



Industrial Design

Portfolio

Mason Ford

2025



Hello

My name is **Mason Ford**.

I am an Industrial Designer pursuing a Bachelor of Science from the University of Kentucky. I have a drive for solving real-world problems with innovative solutions.

Whether I'm building physical products or refining digital ideas, I'm always driven by curiosity, empathy, and a commitment to designing with purpose.

Competencies

Personal Skills

Adaptable
Empathetic
Personable
Collaborator
Communicator

Design Skills

3D Modeling
Concept Ideation
Product Sketching
Rapid Ideation
Product Visualization
User Research
Product Prototyping
Moldmaking

Softwares

SOLIDWORKS
Keyshot
Fusion360
Rhino
Adobe Suite
Microsoft Office
Vizcom
Procreate

About Me

Education

In Progress University of Kentucky

Bachelor of Science
in Product Design (2026)

In Progress University of Kentucky

Undergraduate Certificate
in Business (2026)

Work Experience

2020–Now Retail Experience

Carters / Oshkosh B'gosh
Nike
J. Crew Factory
Dick's Sporting Goods
Kohl's

Contact

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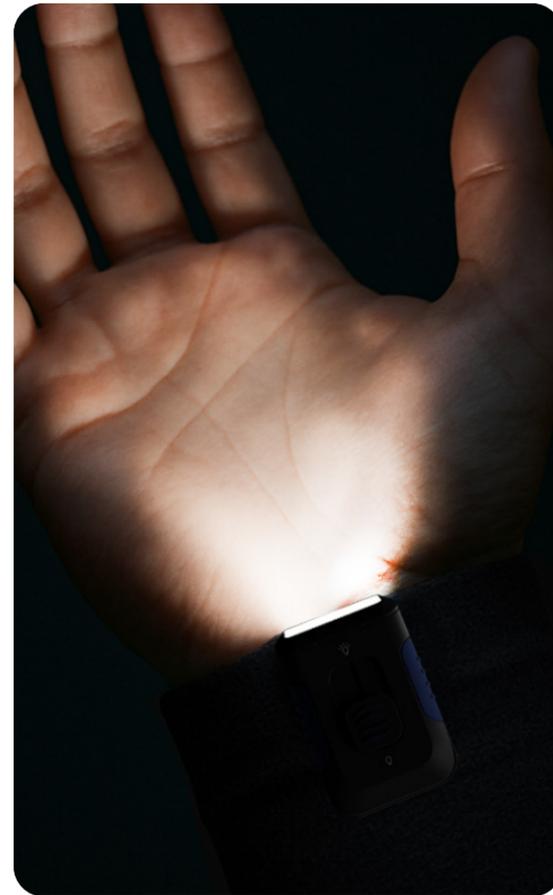
Website <https://www.masonford.design>

Mechanical



01
HAFTWORKS Coupler

Detail



02
Beam Wrist-Lights

Research



03
Orvana Kitchen Mat

Industry



04
Bridge-1 Fire Helmet



HAFTWORKS

Summary

The Haftworks Coupler is an outdoor product that makes any long handled tool portable. This product combines any Haftworks tool-head with any stick that you find. It is perfect for hikers who need to limit the weight of what they are carrying.

Time 2 months in 2025

Type School

Tools



KeyShot Studio





Long handled tools are difficult to transport due to their size and weight

Research Gameplan

1. Problem

There needs to be a better way to carry or transport long handled tools

2. Guiding Question

How can a product make long handled tools more **portable**?

3. Solution

A product that can integrate with a stick you find to create a long handled tool wherever you are



Market Research

Practical

Portable

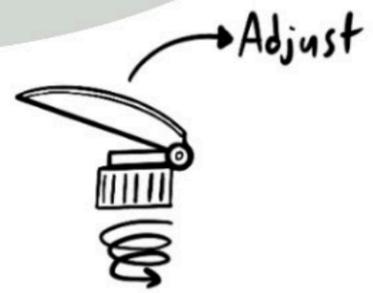
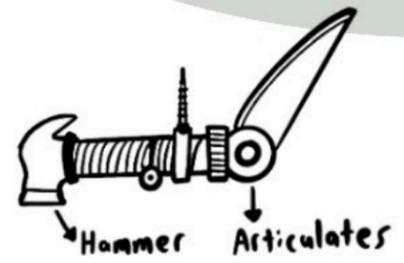
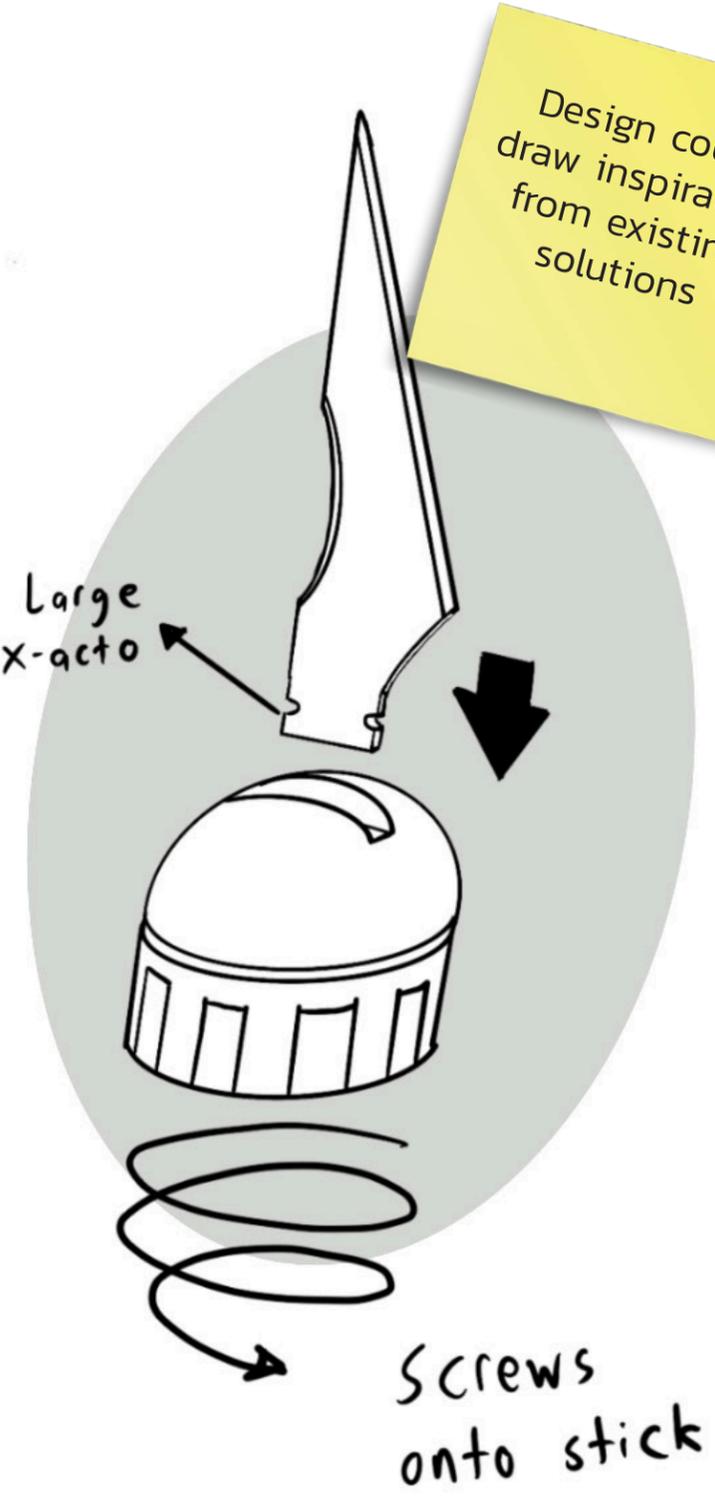
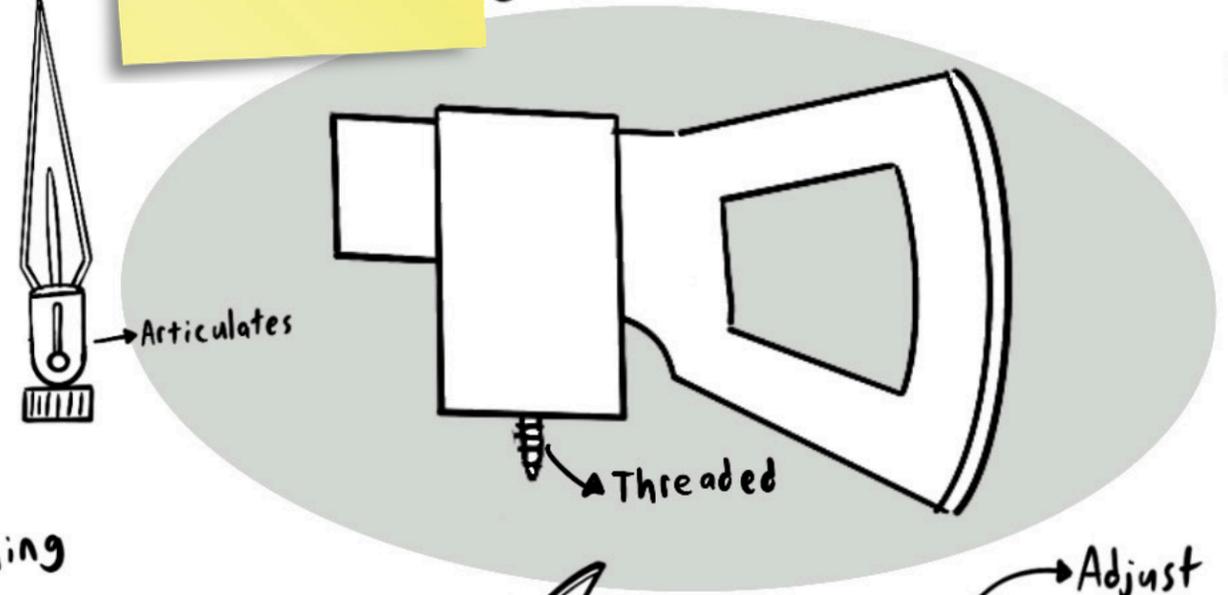
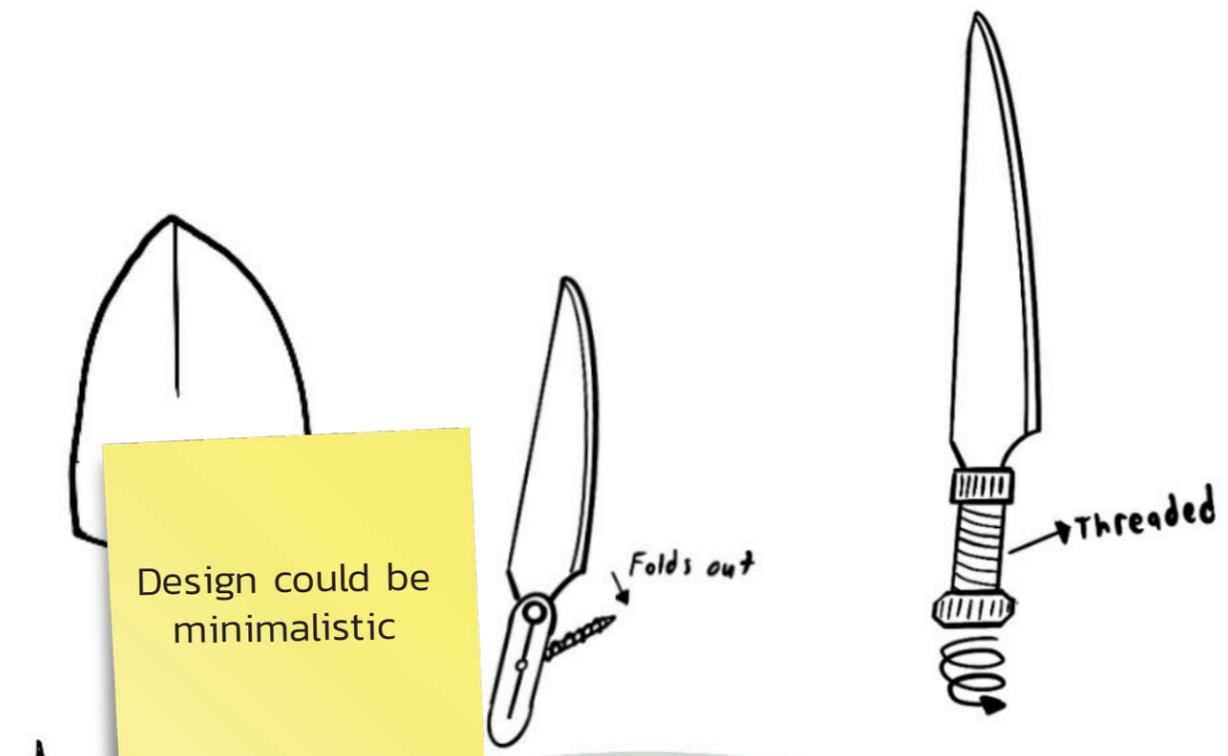


There is an opportunity for a product that is practical, portable, and versatile

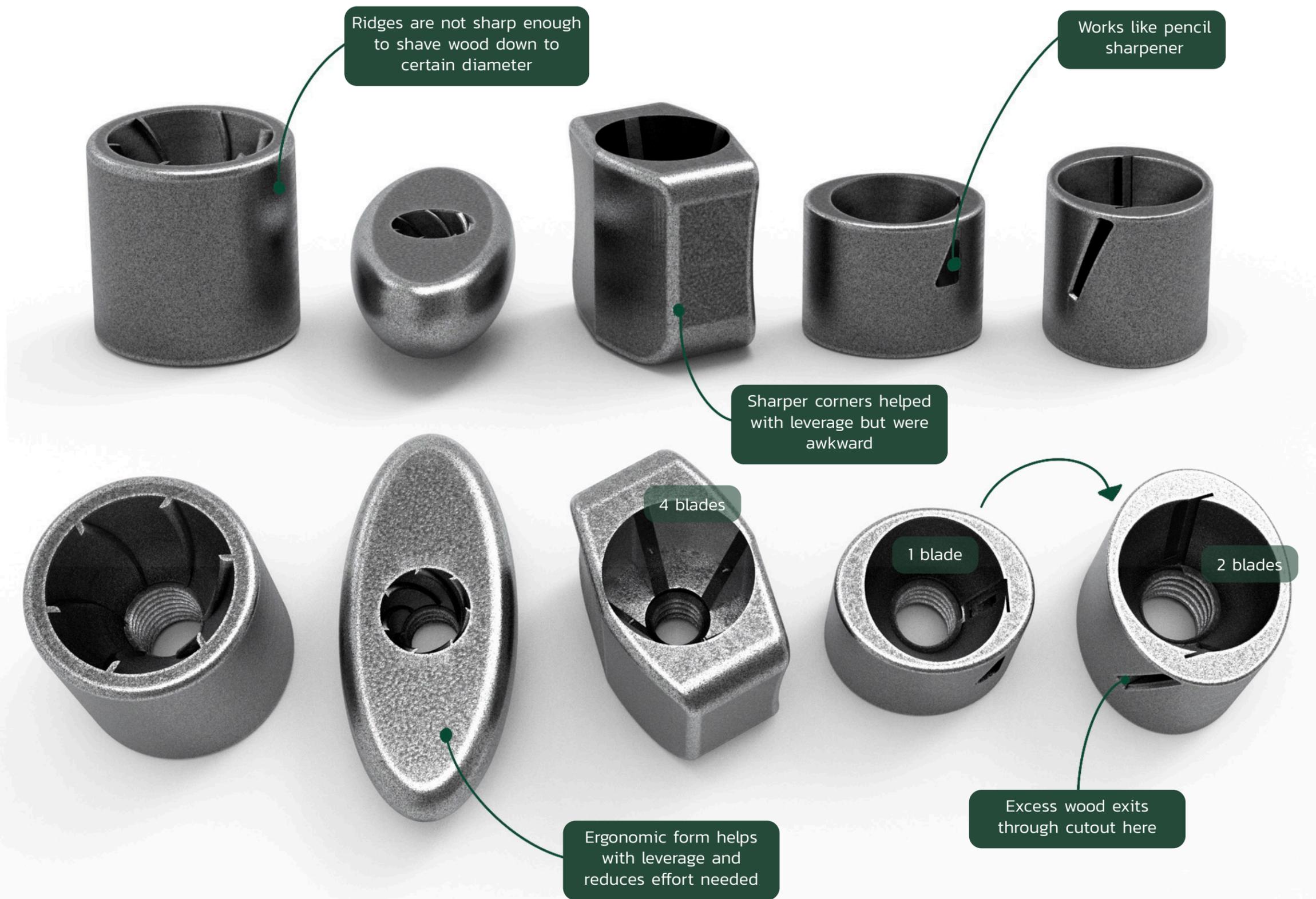
Design could be able to screw into stick

Design could be minimalistic

Design could draw inspiration from existing solutions



Concept Development



Concept Adjustment





HAFTWORKS

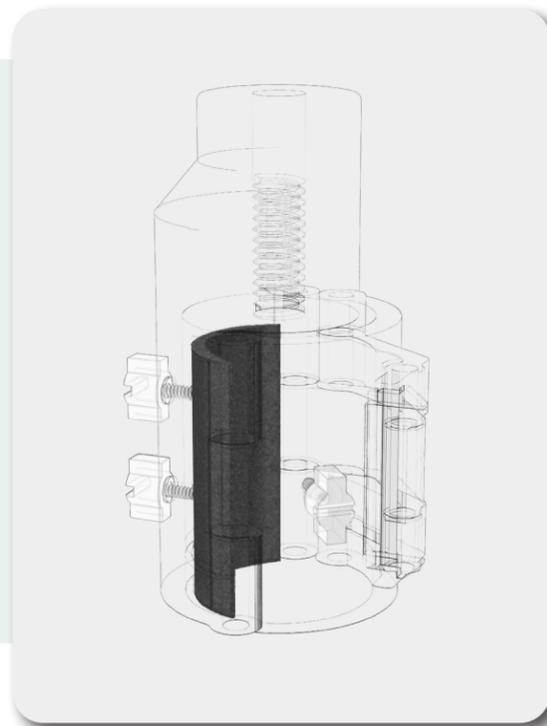
Coupler

Component Overview



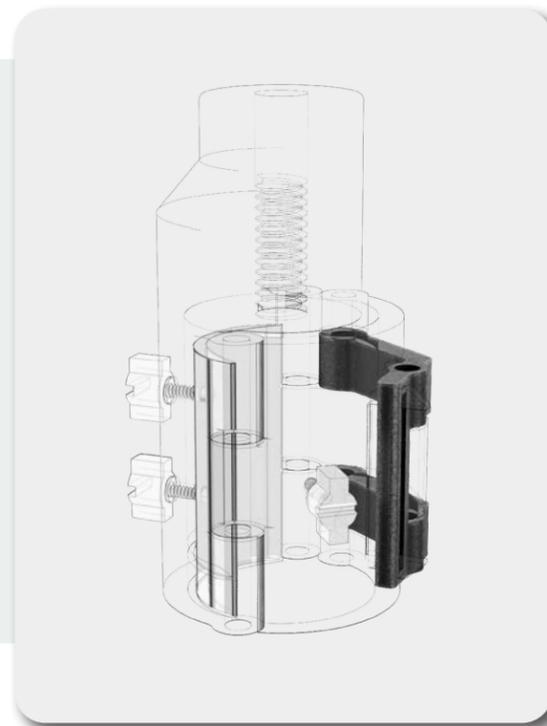
Security Screws

3 winged screws with flathead cutout. Tightens into stick to secure coupler in place.



EVA Foam

Foam conforms to the shape of the stick for a secure grip. Water resistant and retains shape.



Coupler Arm

Latches to body and closes firmly around the stick. Applies pressure so screws can be driven.



01





A new solution for portable tools



Any long handled tool is now **effortlessly** portable with the haftworks coupler

Shovel



Sledgehammer



Hatchet



Axe



More coming soon







HAFTWORKS



Beam

Summary

Beam Wrist-Lights are an innovative product that are hands-free, non-obtrusive, and effective. They illuminate the area you are working to provide safety and increase your efficiency as a mechanic.

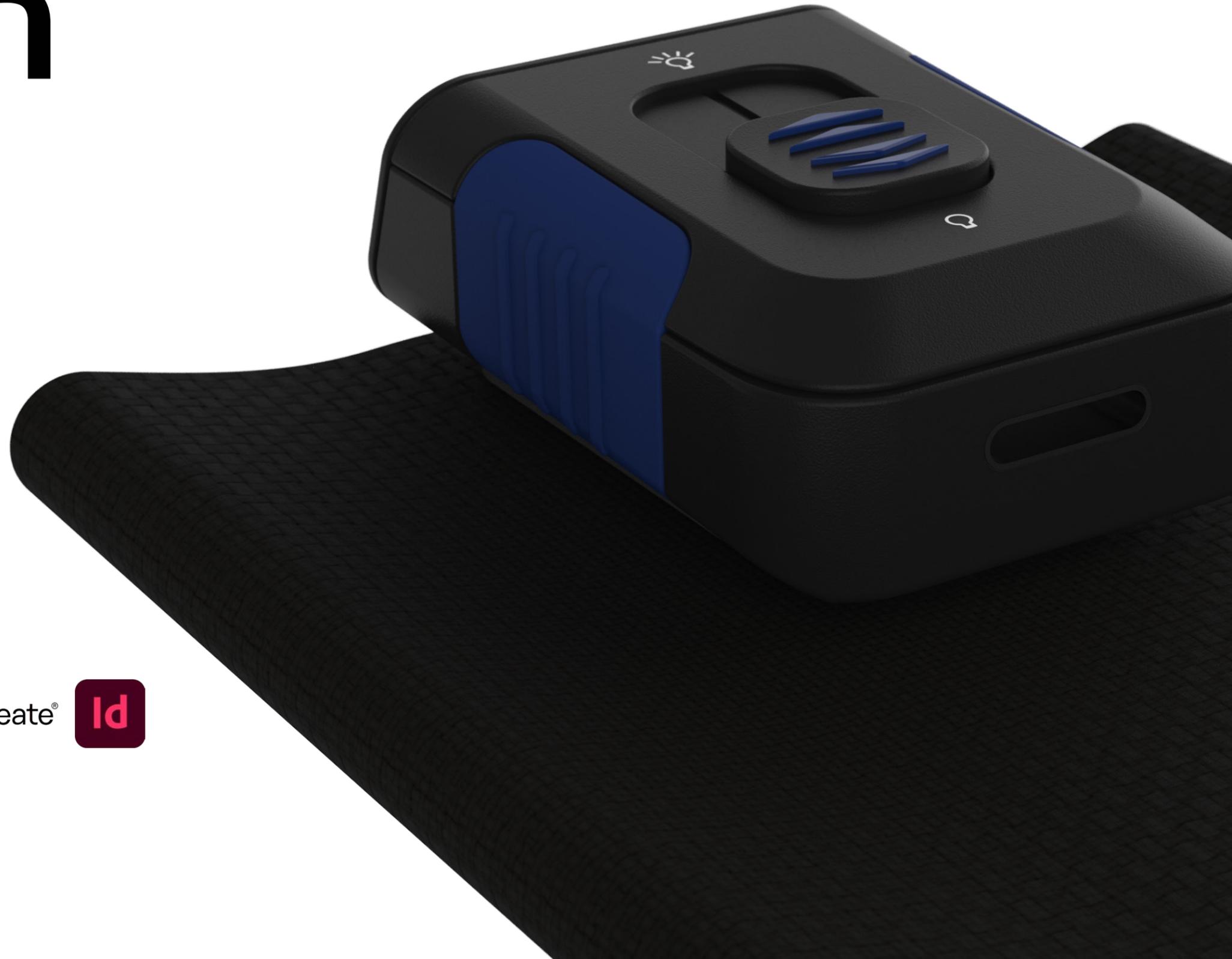
Time 1 month in the fall of 2025

Type School

Tools



KeyShot
Studio





Mechanics often work in places that are dark, confined and are difficult to illuminate. This can lead to inefficient work, cuts, burns and other safety hazards

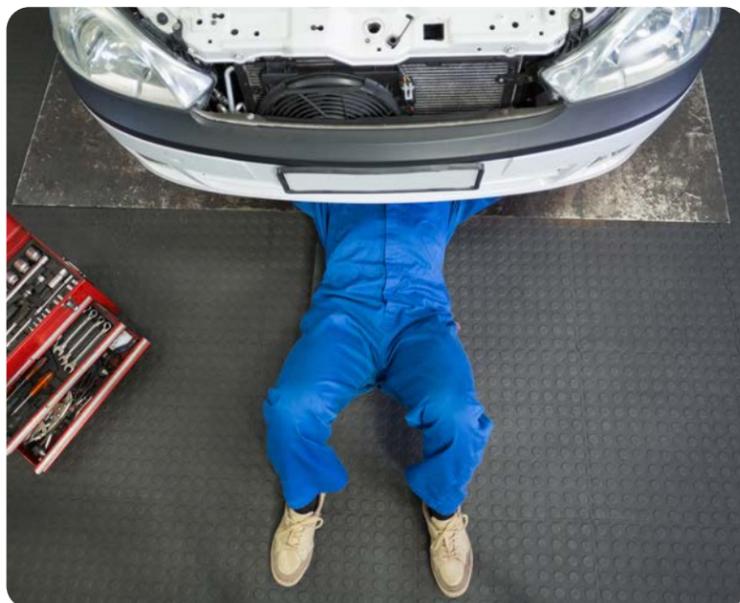
Primary User



The "Tinkerer"

The tinkerer mechanic is someone that likely doesn't have a fancy setup (like a car-lift) to work on a vehicle. These jobs are often messy and potentially dangerous. Their safety is compromised when they can't see what they are working on or touching.

Secondary User



The "Pro"

A professional mechanic may have a cleaner setup or a car-lift, but they can still benefit from better lighting in tight spaces that light panels and existing products struggle to illuminate.

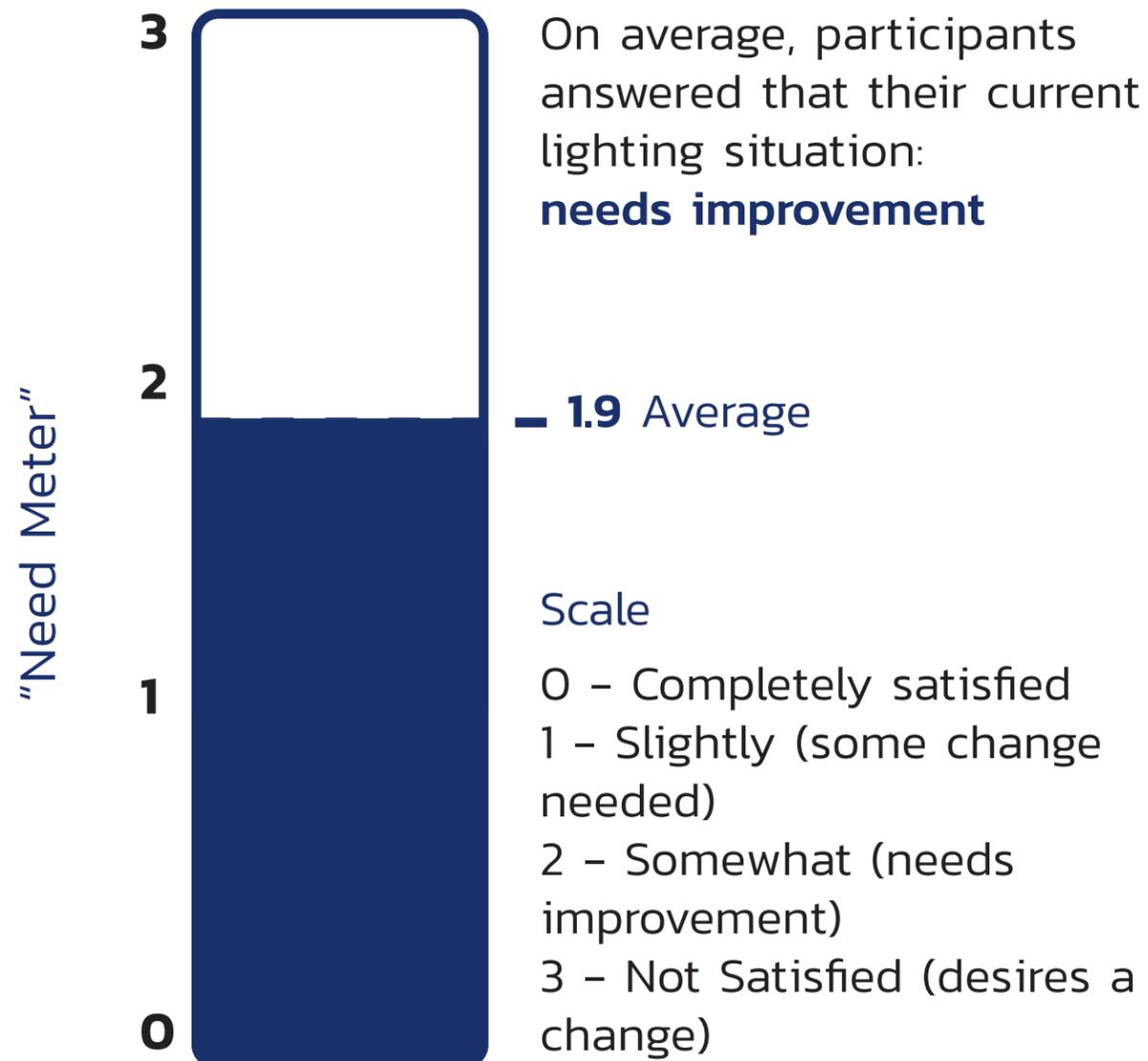
Primary Research

Two rounds of interviews:

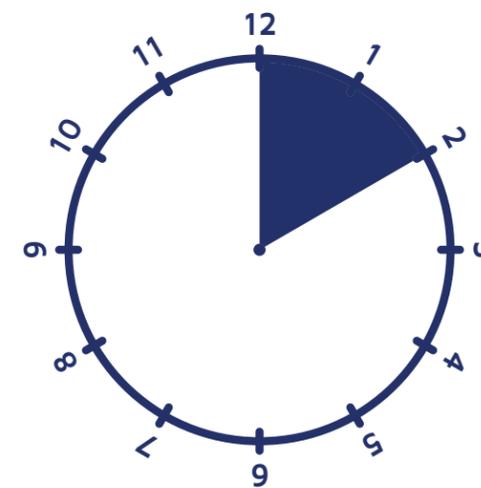
R1: Reaching out directly to 8 participants in target user group with a basic questionnaire.

R2: Following up with the 3 most willing participants for deeper conversations after some development.

Findings

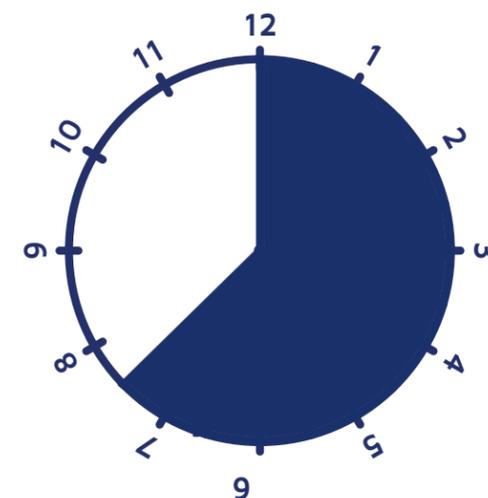


100% of participants said poor lighting impacts their efficiency and safety

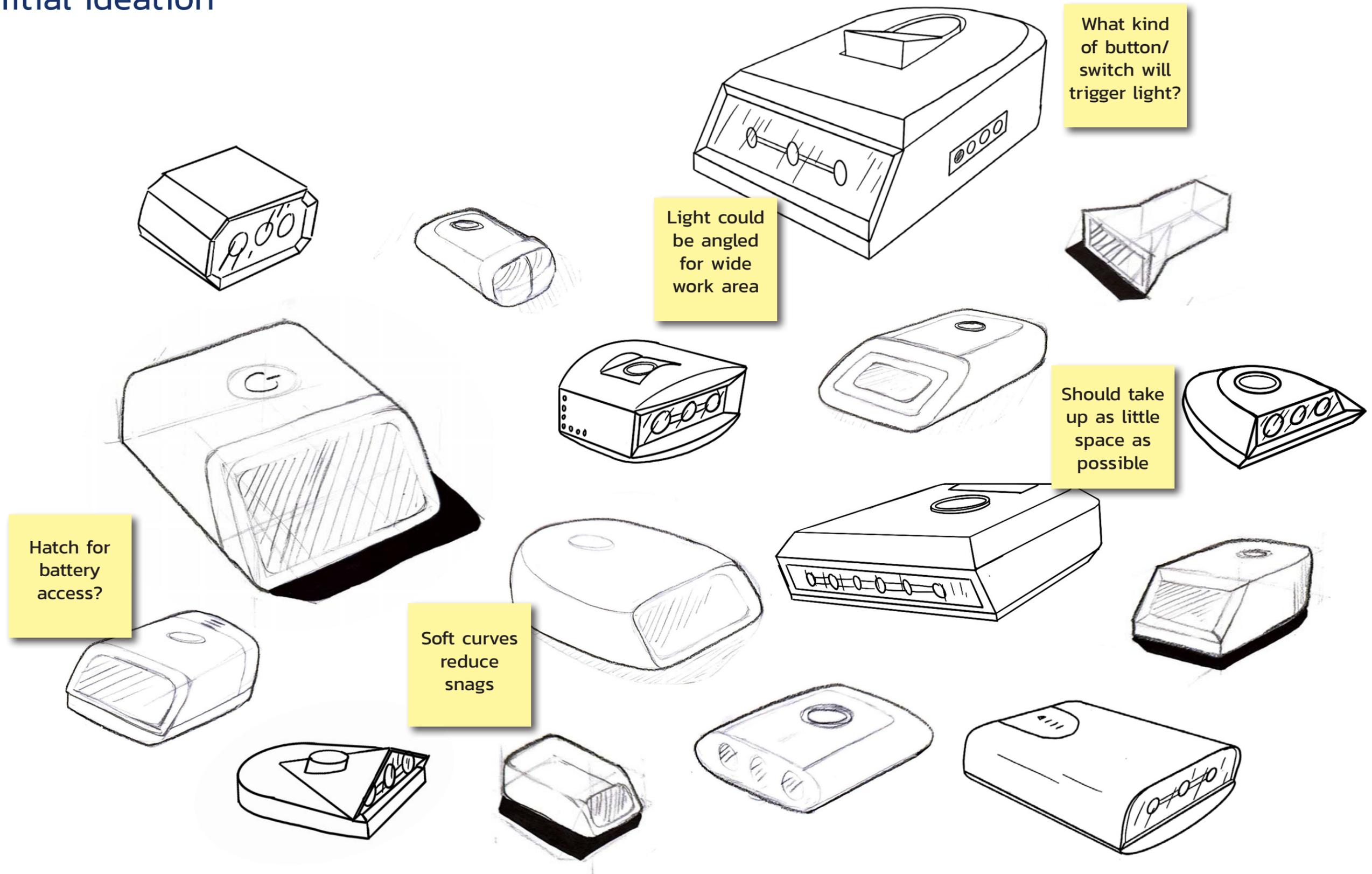


The average working duration is about **2** hours

The longest working duration is about **8** hours



Initial Ideation



Hatch for battery access?

Soft curves reduce snags

Light could be angled for wide work area

What kind of button/switch will trigger light?

Should take up as little space as possible

Design Focus



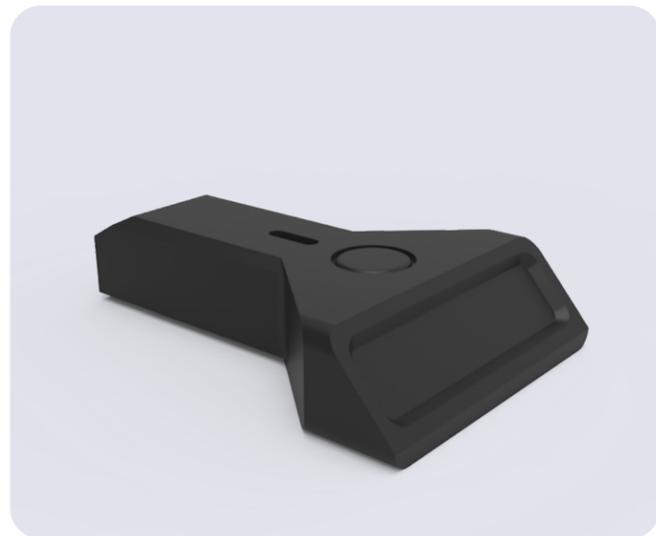
The product should take up as little space as possible to avoid snags

It should be durable

The light needs to last around 6-8 hours

It should be easy to take off and on and should be comfortable to wear

Form Development



Concept Palette



#19306b



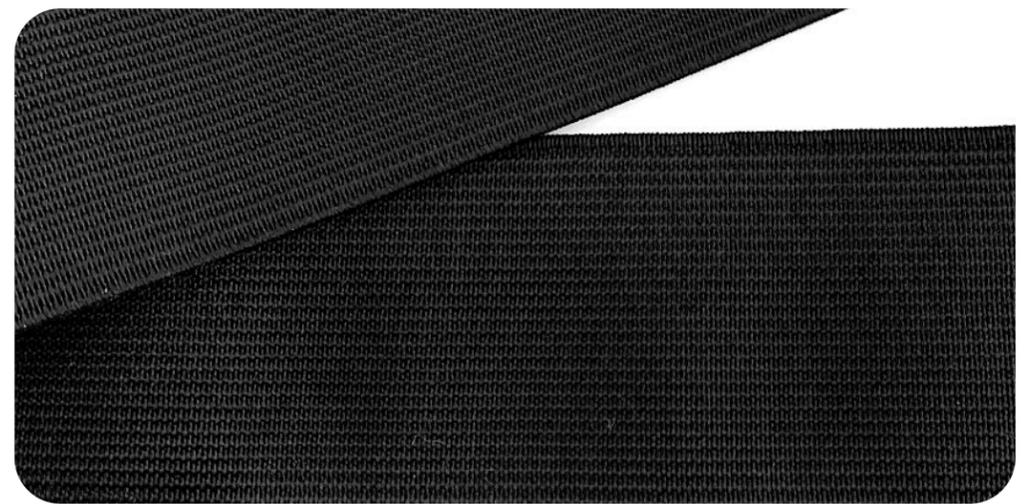
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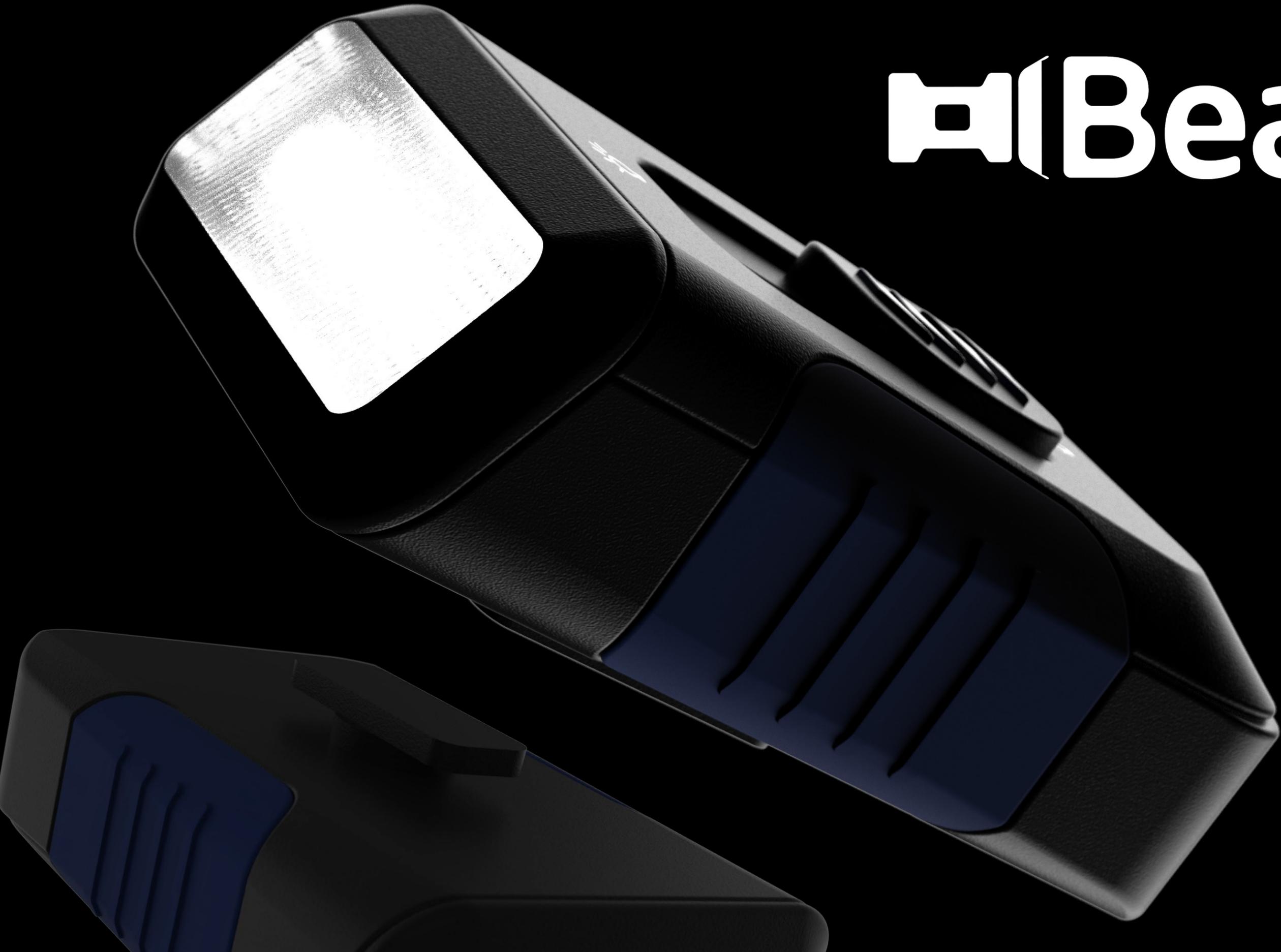
#4a4a4c



#050505



AI Beam





Elastic Wristband for comfort



USB-C Charging



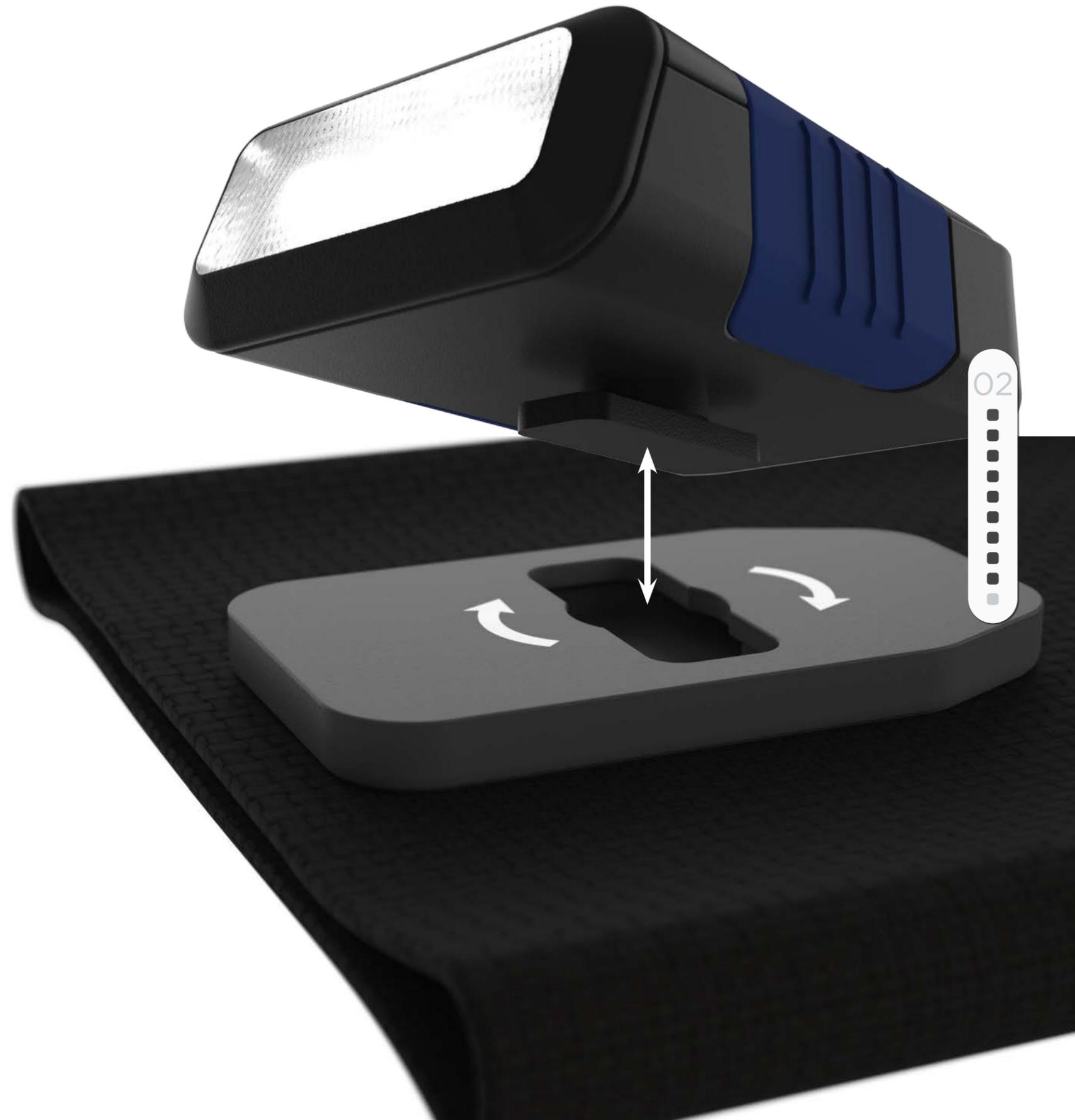
Simple controls



200 lumens for 6 hours



Sweat, dirt, and grease are going to be common around this product

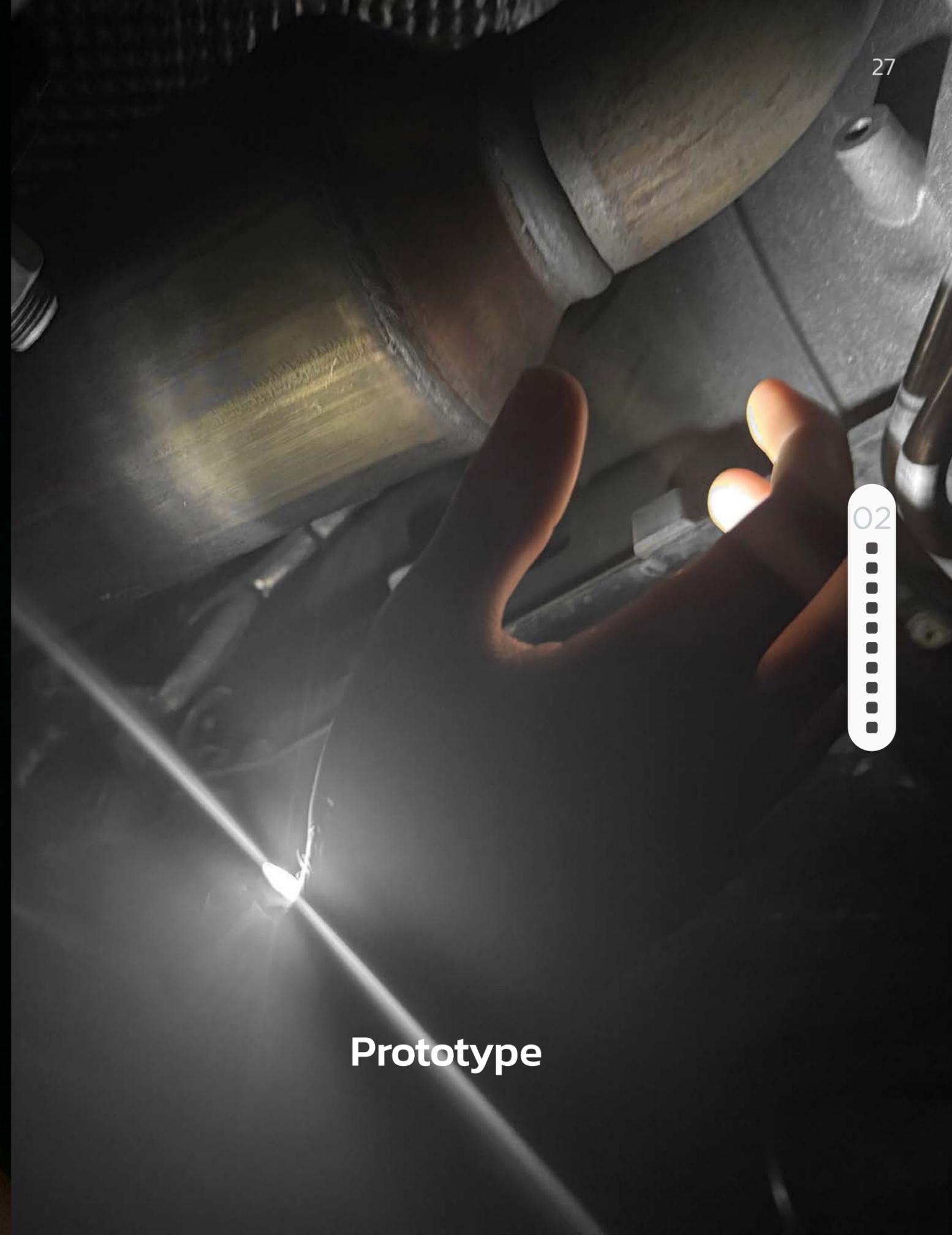


Beam



Rendering

27



02



Prototype

Orvana

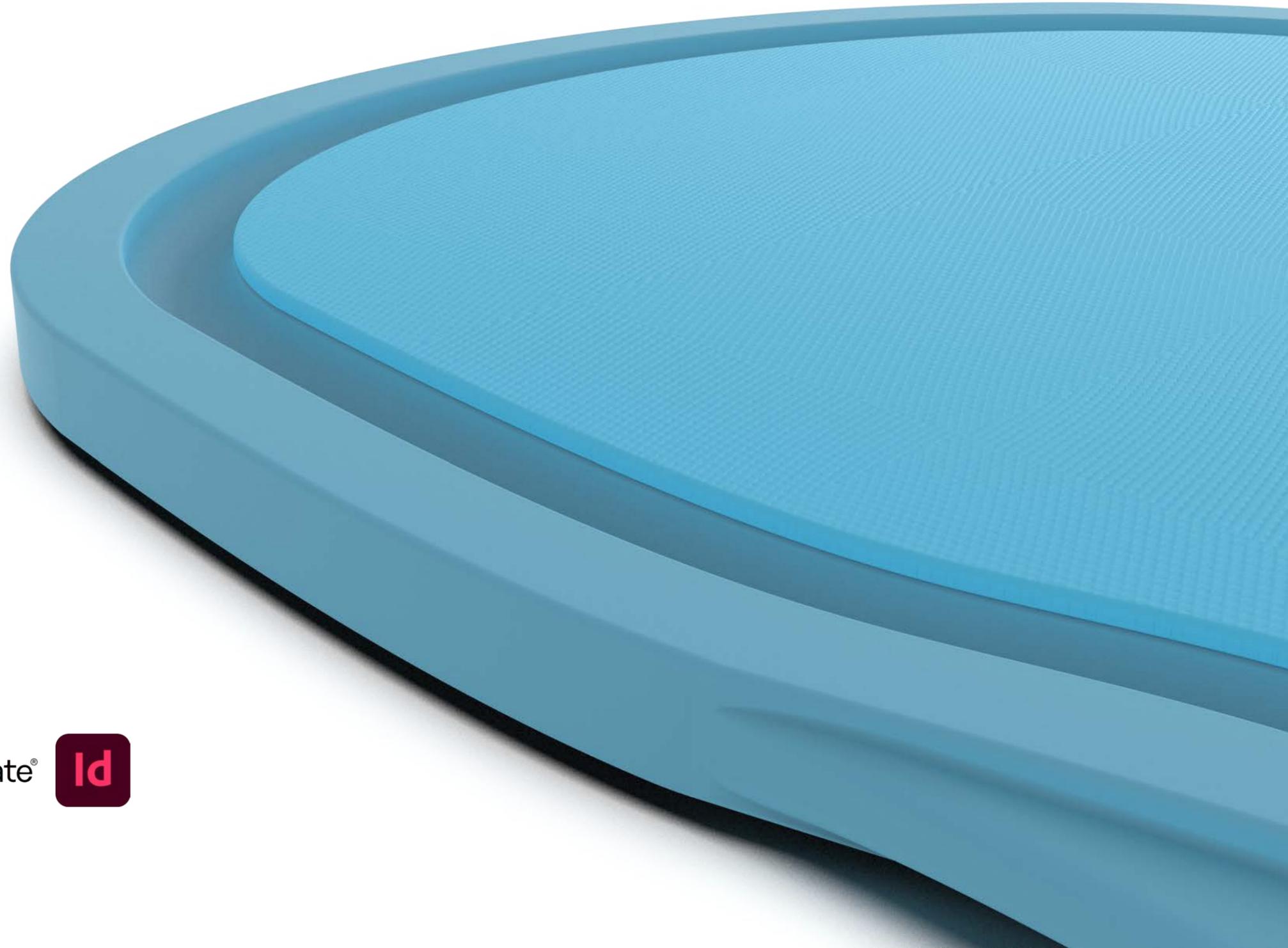
Summary

The Orvana Kitchen Mat is a multifunctional product that aims to protect counter tops from cuts, crumbs, and spills by becoming the first step to any cooking process. It creates an environment where a user is able to freely cook without having to worry about the messes that are made in the kitchen.

Time 4 months in 2024

Type School

Tools

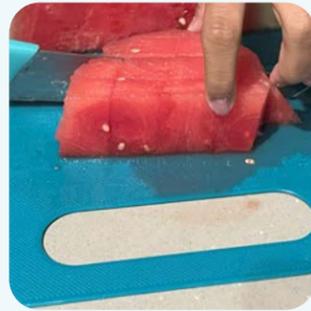




Cleaning up after cooking takes almost as much time as cooking itself

Observation

Preparation

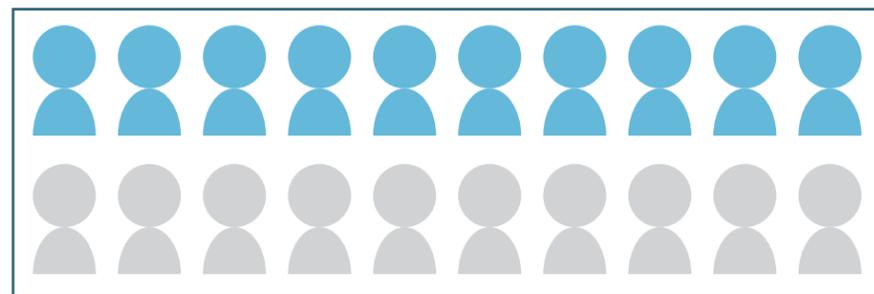


Cleanup



User Interviews

20 Users



Notable Statistics

In user interviews focused on kitchen products, around **50%** of users mentioned cleaning up after cooking as a process that was unpleasant because of how much time it takes.

Takeaway

How can the time it takes to clean up after cooking be **reduced** in order to create a better experience for users in the kitchen?

Interview Findings

Key Points

Cleaning cooking products takes too long

Users need a way to protect their counter-tops from cuts, crumbs, and spills

Cleaning after cooking is not enjoyable and it takes too long

Users enjoy versatility in their kitchen products

User Quote #1:

"I feel like all I do in the kitchen is **wipe down the counter-tops**. The actual cooking is fun, prepping the food. Sometimes I mix hot chocolate with the mug sitting in the sink because I don't want to have to wipe down the counters."

User Quote #2:

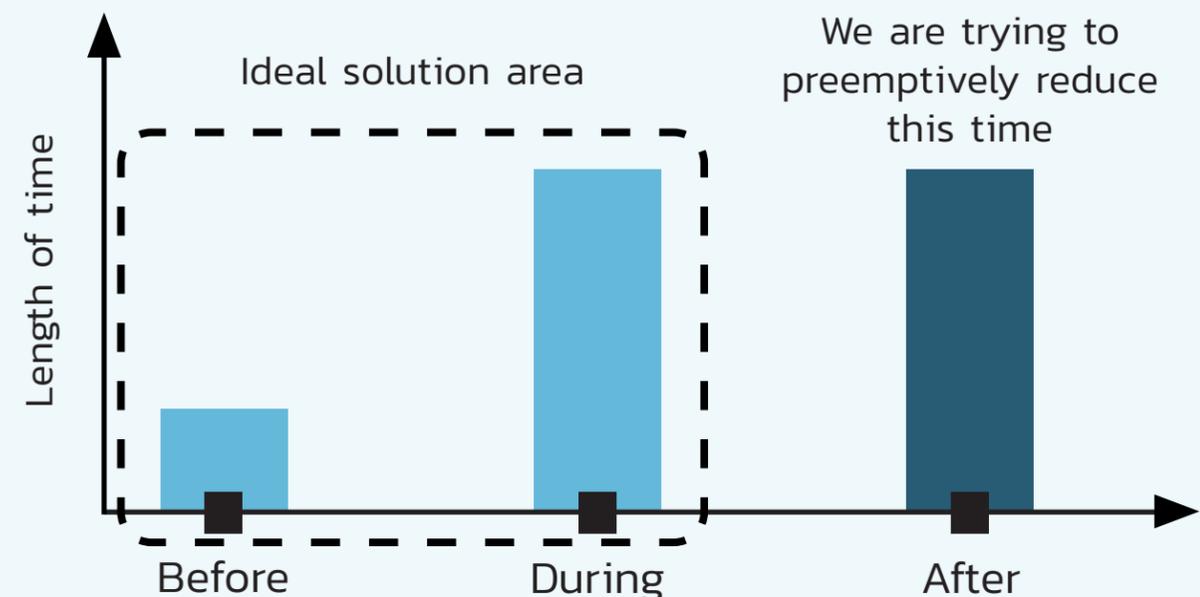
"I **use my cutting board the most** out of any product in my kitchen. Anytime I go to make something, even if it's just a sandwich, I will make the sandwich on the board. I leave it on the counter for the most part."

Identifying the design area

- 1: Before
- 2: During
- 3: After

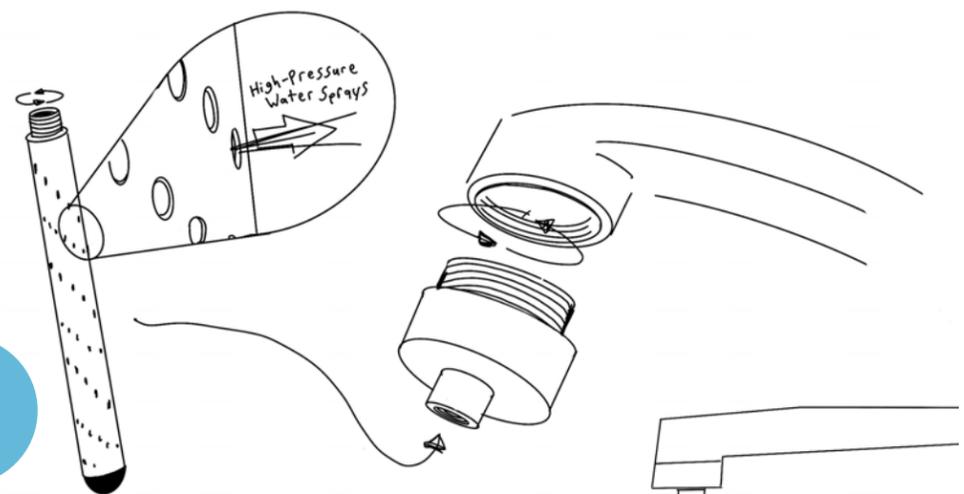
There are three instances where a product could be implemented to tackle the issue of messes in the kitchen. Before, during and after cooking.

The ideal area for a solution would be located around the first and second instance.

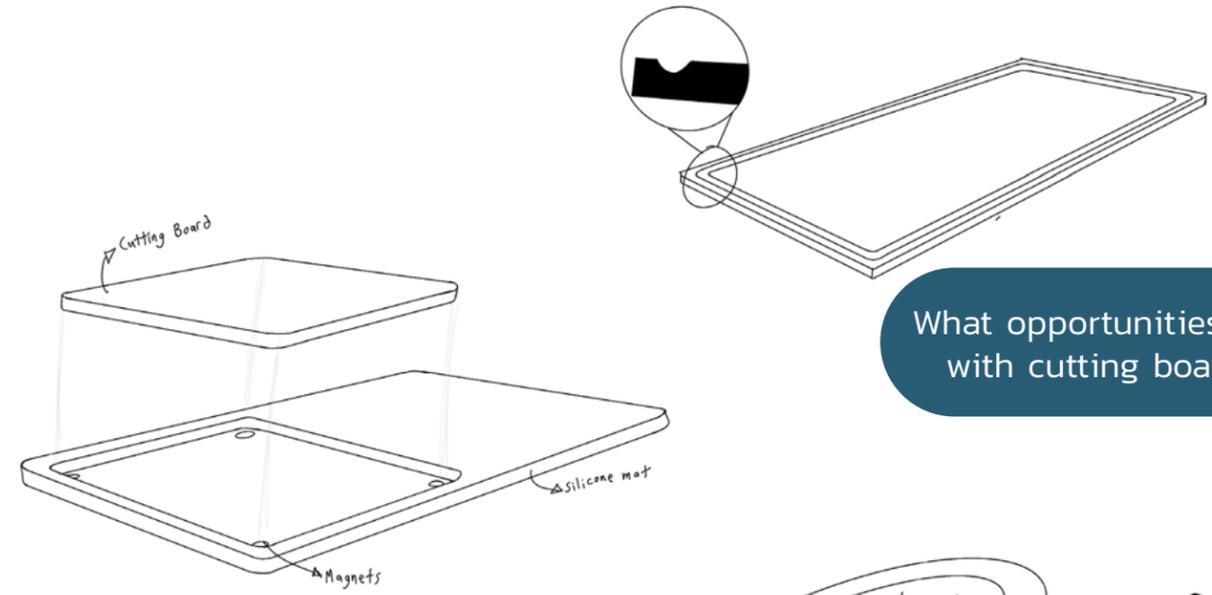


Initial Ideation

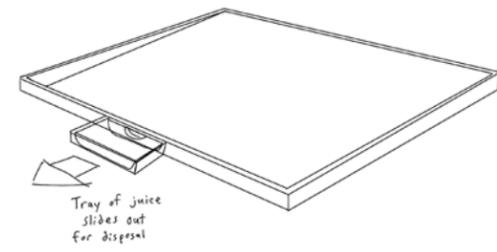
Cup cleaner?



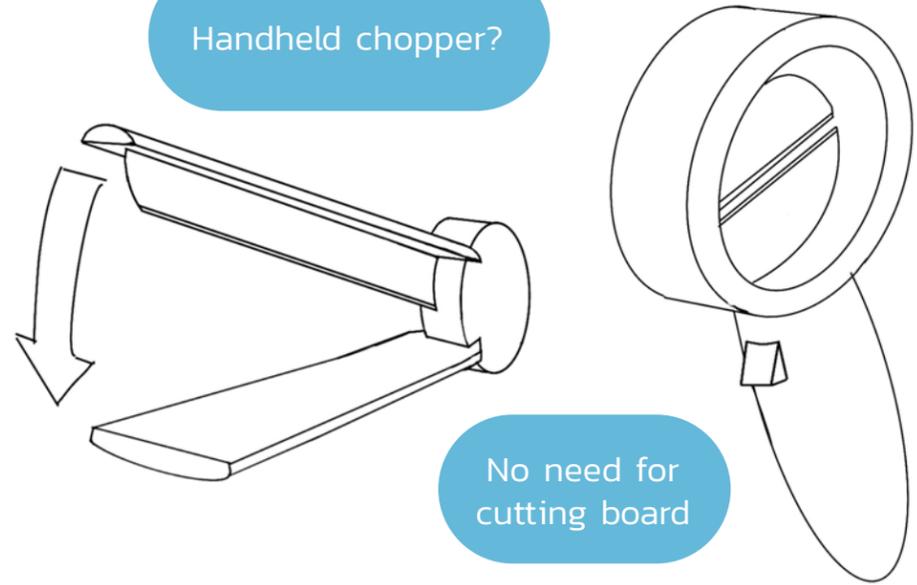
What opportunities exist with cutting boards?



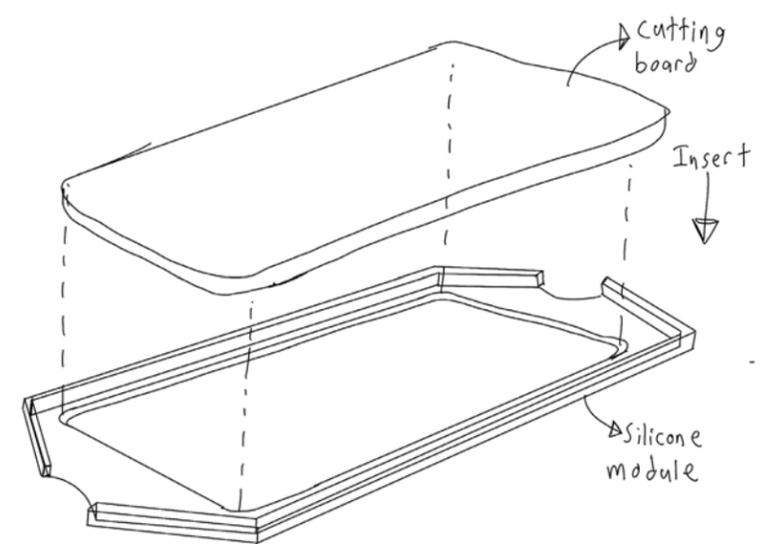
Easier to clean spoons?



Handheld chopper?



No need for cutting board



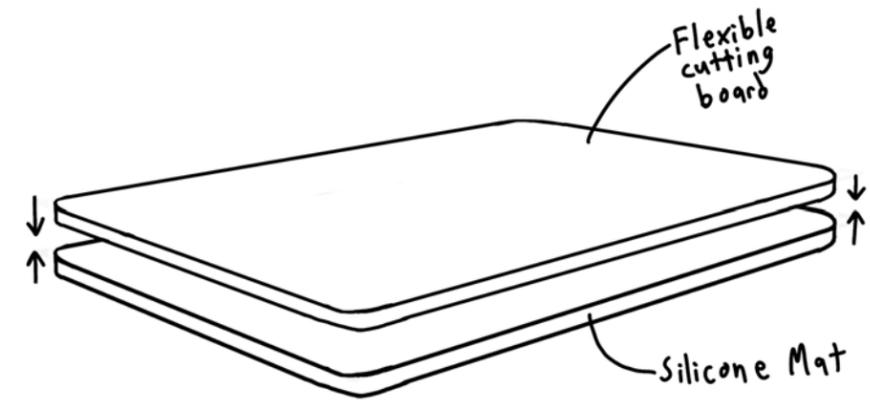
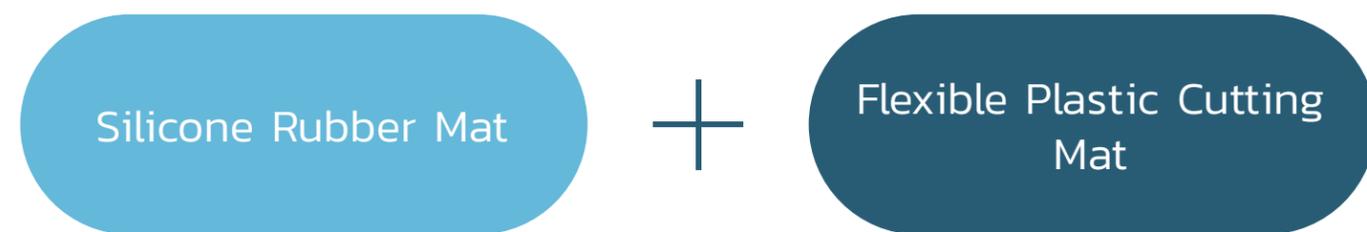
Offers versatility



Material Research

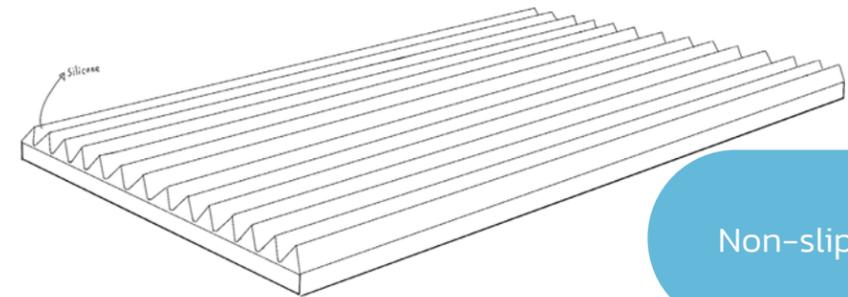
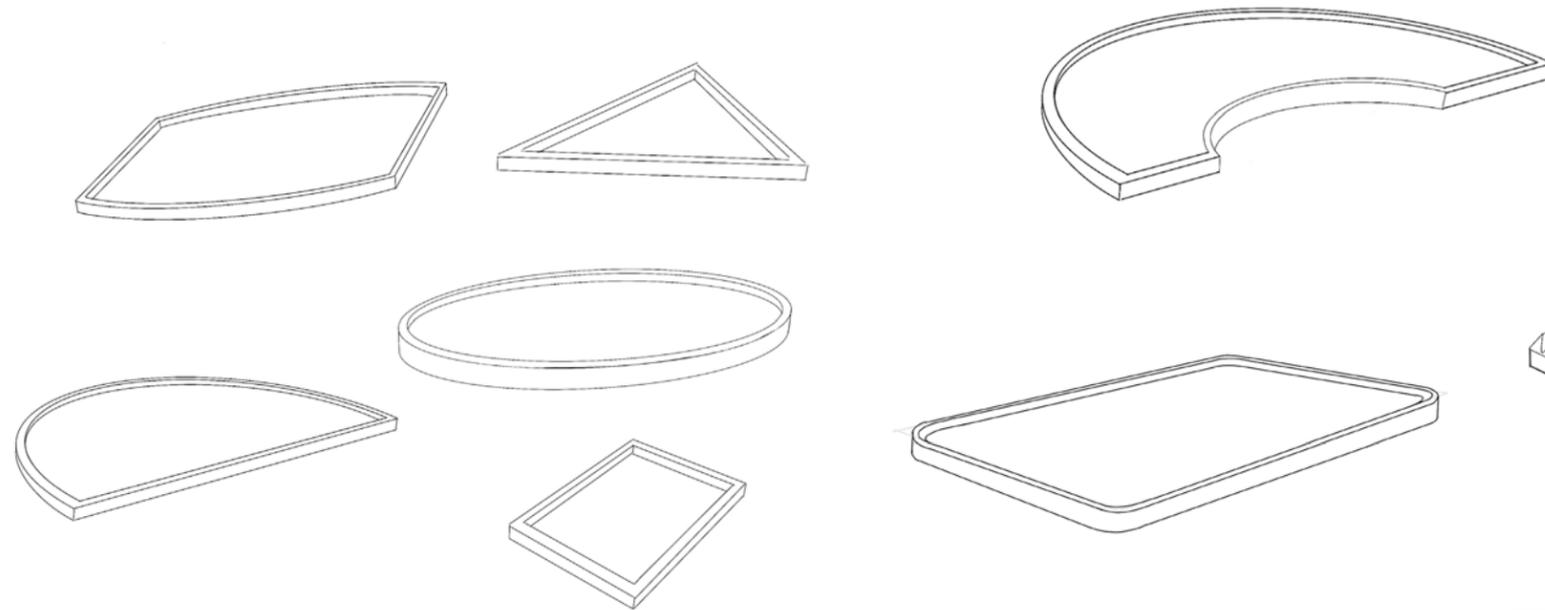
<p>Wood</p> <p>Benefits</p> <ul style="list-style-type: none"> Eco-Friendly Durable Easy on blades Longevity (if maintained) <p>Drawbacks</p> <ul style="list-style-type: none"> Harbors bacteria in pores Not dishwasher safe Some wood types can be toxic 	<p>Plastic</p> <p>Benefits</p> <ul style="list-style-type: none"> Dishwasher safe Cheap Easy on blades Design versatility Non-Porous <p>Drawbacks</p> <ul style="list-style-type: none"> Microplastics Longevity Shows scratches 	<p>Bamboo</p> <p>Benefits</p> <ul style="list-style-type: none"> Eco-Friendly Organic Aesthetic <p>Drawbacks</p> <ul style="list-style-type: none"> Harbors bacteria worse than wood High Silica content (wears down blades) Adhesives hold board together 	<p>Titanium</p> <p>Benefits</p> <ul style="list-style-type: none"> Easy to sanitize Dishwasher safe <p>Drawbacks</p> <ul style="list-style-type: none"> Hard on knives Hard to cut on Shows scratches 	<p>Epicurean</p> <p>Benefits</p> <ul style="list-style-type: none"> Easy to sanitize Durable Dishwasher safe <p>Drawbacks</p> <ul style="list-style-type: none"> Hard on knives Formaldehyde released when cut 	<p>Ceramic</p> <p>Benefits</p> <ul style="list-style-type: none"> Easy to sanitize Dishwasher safe <p>Drawbacks</p> <ul style="list-style-type: none"> Hard on knives Fragile Hard to cut on 	<p>Glass</p> <p>Benefits</p> <ul style="list-style-type: none"> Easy to sanitize Dishwasher safe <p>Drawbacks</p> <ul style="list-style-type: none"> Hard on knives Fragile Hard to cut on
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Concept

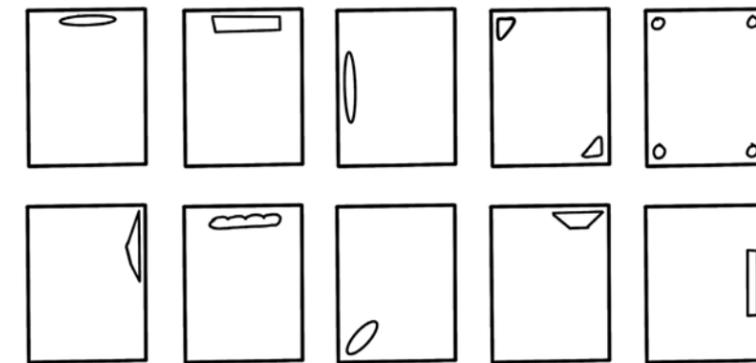
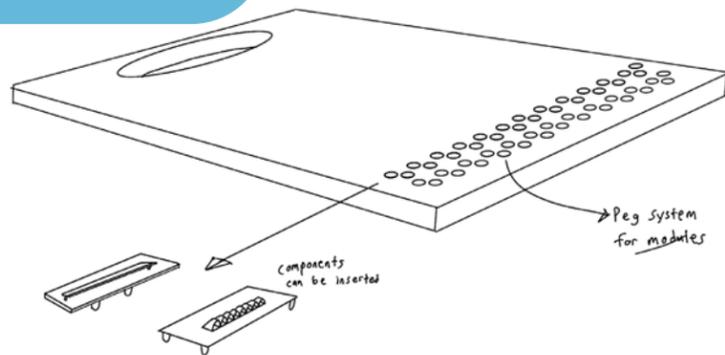


Specific Ideation

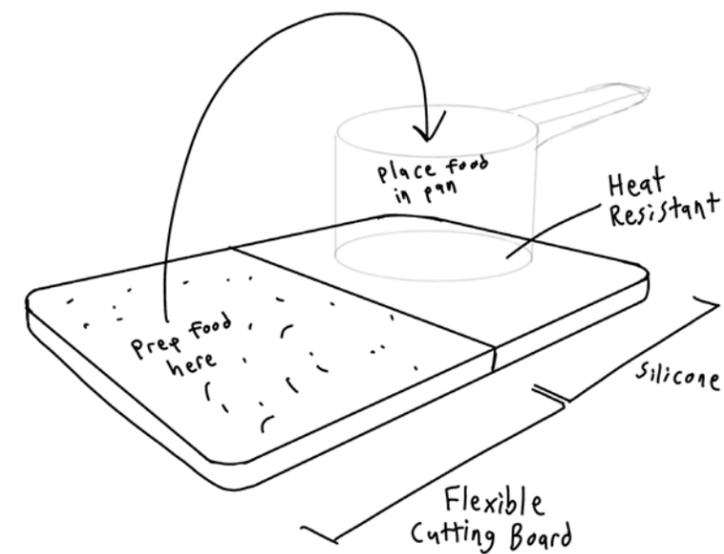
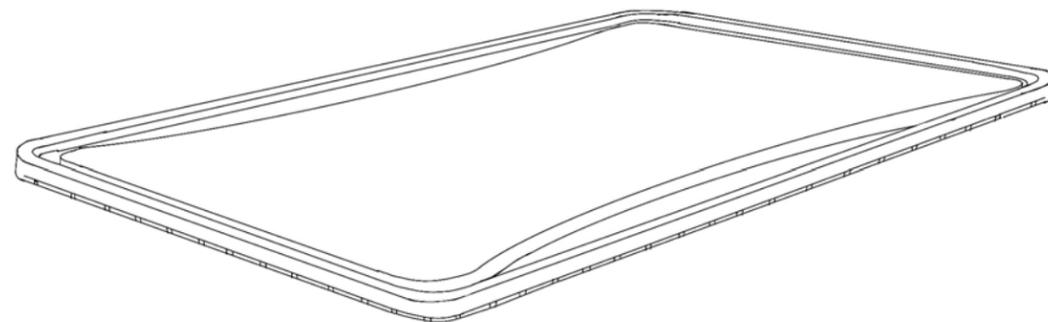
Why are cutting boards typically rectangular?



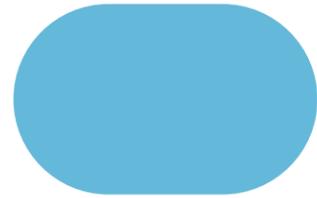
What other functions could it have?



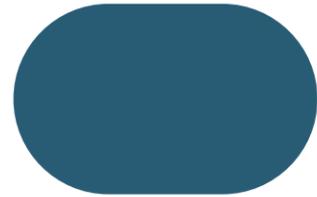
Layered with silicone and plastic



Concept Palette



#64b8d9



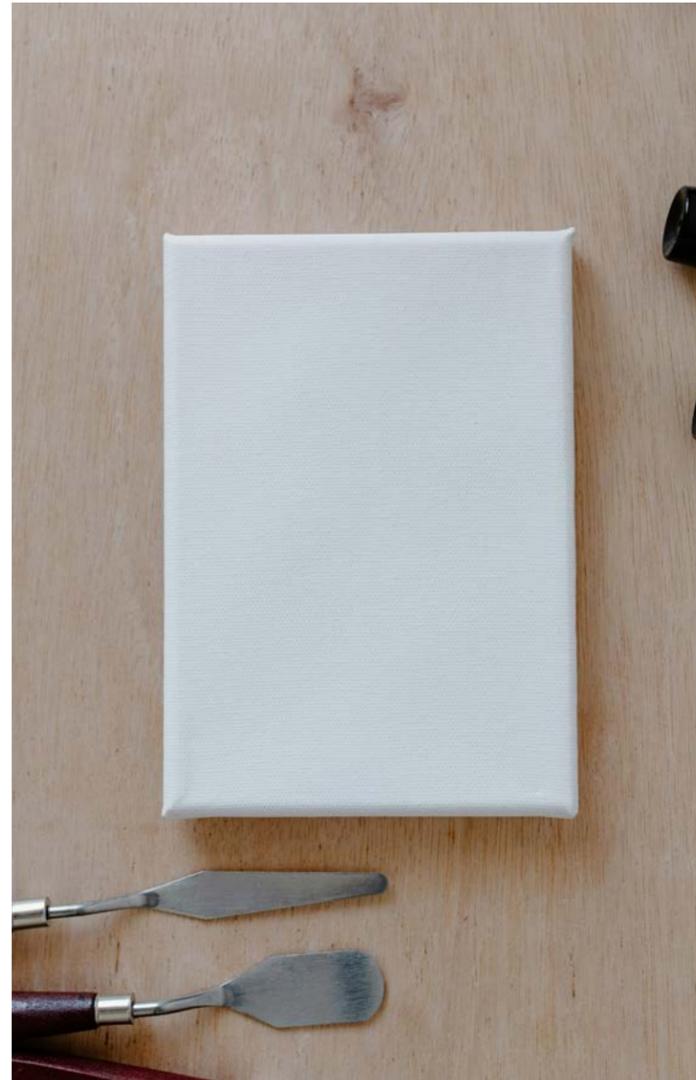
#285b75



#162930



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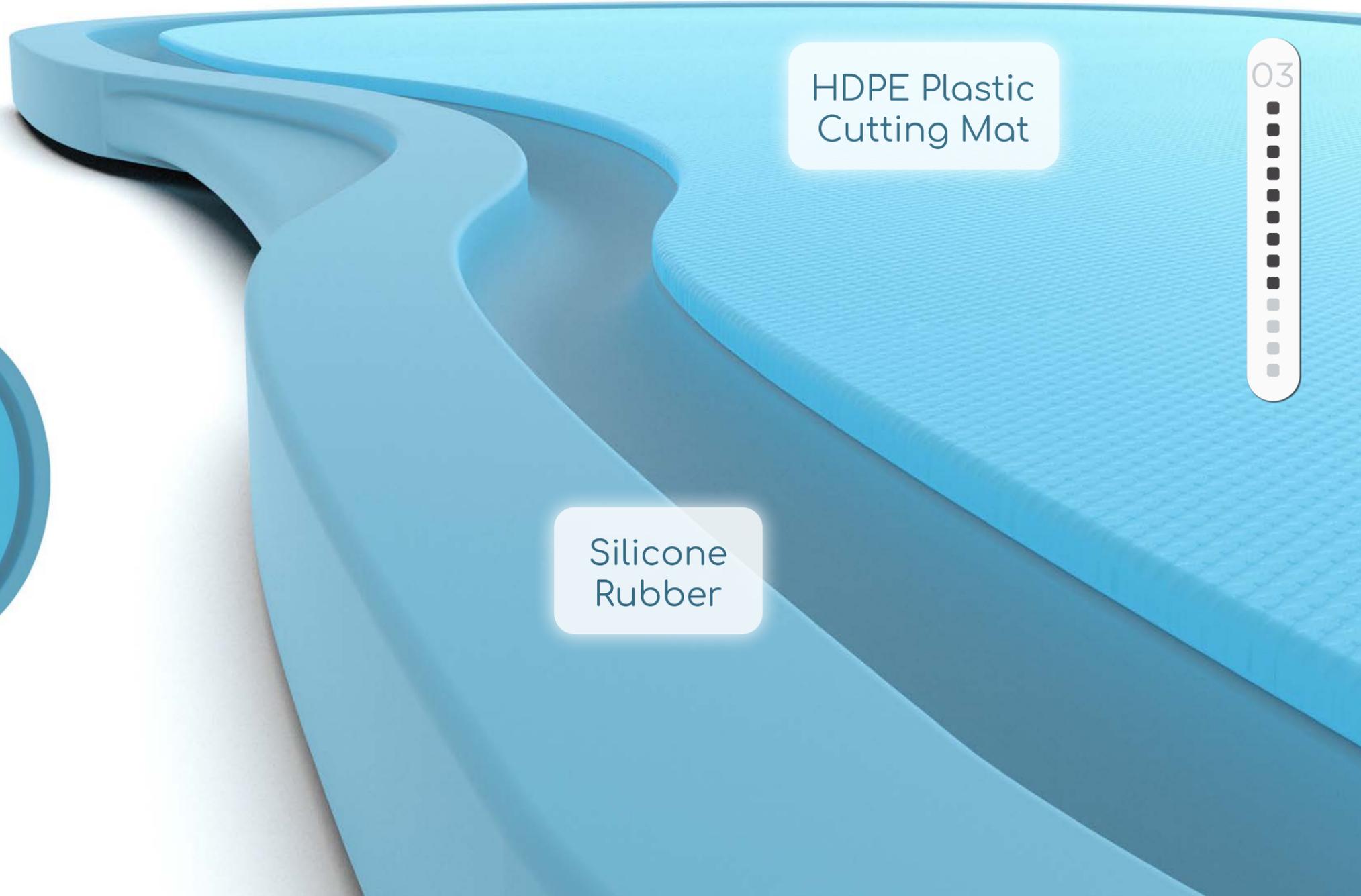


Tonal Words:

Creativity
Artistic
Foundational
Security
Blank

Clean
Versatility
Efficiency
Workspace
Time

Orvana



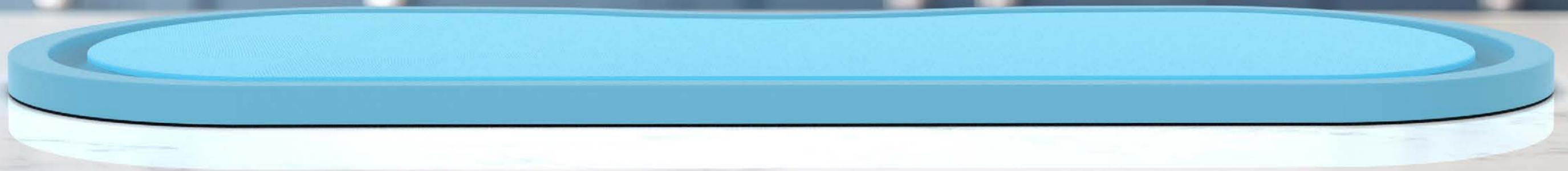
HDPE Plastic
Cutting Mat

Silicone
Rubber



Orvana

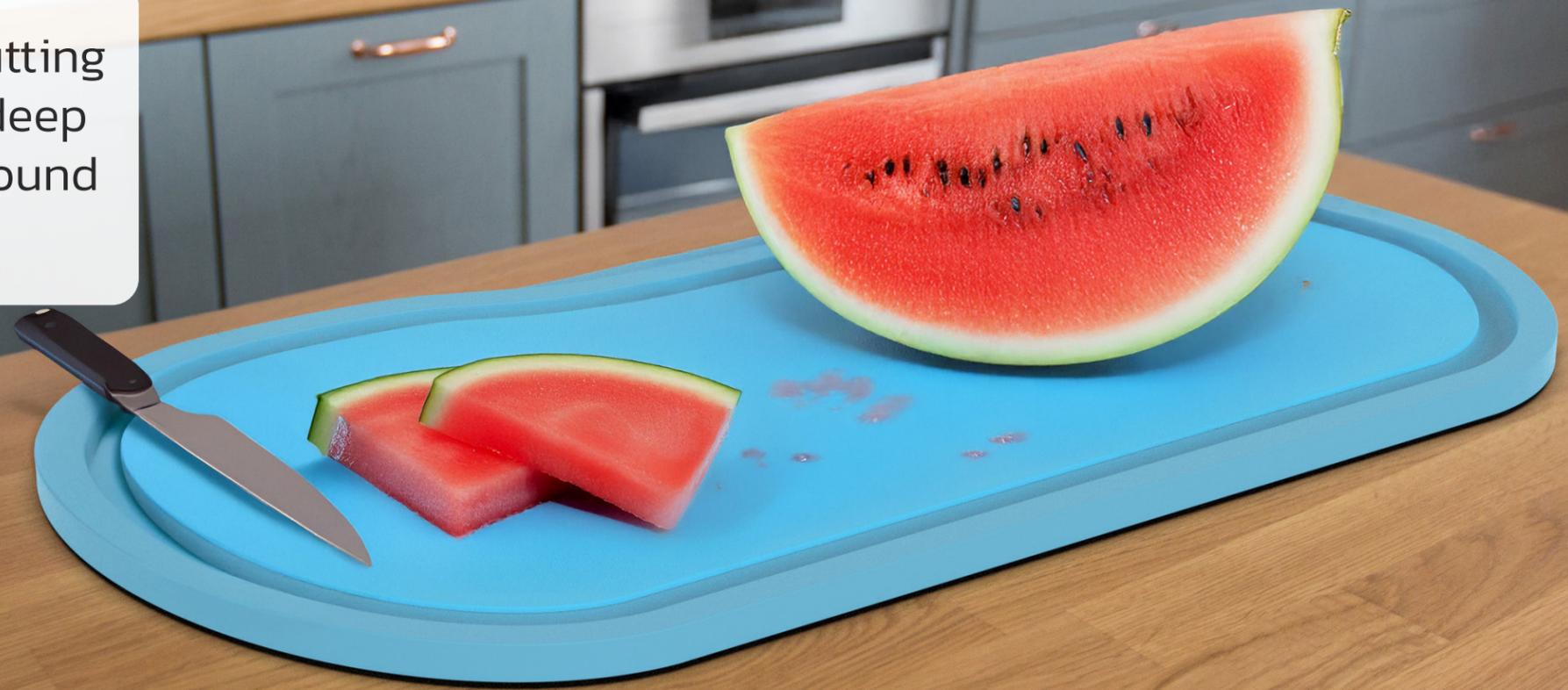
Multifunctional Kitchen Mat



Becomes the first step in any cooking process by building an environment that protects countertops from spills, cuts, and crumbs



Functions like a normal cutting board, and has an extra deep juice collection feature around the edge





The Bridge -1

Summary

In collaboration with Bullard, I designed a fire helmet that bridges the gap between tradition and modern technology. The Bridge-1 incorporates several existing technologies to further assist firefighters against the struggles they face.

Time 4 months in 2024

Type Industry + School collaboration

Tools



KeyShot
Studio





Current fire helmet technology is outdated and firefighters are not as safe as they could be

Precedents

Fire helmets have maintained their form language for two centuries

1821:

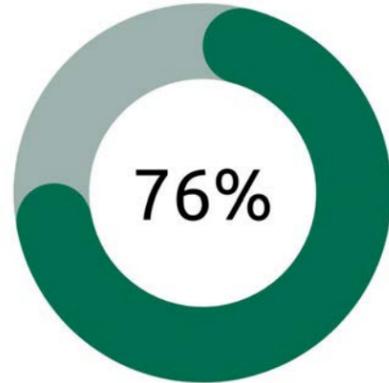


2021:

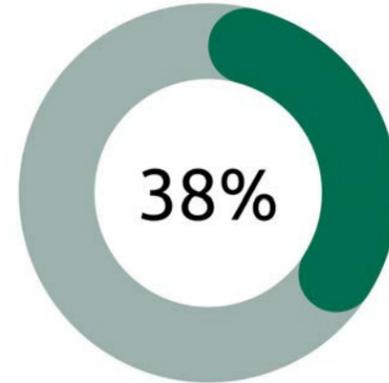


Injury Statistics

Based on data from NFPA:



76% of firefighters report at least one head injury in their lifetime



38% of on-duty firefighter injuries in 2022 were from contact/impacts with an object



Because of the rich tradition that firefighters value, the form of a fire helmet has hardly changed over the last few **centuries**. With most firefighters experiencing head injuries, it is well past time to look into improvement.

Primary Research

Our studio had the opportunity to visit the Georgia Smoke Diver training; a training that puts firefighters through realistic survival situations. During this observation we got to ask several questions.



User Snapshot



Taking quotes from this experience we can create a snapshot of the typical firefighter. This gives insight into their general personality, what they do, and what they value.

Quote #1:

"If you're in the way, either move or help"

Quote #2:

"I never wash my helmet because I don't wanna look like the new kid"

Quote #3:

"I saw my wife wearing my Georgia Smoke Divers hoodie. I told her to take it off because she didn't earn it"

Quote #4:

"This generation doesn't know how to take criticism."

Quote #5:

"Come on boy, use your head."

Secondary Research

What modern technologies could be incorporated into a fire helmet?

Bullard Lightweight UST Plastic



ARC Rails

Qore Performance Foam



Bike Helmet Tightening Mechanism



MIPS (Multidirectional Impact Protection System)



Hearing Reduction Headset



IR Light

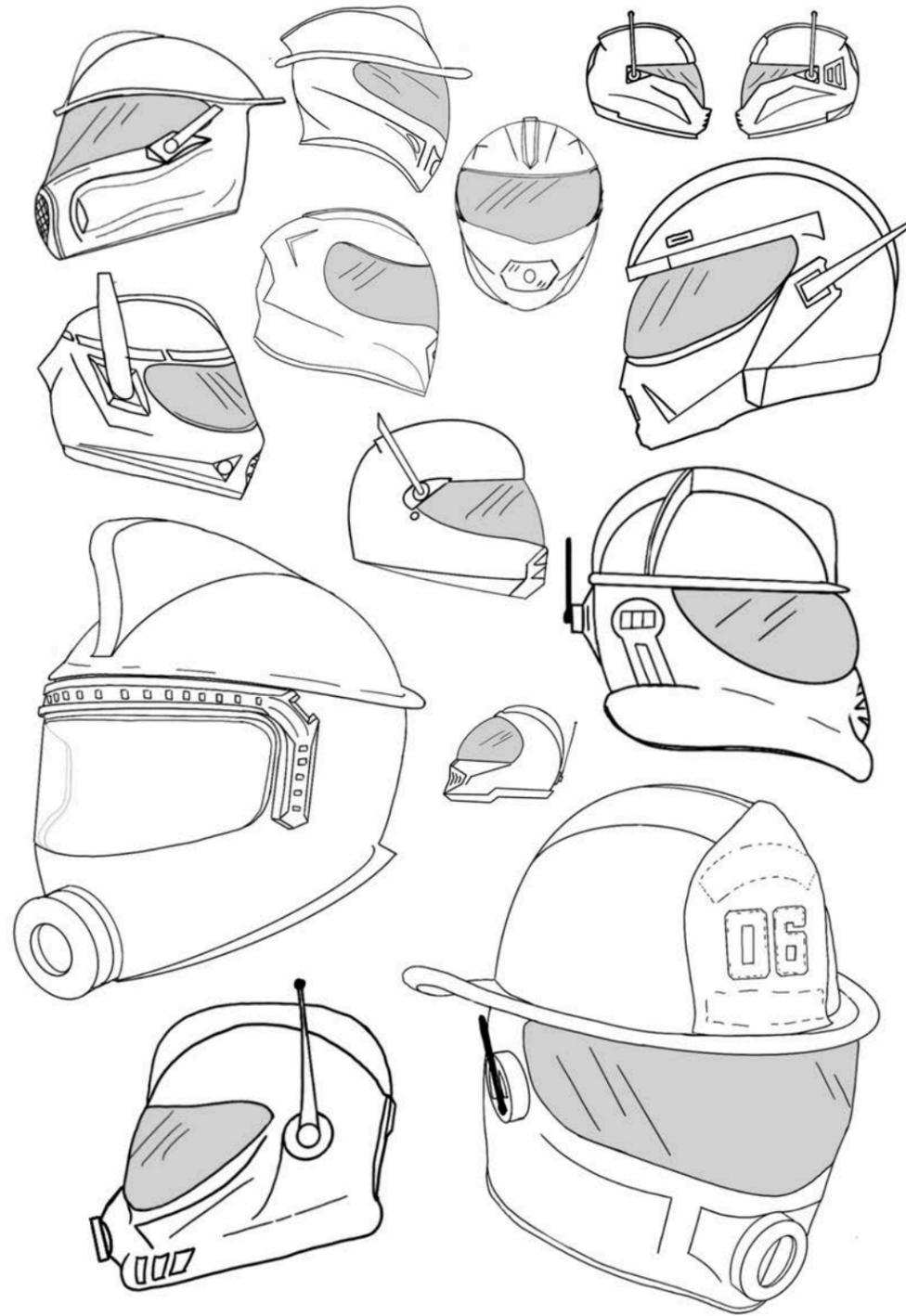
Design Mission

1. Integrate the SCBA with the helmet to reduce suit up time
2. Reduce head injuries and smoke exposure
3. Address common pain points such as hearing and communication
4. Introduce technology that will better equip a firefighter save lives
5. Embrace the long lasting tradition that firefighters hold, but push forward with a design that will protect them better (Something they would want to wear)

What would a modernized fire helmet look like?

Why don't fire helmets follow similar form language as motorcycle helmets?

Vizcom Ai enabled me to rapidly render and visualize important details in my sketches.



Design Focus



It is important to the user that the fire helmet maintains the traditional styling.

Firefighters want to look "cool".

Where should the technology live?

The form needs to be able to integrate with the SCBA.

Form Development



Final Form



The Bridge -1

Bridging modern technology and tradition





MIPS Protection

Brim hints at tradition

Comms



Lightweight fiberglass composite

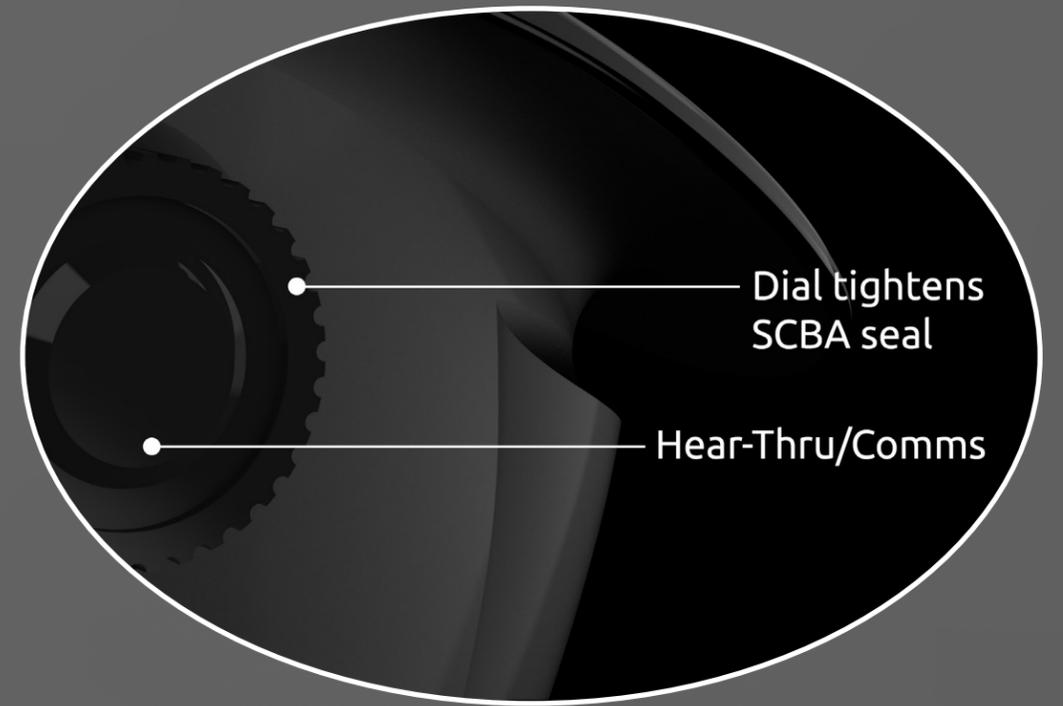
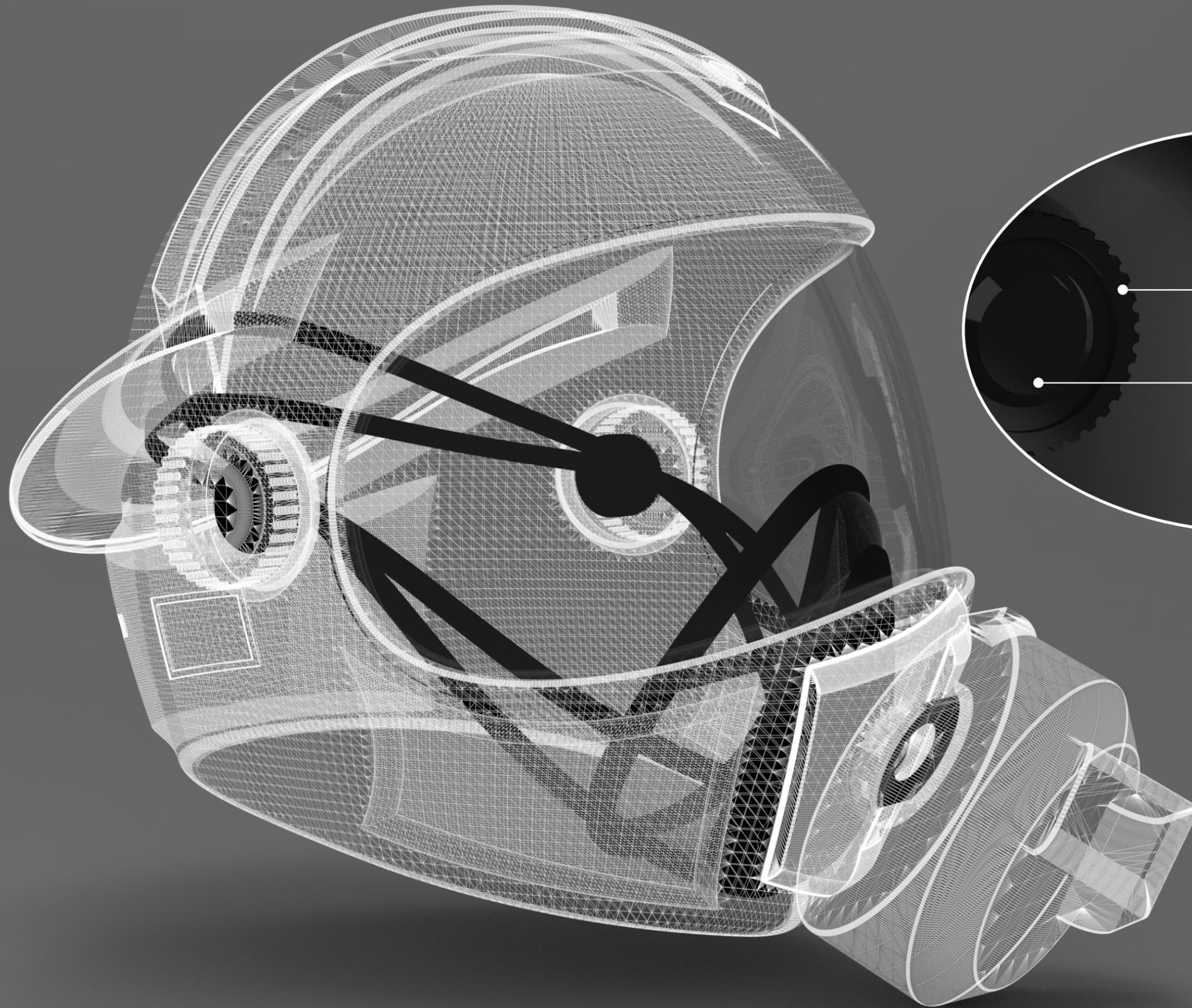


IR strobe light for identification

Battery compartment



Heat sensor



Dial tightens
SCBA seal

Hear-Thru/Comms



The Bridge -1



Thank You

Contact

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Website <https://www.masonford.design>