drawstring design allows climbers to easily access their shoes during their sessions without having to deal with zippers that may get stuck if chalk collects in the zipper teeth.



Shoe Bag Storage

An extra nylon carrying loop attached to the “clean” outside layer makes the shoebag easy to hang up for storage while the mesh layer prevents the shoes from falling out when the bag is unzipped to prevent odors.



VELOCE: CHALK BRUSH



Chalk Brush Workflow

A small and large chalk brush is commonly carried by climbers to brush different climbing holds. To eliminate the need to carry two brushes around the climbing gym the small brush is imbedded inside of the large brush. This not only allows the large brush to function without any difference but also allows the small brush to be separated and used independently when needed. Magnetic Fidlock hardware is also incorporated into the design to replace the brush holder on traditional chalk bags to make attaching and removing the chalk brush an easier experience.



Chalk Brush Details

The Veloce Chalk Brush has five different features that improves the climbing hold brushing experience:

1. Small brush integration into the large brush.
2. Angled brush, and tapered and offset handles keep the climber's fingers away from the wall.
3. Unique handle allows for multiple grip types to maneuver around climbing holds.
4. Longer bristles at the tip of the brush to account for uneven wearing to elongate brush lifespan.
5. Fidlock hardware to make attaching and removing the chalk brush easier.





VELOCE: CHALK BAG



Chalk Bag Workflow

Similar to the shoe bag, the Veloce Chalk Bag features a “clean” layer that prevents chalk from contaminating other gear when stored. The chalk bag unzips and folds its outer layer away to reveal a “working” layer that is also made from 20 denier ripstock nylon for ease of cleaning. Attached to the “working” layer are multiple gear organization methods, including a large folded zipper pocket, a water bottle holder, a gear loop, and a Fidlock female component to attach the chalk brush.



Chalk Bag Storage System

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LET'S
CLIMB!



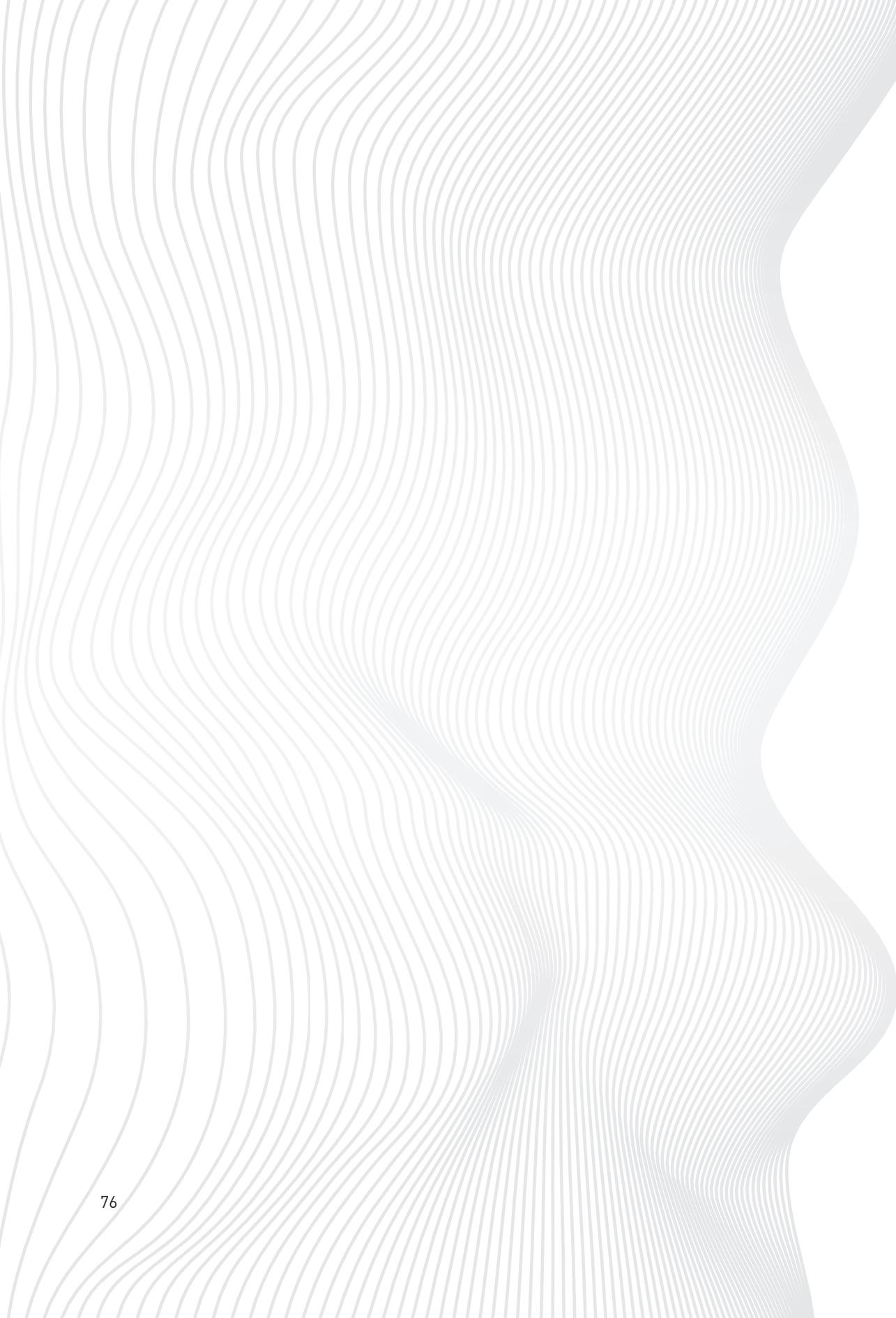




03

WINDSHED: CHICAGO BUS SHELTER REIMAGINED

Public space as
choreography:
a shelter shaped by
wind and time.



Windshed draws from the rhythms of Chicago – its wind, its people, and its architecture. Inspired by the city's iconic modernist structures and the fluid geometry seen in the work of Studio Geng, this project reimagines the bus shelter not as a static object but as a living form shaped by motion and memory. The design considers how wind influences human behavior in public spaces, using airflow as both metaphor and function to shape form, material, and interaction. At its core, Windshed is a reflection on how architecture can respond to – and even embrace – the invisible forces that move us.



Understanding the evolving role of public infrastructure in a post-pandemic world, this project began with field research: observing Chicago's transit spaces, mapping pedestrian flow, and interviewing local commuters. These insights revealed not only the functional gaps – lack of wind protection, limited seating – but also emotional ones, such as the need for comfort, recognition, and moments of pause.

Inspired by how people instinctively seek out edges, walls, and overhead cover, the early concepts for Windshed explored organic forms that invite lingering rather than simply waiting. I also studied the interplay of wind currents around built structures and looked to Chicago's architectural lineage, especially works that blend rational geometry with sculptural presence. These references shaped a vision of the bus shelter as a dynamic threshold – something between inside and outside, past and present.

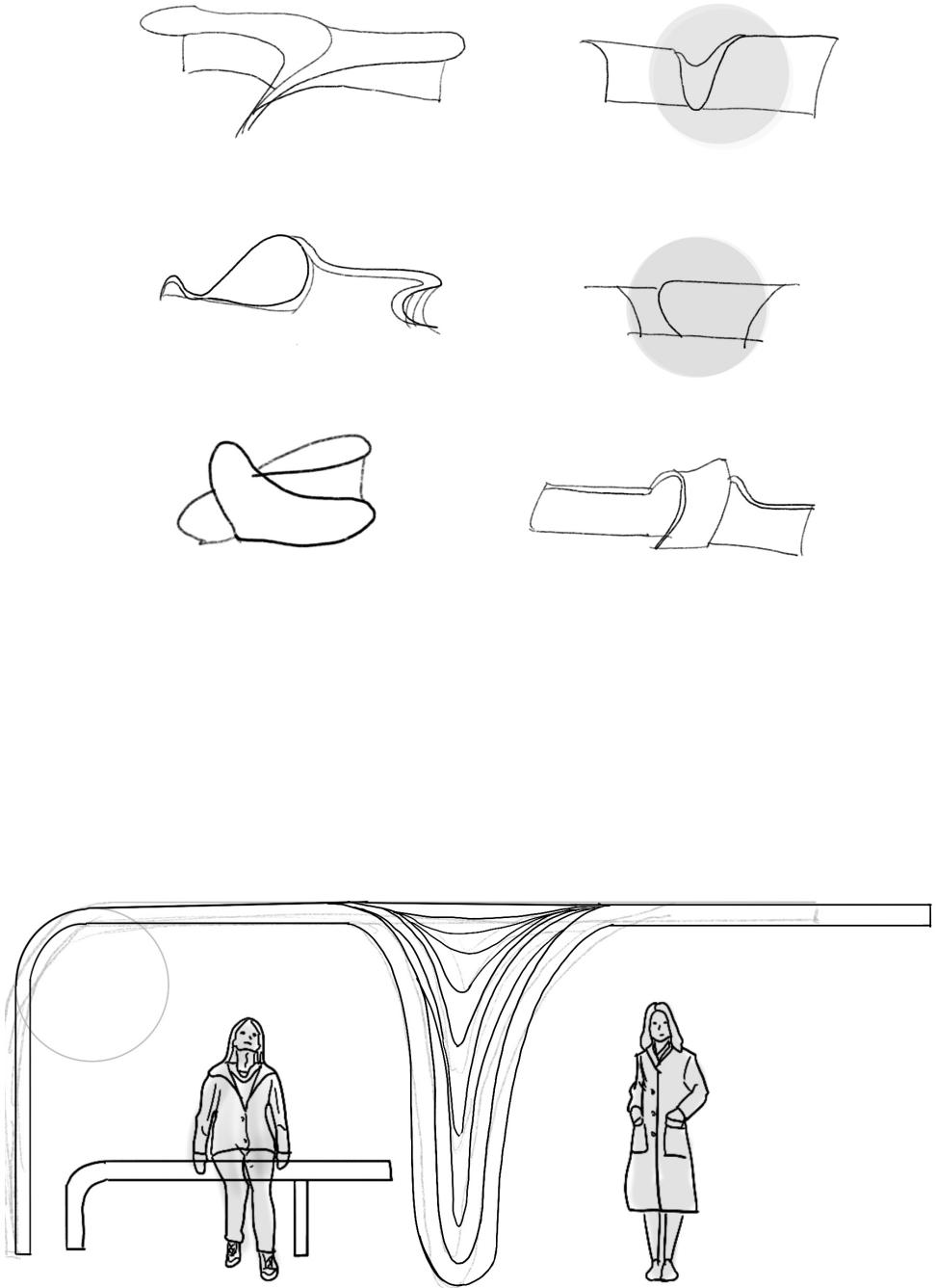


inspiration and form

Windshed draws inspiration from Chicago's architectural landscape and its elemental identity as the "Windy City." The design pays homage to the expressive, fluid structures of Studio Gang, whose work often dissolves the boundaries between environment and architecture. The sideways "L" silhouette gestures toward movement and shelter simultaneously – mimicking the sweeping currents of wind while offering a grounded, sculptural presence. This form is not only a response to environmental forces like sun and rain, but also a quiet nod to the city's iconic "L" train – an enduring symbol of transit, memory, and urban rhythm.

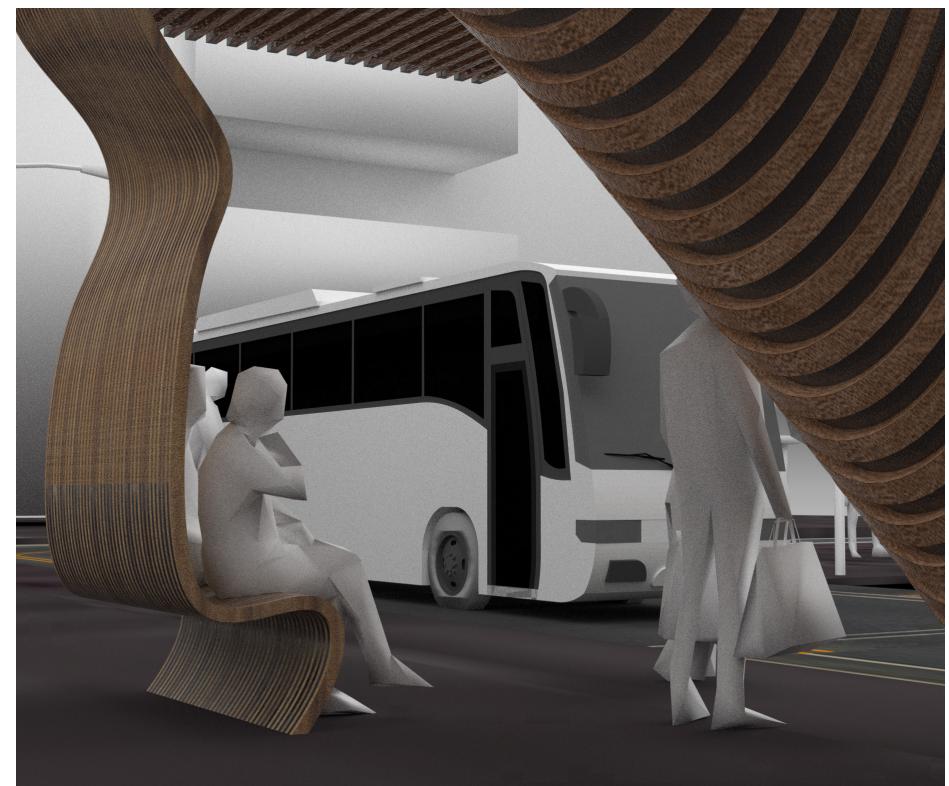
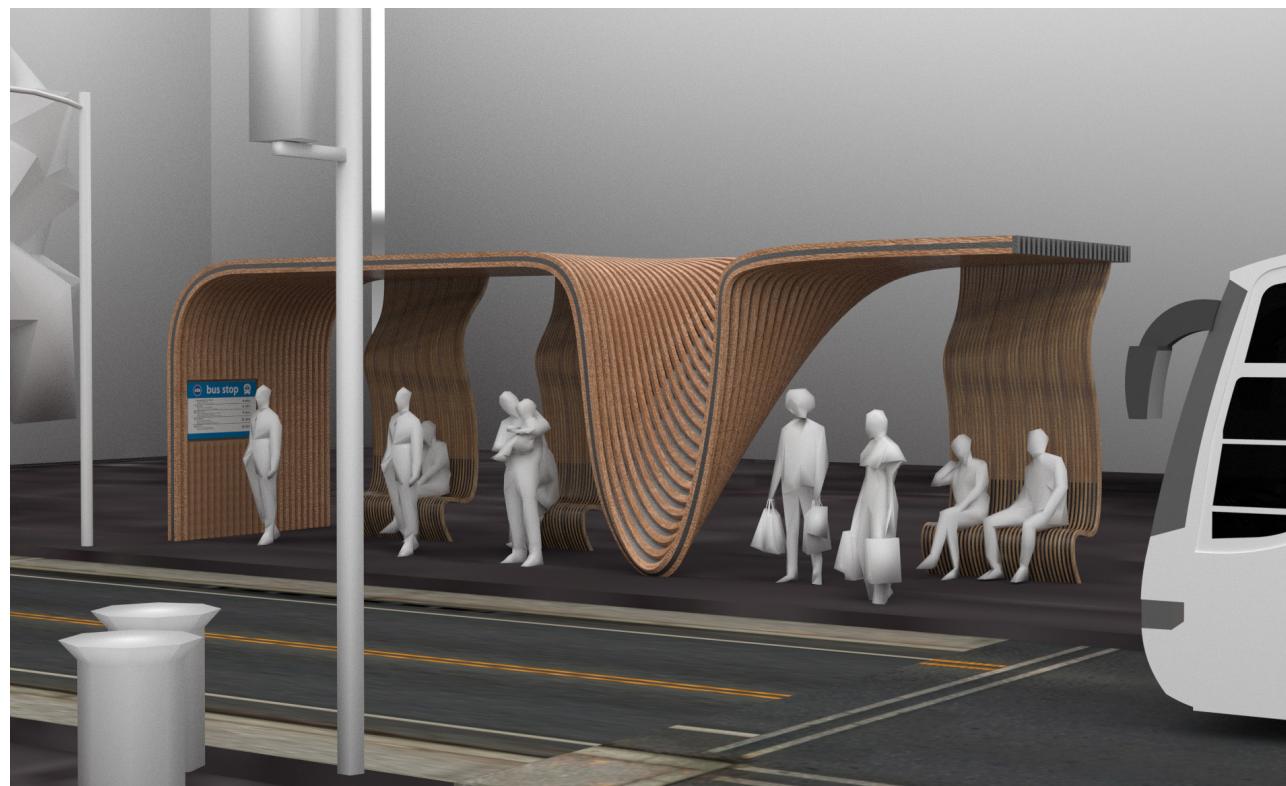
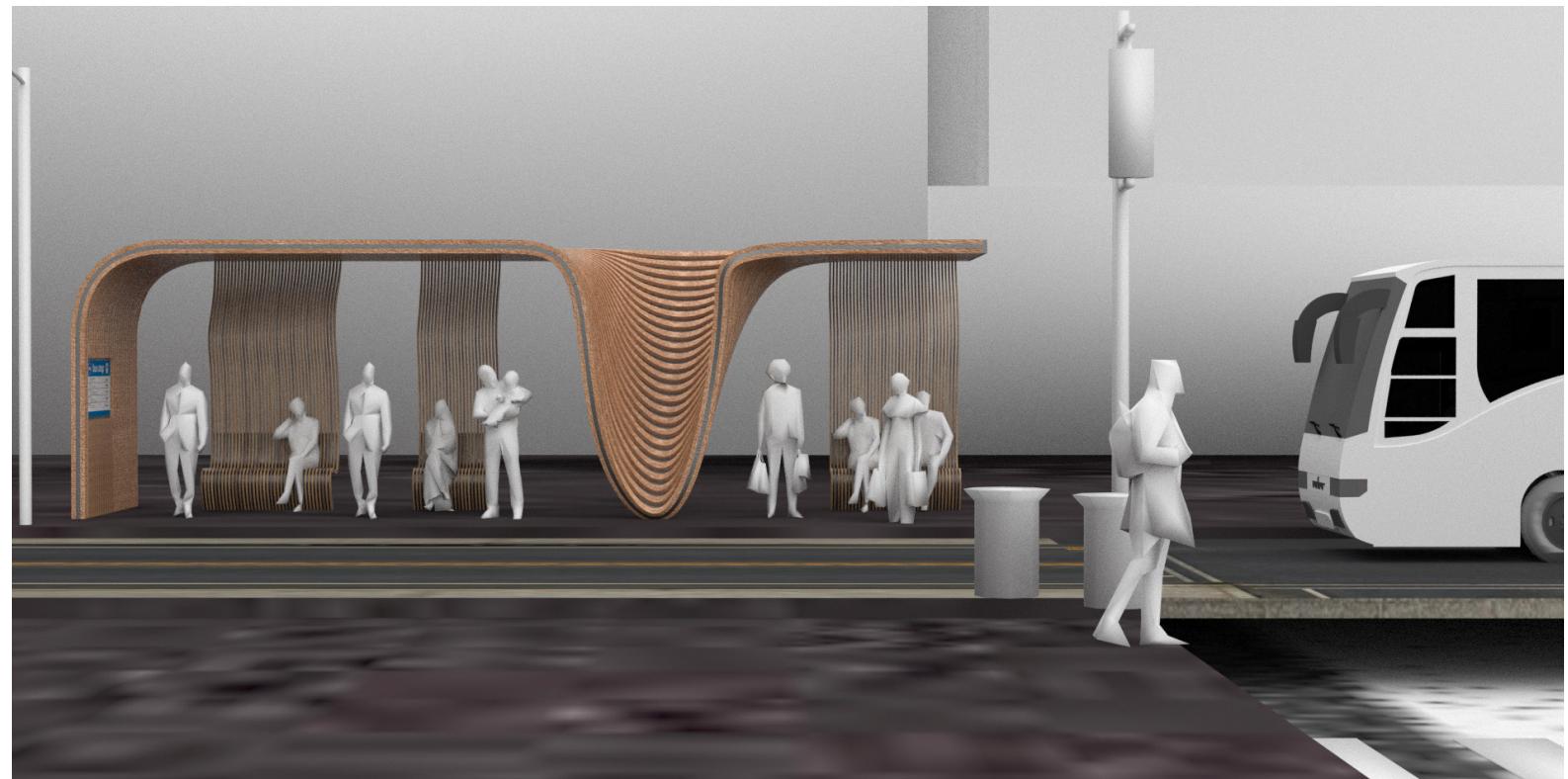
Material choices echo both craft and durability. The shelter's laminated wood and metal sandwich – layered in offset, rhythmic segments – evokes the layered skyline of Chicago while emphasizing structural expression. The drooping central element grounds the form both visually and functionally, doubling as a support and a gentle invitation to pause. Curved benches of varying lengths extend this gesture, accommodating a range of postures, bodies, and rhythms in public space.

More than just a cover, Windshed carves a moment of rest and reflection into the cityscape – where movement, memory, and material quietly converge.



Rendering mockup via Vizcom



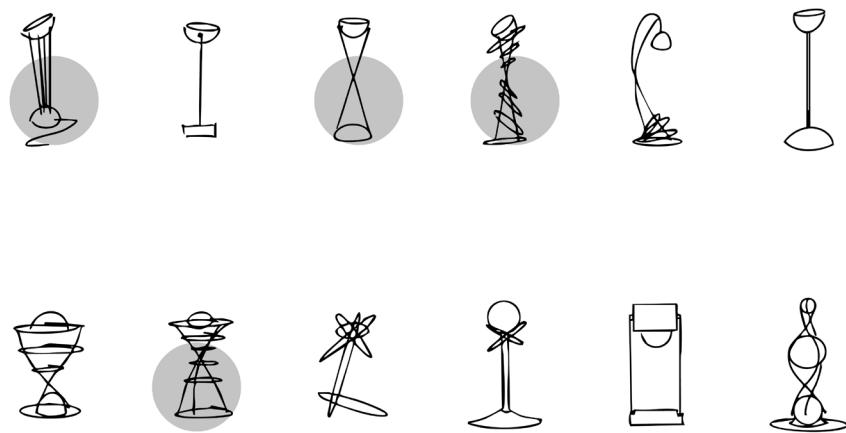




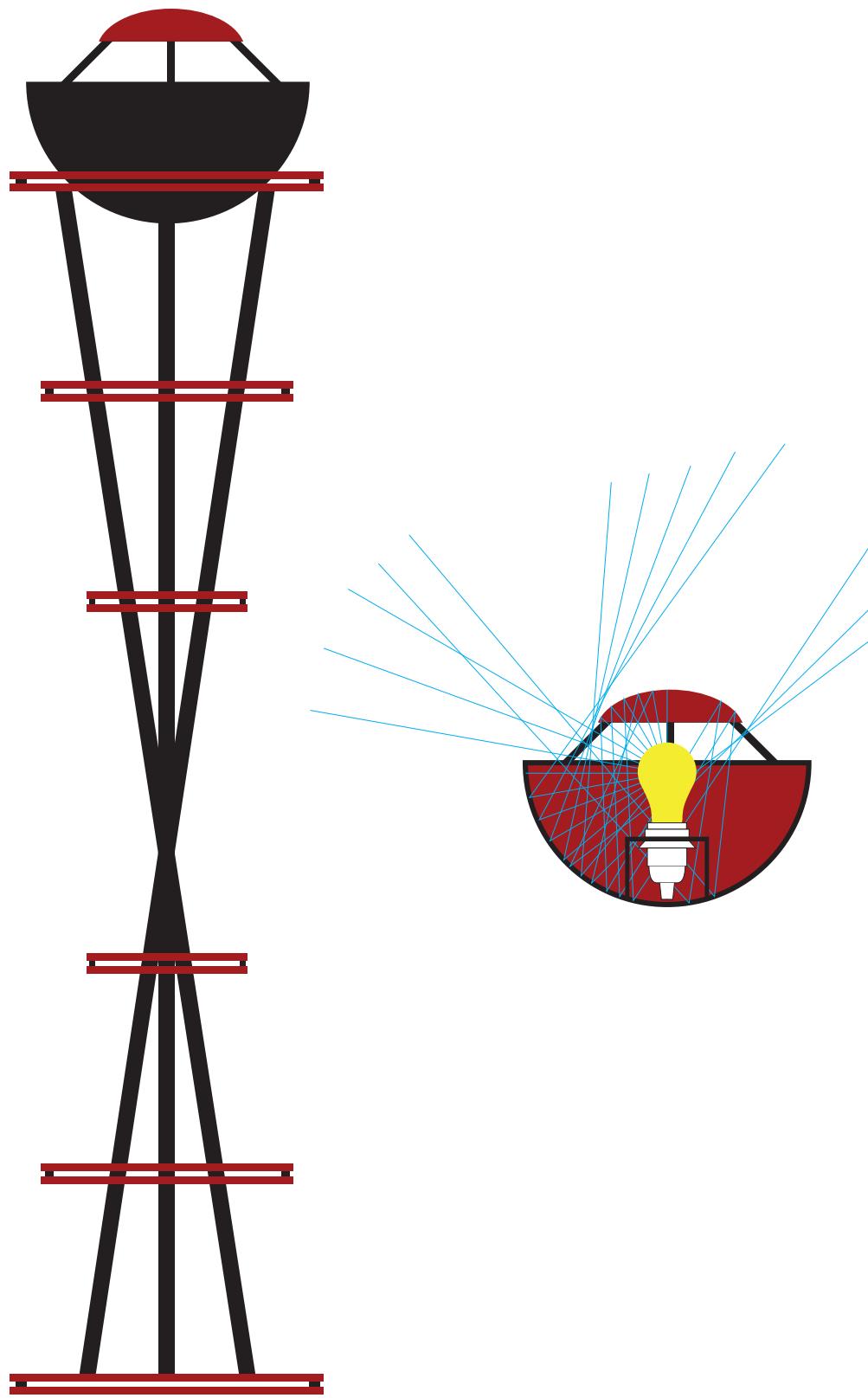
04

CRIMSON DISSENT

An expressive lighting sculpture exploring the emotional tension between structure and illumination.



Crimson Dissent draws inspiration from the visual identity of the Museum of Design Atlanta (MODA), merging geometric precision with bold emotional contrast. The red and black palette references MODA's brand while creating an immediate visual tension. The dual-dome structure reflects the museum's minimalist and architectural aesthetic, while introducing a layered narrative through light and material.



The lamp's innovative lighting concept begins with light escaping through the top shade opening. That light is then reflected off the top dome onto the red-painted bottom dome, casting a warm-to-red gradient on the surrounding wall. This subtle transformation creates a layered part direct, part atmospheric lighting effect enhancing emotional and spatial depth.





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Design is a conversation between light, form, and feeling. Crimson Dissent reflects that dialogue – this photo marks the moment it became real.





05 **DUELING DYADS:**

A daily toilet transfer
assistive device for a
domestic setting.

Group Project:
Andrew Elliott
Abigail Emerson
Hanes Hsu
Ashton Turner
Daisy Yin

Our project addresses a critical need for individuals with mobility impairments and their caregivers by designing an innovative toilet-transferring device. This device is specifically intended to assist patients who are wheelchair-bound or use crutches in transferring to and from toilet seats, providing a safer and more comfortable experience.

Thomas, who uses a wheelchair full-time due to various health conditions, struggles with independently transferring to the toilet. His tremors and limited communication abilities further complicate the process for him and his caregiver, Dorothy. Dorothy, despite her efforts, faces limitations due to her arthritis, which restricts the assistance she can provide. The transfer process, therefore, causes significant physical and mental strain for both Thomas and Dorothy, making an everyday task a challenging ordeal.

Our toilet-transferring device was developed in collaboration with an occupational therapist to ensure it meets universal design criteria. The key features of the device include: ease of use, support and stability, adjustability, and comfort.

By reducing the physical demands on caregivers like Dorothy and increasing the independence of patients like Thomas, our toilet-transferring device aims to alleviate the mental and physical stress associated with bathroom transfers. This design not only enhances the quality of life for users but also promotes dignity and independence in performing daily activities.

Our project exemplifies how thoughtful, user-centered design can address real-world challenges, providing practical solutions that improve the daily lives of those with mobility impairments and their caregivers.



Persona: Care Recipient

Name: **Thomas**

Age: **65 yr**

Race/Ethnicity: **White**

Profession: Retired **PhD-Level** researcher

Health Condition:

Incomplete **C8-level spinal cord injury**

- Occasional loss of sensation in arms, hands, trunk, and lower body
- Limited muscle strength in hips and legs

Advanced **Parkinson's Disease with Lewy body dementia**

- Tremors
- Muscle stiffness
- Slowed movement
- Limited communication, can only respond to yes and no



Persona: Care Giver

Name: **Dorothy**

Age: **58 yr**

Race/Ethnicity: **White**

Profession: Retired, **full time CG** for Thomas

Health Condition: **Arthritis** in knees and hips from
caregiving



Pain Points



- Remaining in **constant contact**
- Support while **turning**
- **Sitting down softly**
- **Lack of grab bars** for the right hand when standing up



- Hard for the CG to support the CR **straining her back**
- **Awkward position** for CG to remove wheelchair



- CG has to pull hard to **help lift** the CR up
- An **additional walker** is needed to help transfer the CR from the commode to the wheelchair



- CG has to **move around the toilet** to help disrobe/cothe the CR
- Raising grab bar **gets in the way** of the CG and has to be removed

Problem Statement

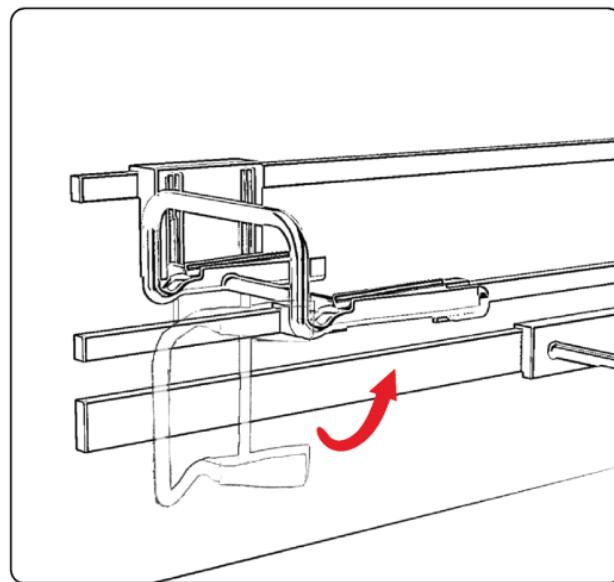
Due to his various health conditions, Thomas uses a wheelchair full-time and is **unable to transfer himself to the toilet independently**, and his tremors and limited communication make the process more cumbersome for him and his caregiver, Dorothy.

Specifically, Thomas has **trouble getting up and sitting down, fully supporting his own weight, as well as communicating his needs**. Though Dorothy's help makes the process easier for Thomas, **her arthritis limits the help she can give him**.

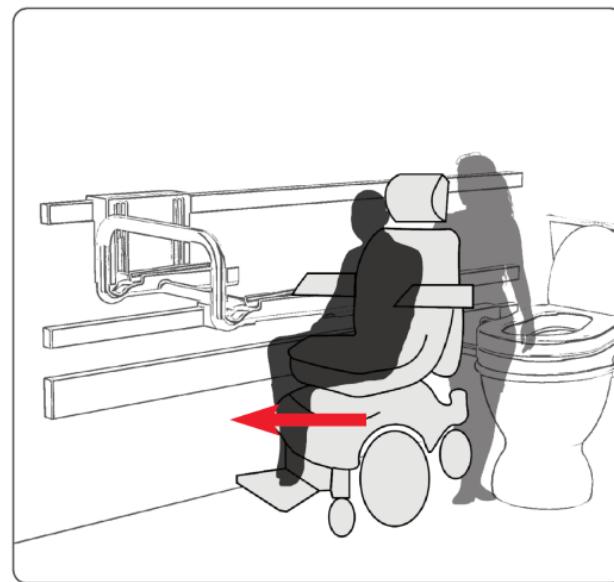
Ultimately, this process causes **mental and physical strain** for both Thomas and Dorothy, making transferring, a seemingly simple everyday task, difficult. With our Universal Design, we hope to make transferring easier for both Thomas and Dorothy.



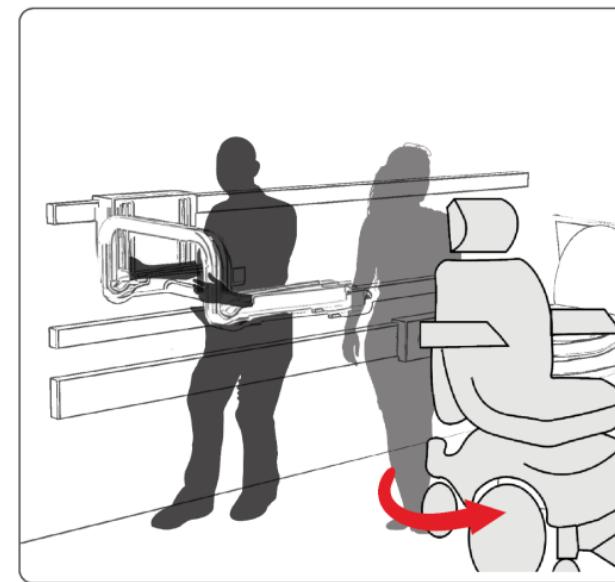
Storyboard



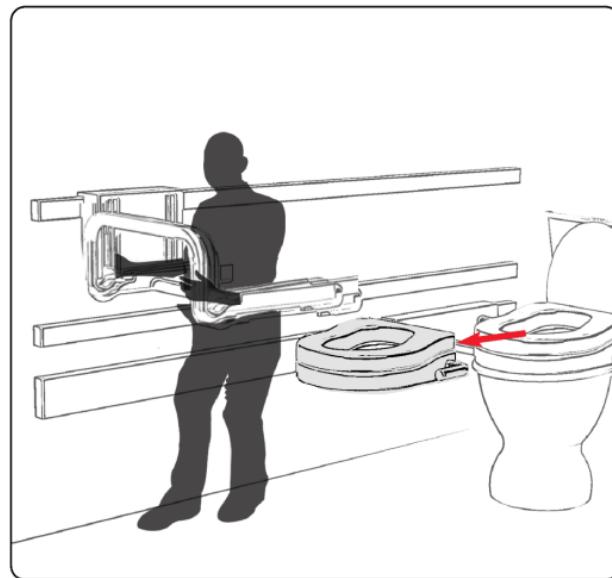
Handlebars flip up from against the wall and lock into place.



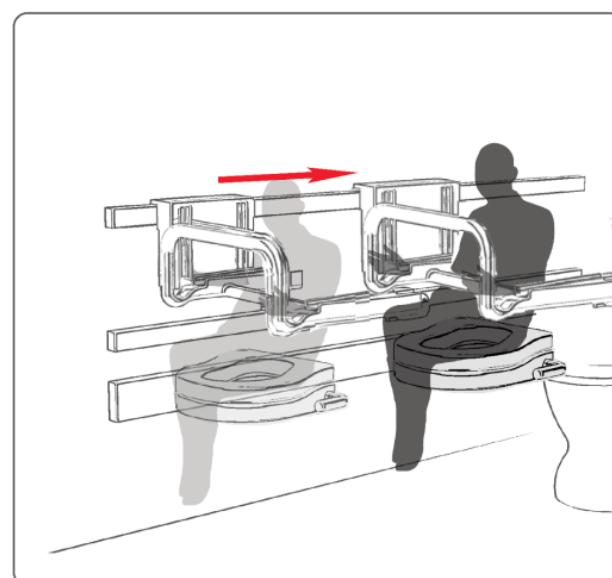
CG moves care recipient between toilet and handlebars so that handlebars are within CR's reach.



CR places forearms inside supports and grabs handlebars to stand and hold himself steady while CG moves wheelchair out of the way



CR grabs handlebars, stands, and holds himself steady while CG slides commode beneath backside and locks in place using handle



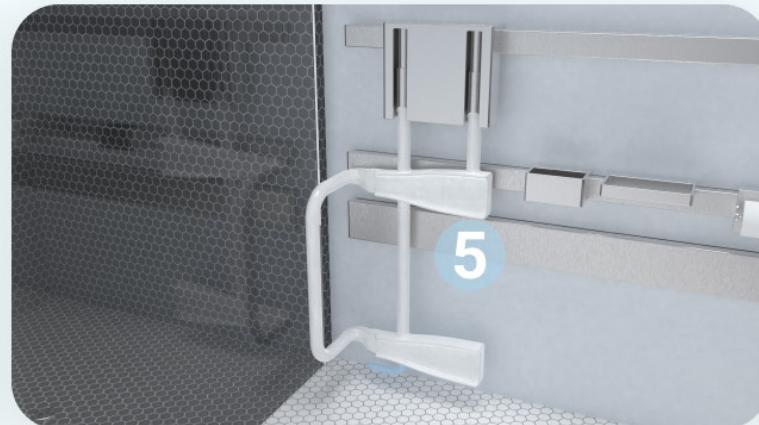
CR sits on commode. CG unlocks commode and handlebars and slides both over toilet



Commode and handlebars are locked in place. CR is seated steadily on the toilet.

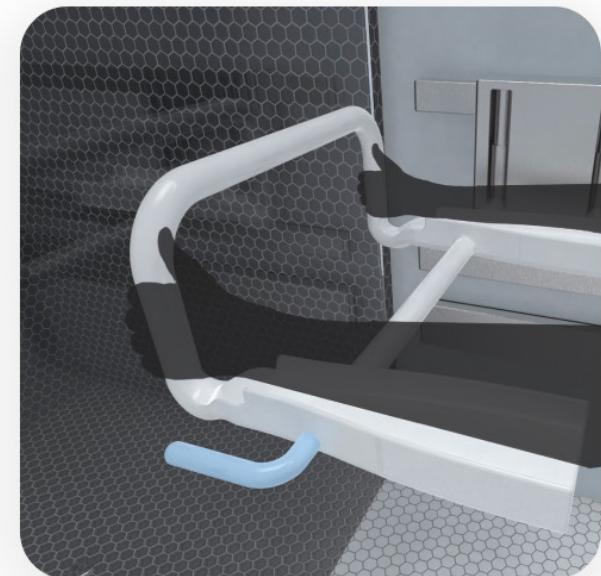


Final Concept Details



- 1 Sliding Rails
- 2 Additional Toilet Seat Riser
- 3 Hydro-pneumatic Lift System
- 4 Locking Handles
- 5 Fold-away Armrest Handles

In Context Renders





06

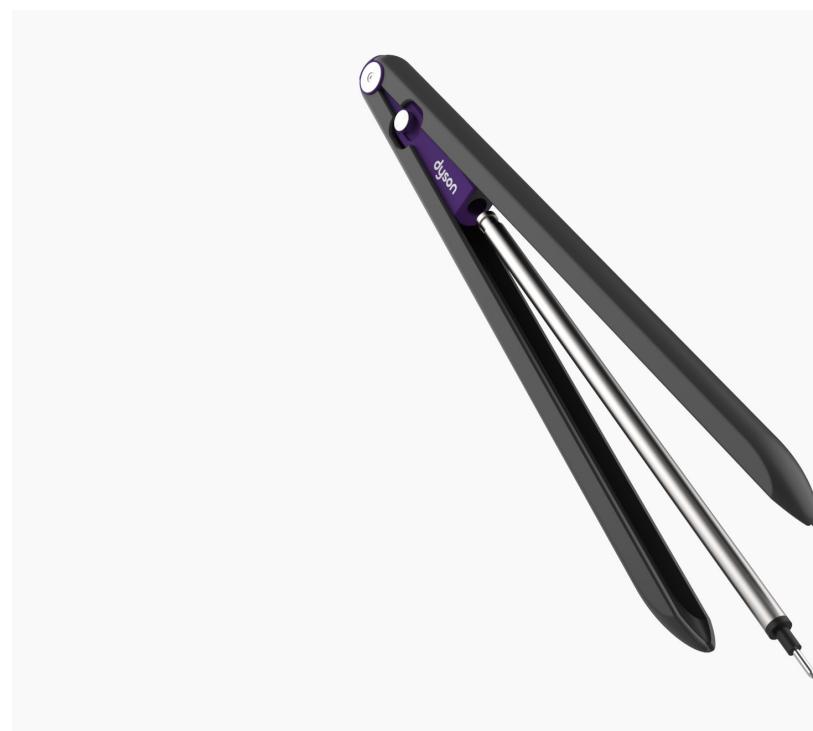
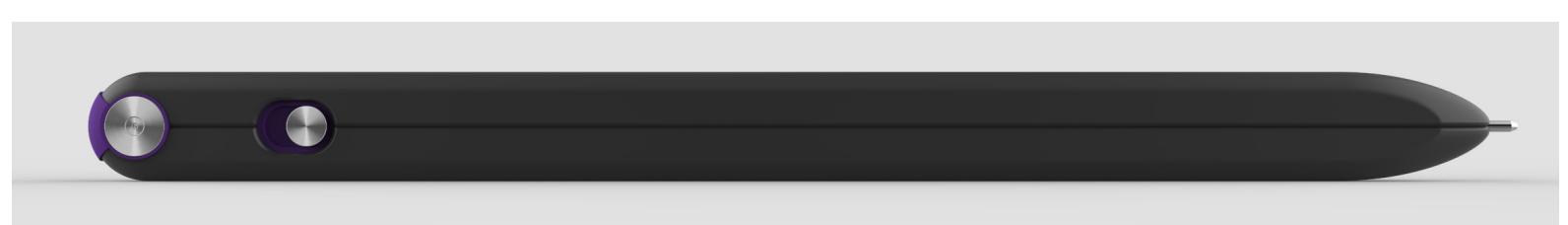
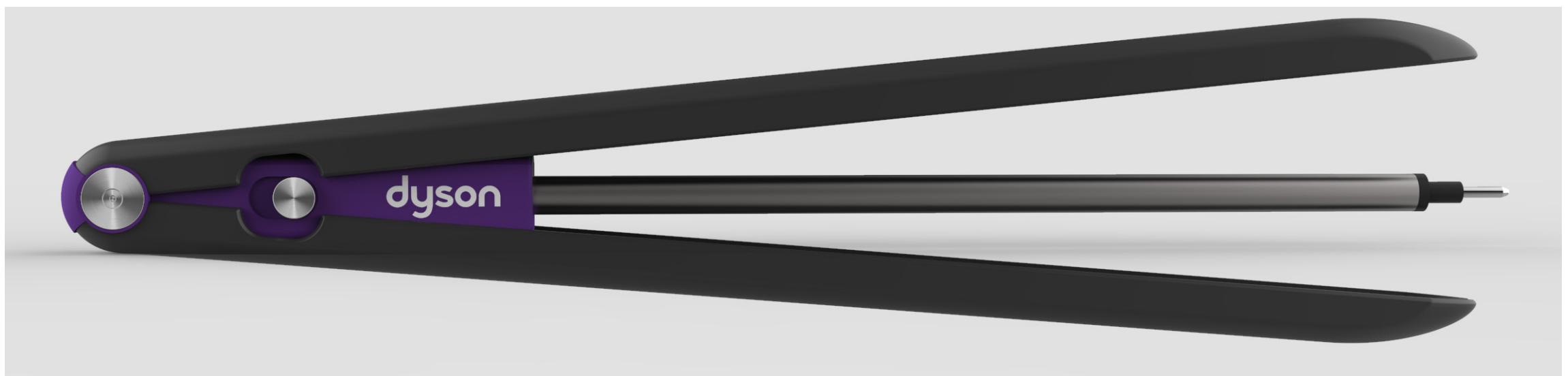
OTHER WORKS

learning by doing

Trying metal spinning for the first time – a hands-on process that deepened my understanding of form, force, and material behavior. Moments like these remind me how experimentation and curiosity fuel my design practice.



**Entrance way bench
made from maple,
walnut, brass, MDF,
and maple veneer.**



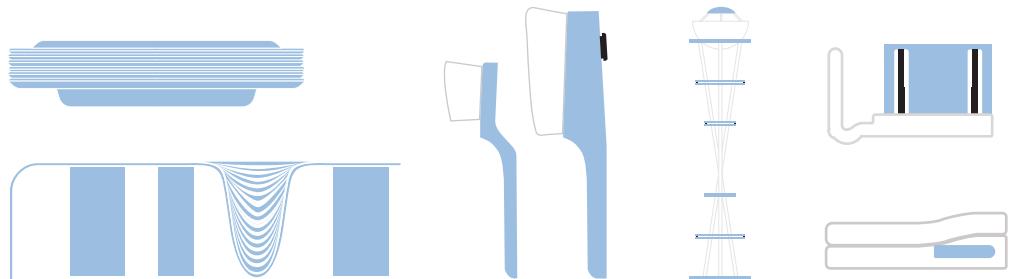
This pen design draws from Dyson's visual brand language, emphasizing engineered precision, functional minimalism, and dynamic airflow aesthetics. Clean lines, bold structural gestures, and high-performance materials echo Dyson's design DNA, resulting in a writing tool that feels both technologically advanced and intuitively balanced in hand.



A collection of props that I fabricated for *Convenience Store 1999*, an upcoming Taiwanese television series.



“Design is the intermediary between information and understanding.”



PORTFOLIO 2025

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