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KHUSHNOOR NILGIRIWALA

PRODUCT DESIGN

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# PORTFOLIO

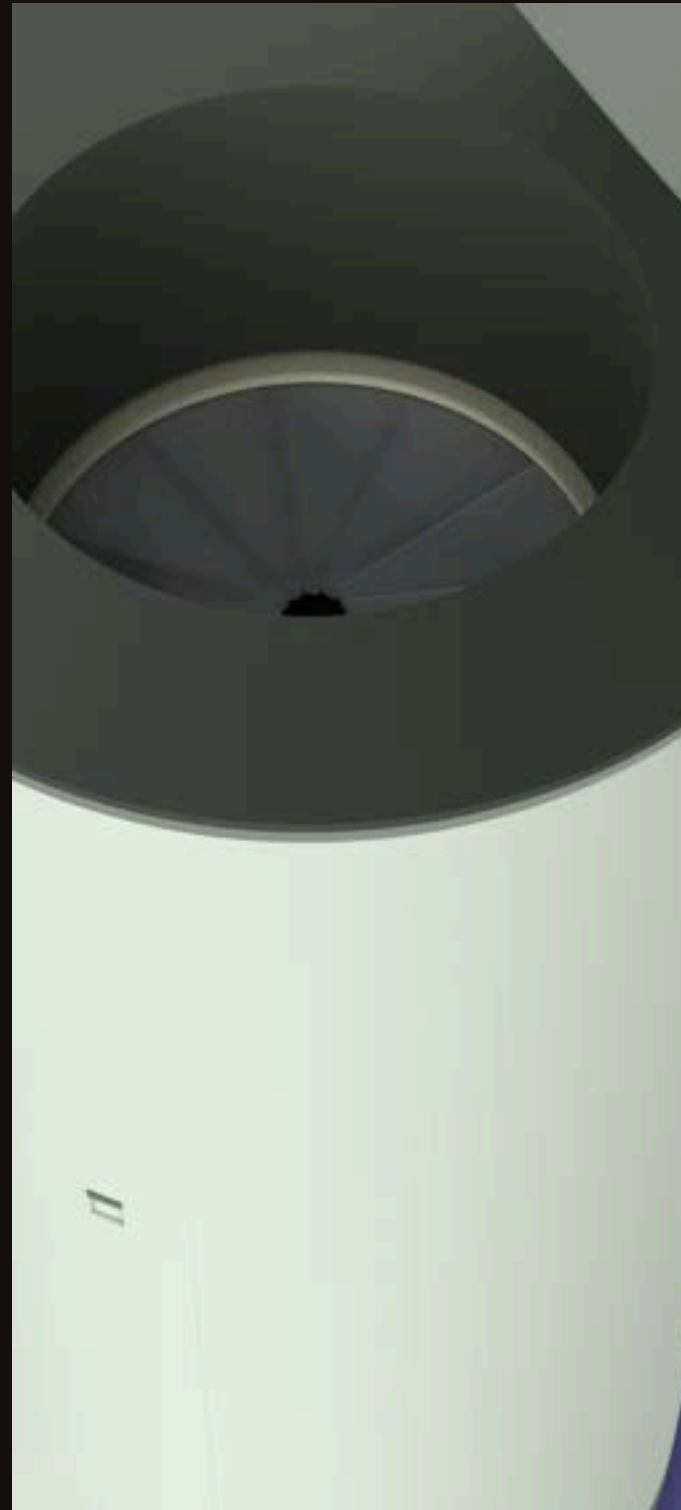
**2026**

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+44 7587403481

KHUSHNOORNILGIRIWALA@GMAIL.COM

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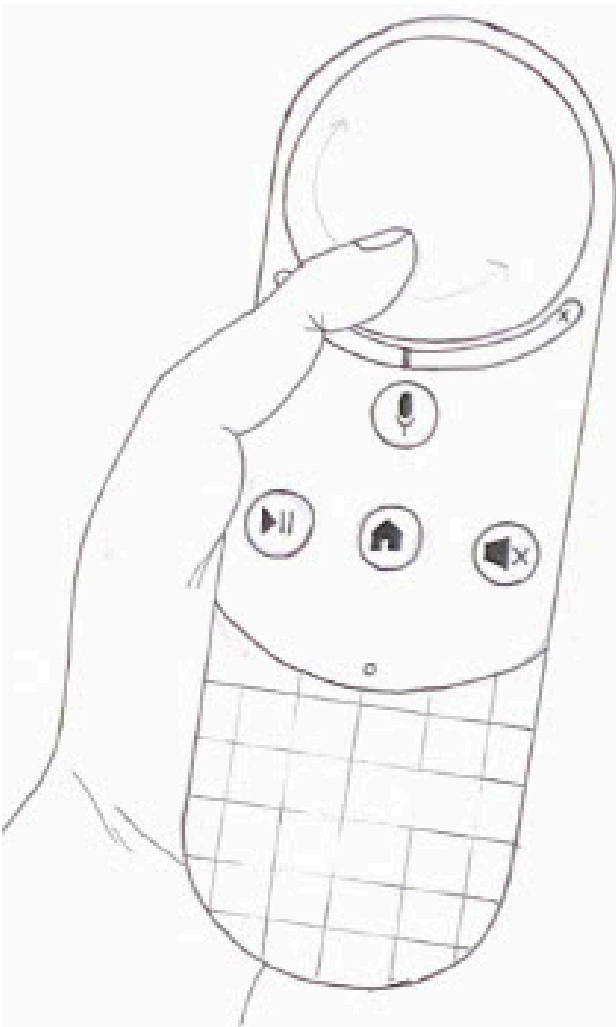
# SUSTAINABLE TV REMOTE

THIS PROJECT  
FOCUSED ON  
REIMAGINING A TV  
REMOTE WITH  
SUSTAINABILITY AT ITS  
CORE.

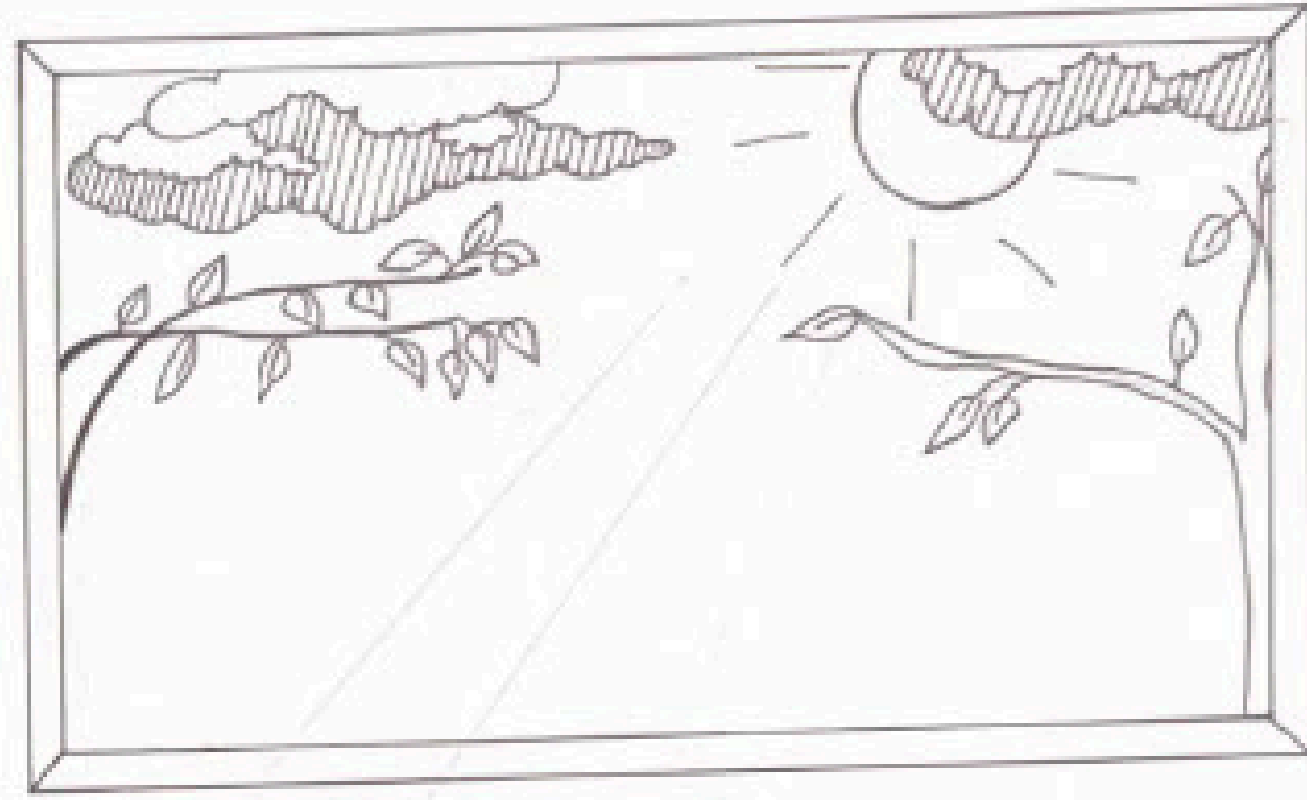
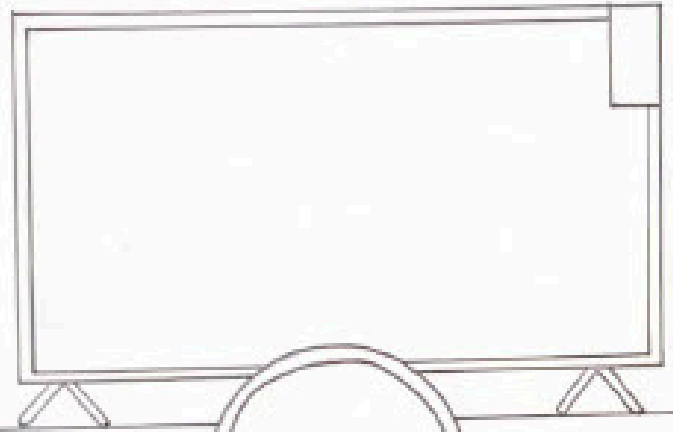
THE GOAL WAS TO  
MINIMIZE  
ENVIRONMENTAL  
IMPACT THROUGH  
THOUGHTFUL  
MATERIAL SELECTION,  
STREAMLINED  
MANUFACTURING  
PROCESSES, AND AN  
IMPROVED USER  
EXPERIENCE, ALL  
WHILE PRESERVING ITS  
ESSENTIAL  
FUNCTIONALITY AND  
VISUAL APPEAL.

(1)

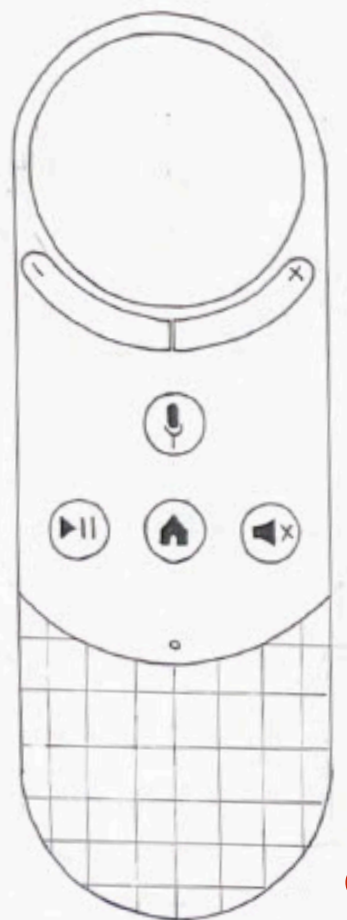
DURATION / 1.5 MONTH



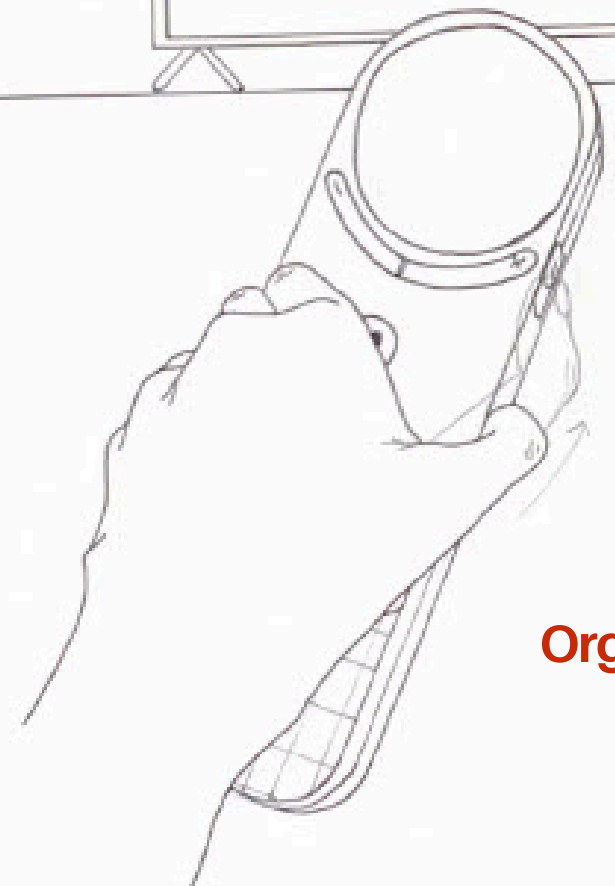
Simple to use and ergonomic positions button



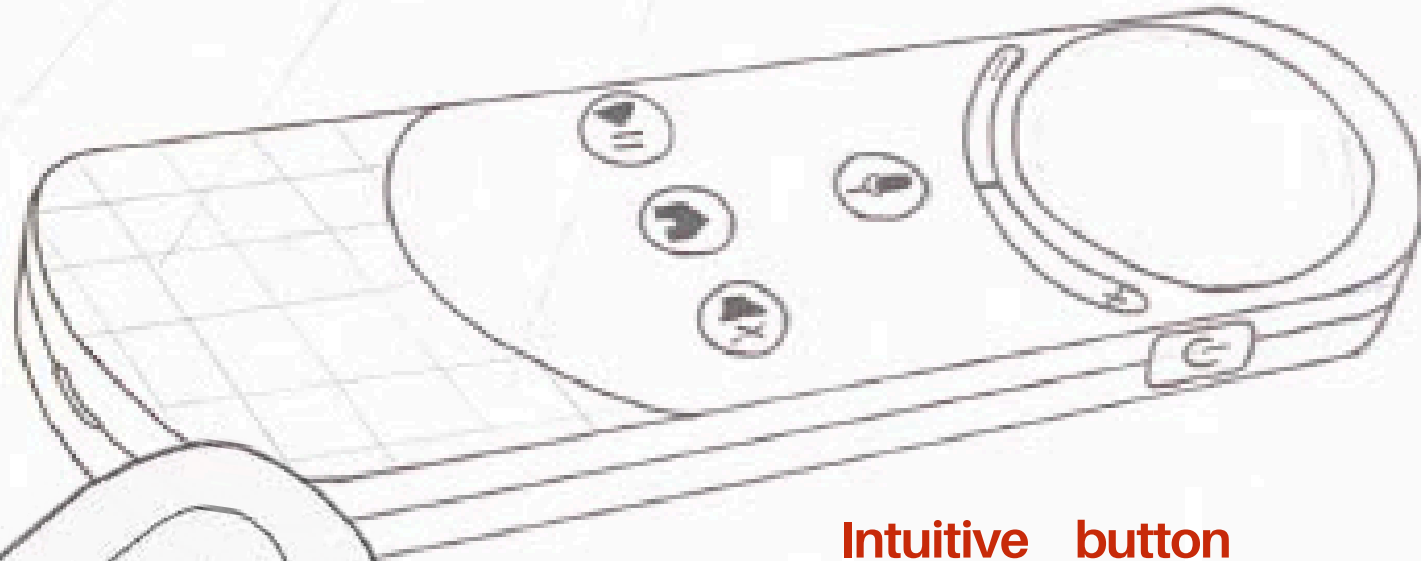
Energy efficient



Minimalist and clean look



Organic form



Intuitive button layout

CONVENTIONAL TV REMOTES TYPICALLY USE NON-RECYCLABLE MATERIALS AND ARE NOT DESIGNED FOR EASY DISASSEMBLY, LEADING TO INCREASED ELECTRONIC WASTE.

THIS PROJECT AIMED TO TACKLE THESE CHALLENGES BY RETHINKING MATERIAL CHOICES, SIMPLIFYING THE ASSEMBLY PROCESS, AND CONSIDERING THE ENTIRE PRODUCT LIFECYCLE FROM A SUSTAINABILITY PERSPECTIVE.



ABS

HDPE

SILICON RUBBER  
BUTTONS

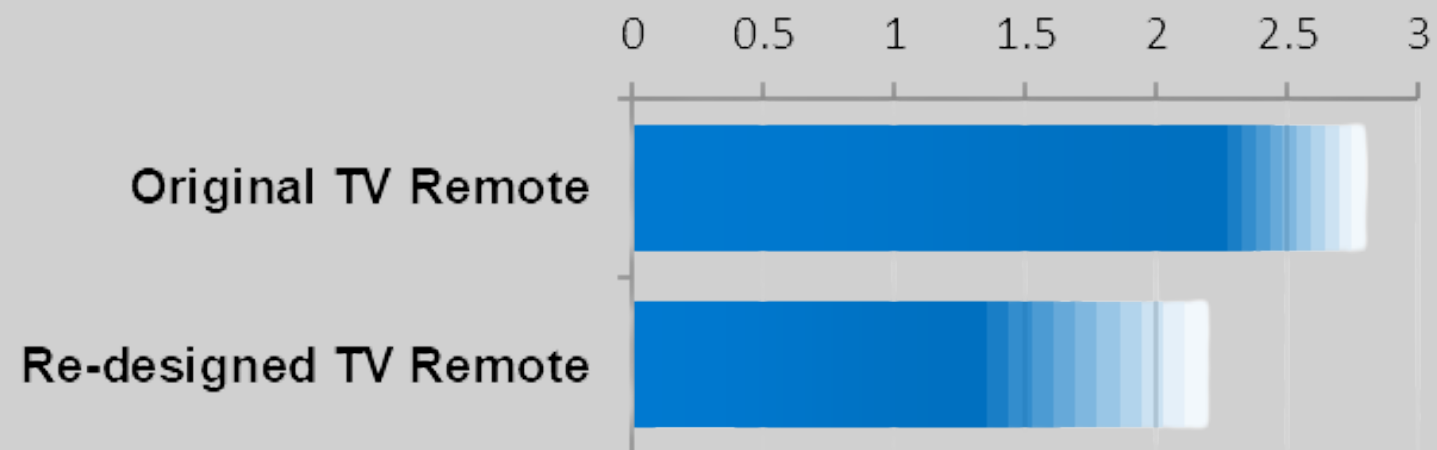
HDPE BUTTON CAPS

SINGLE USED DISPOSABLE  
BATTERIES

LI-ION BATTERY PACK AND  
SOLAR PANEL

**THIS REDESIGN ACHIEVES A 41%  
REDUCTION IN CARBON FOOTPRINT  
COMPARED TO CONVENTIONAL  
REMOTES. BY USING HDPE AND  
STREAMLINING THE ASSEMBLY  
PROCESS. THE PRODUCT IS EASIER  
TO RECYCLE, SUPPORTING A MORE  
CIRCULAR AND SUSTAINABLE  
PRODUCT LIFECYCLE.**

Total Impacts

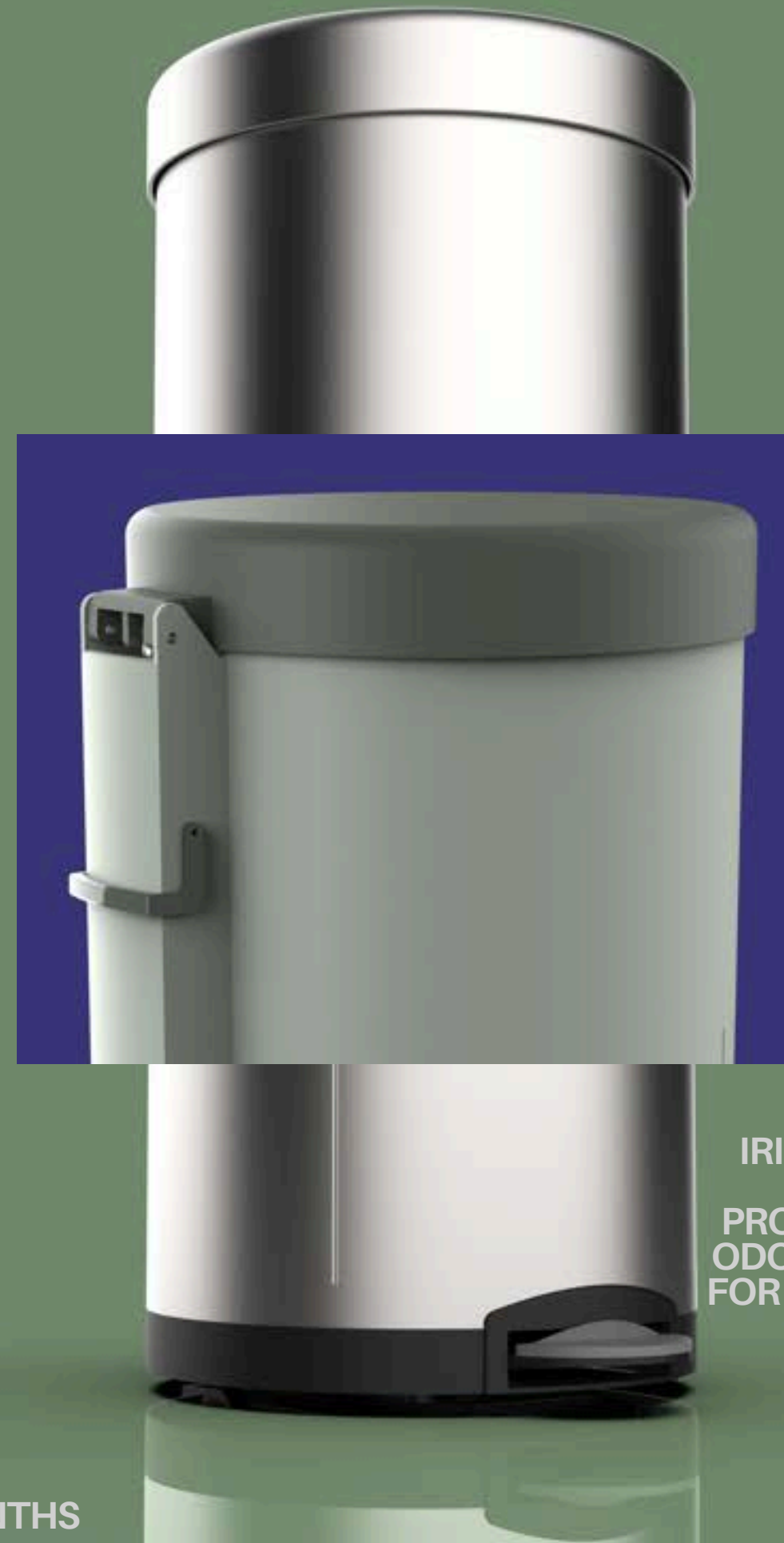






# IRIS BIN

(2)

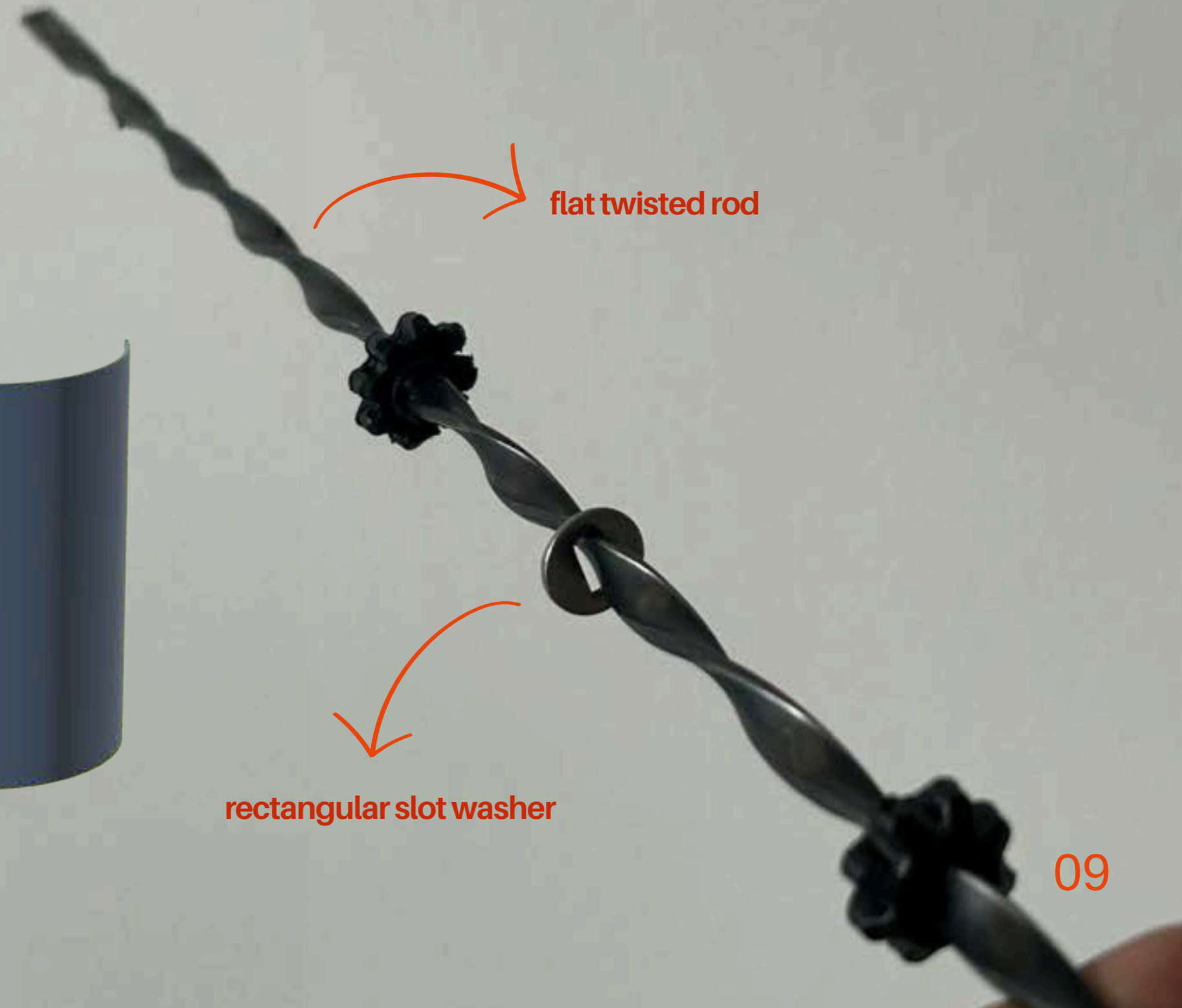
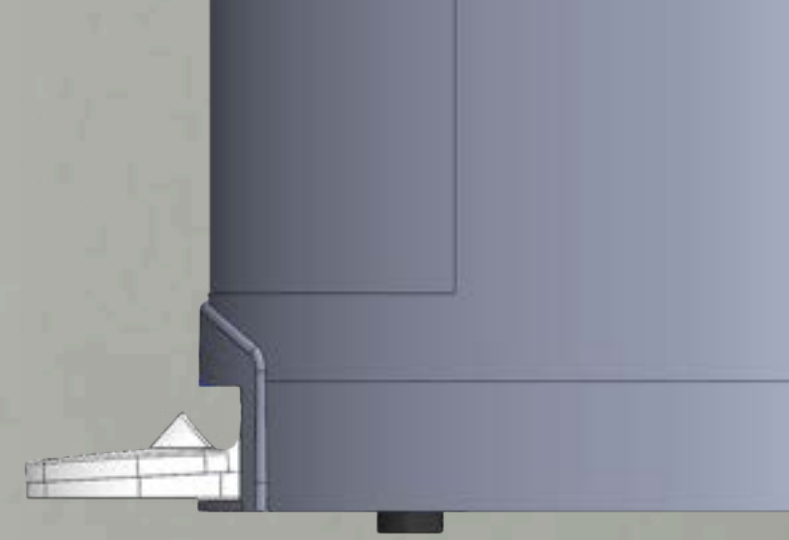
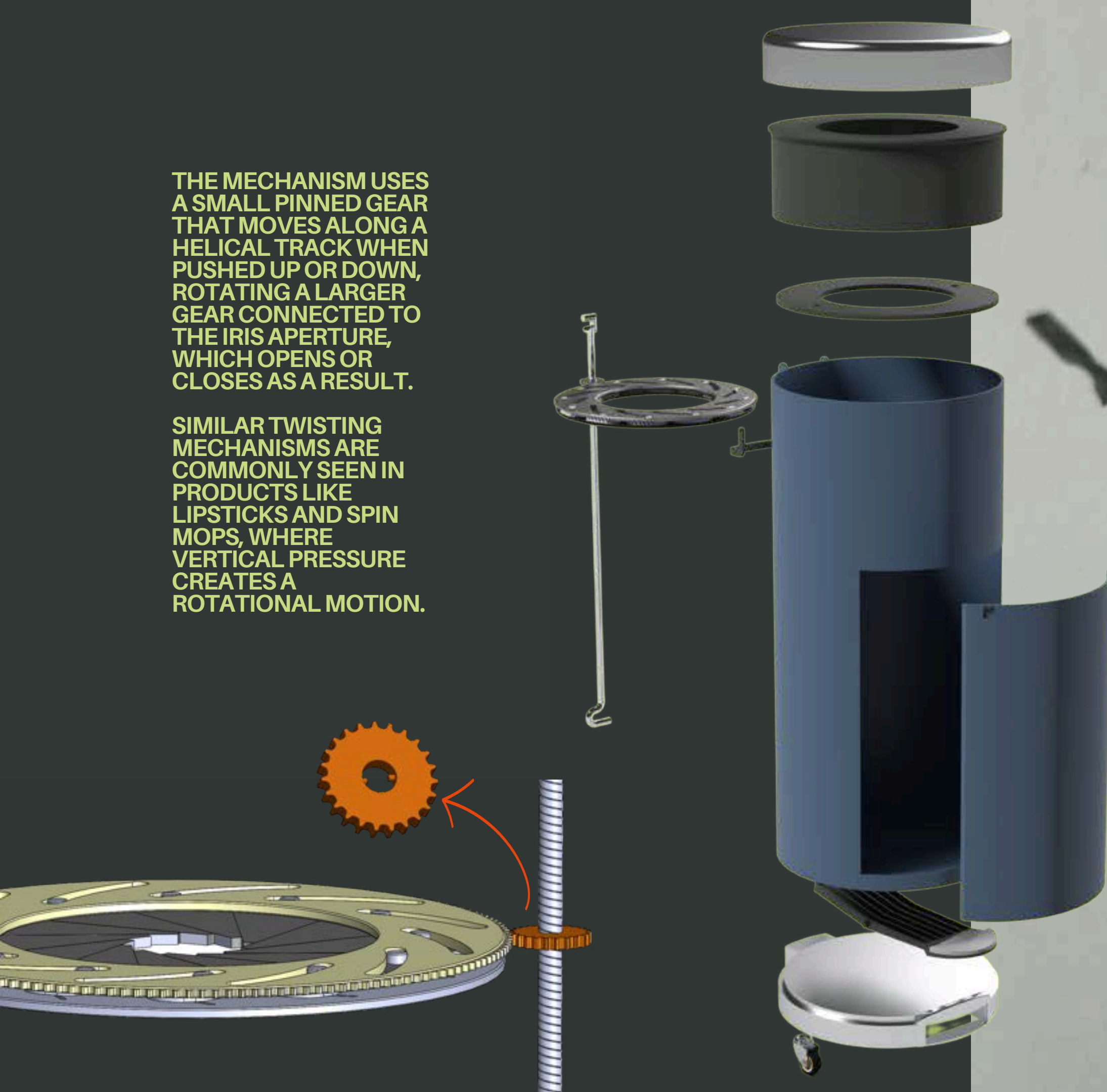


IRIS-STYLE OPENING MECHANISM TO PROVIDE A HYGIENIC, ODORLESS SOLUTION FOR THE DISPOSAL OF ADULT DIAPERS.

DURATION / 2 MONTHS

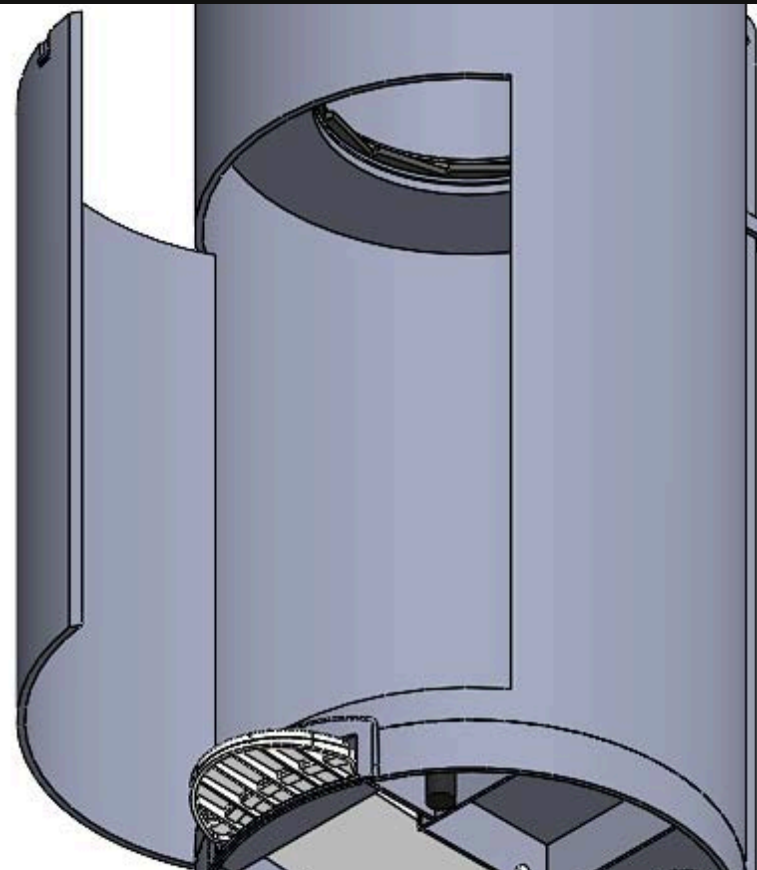
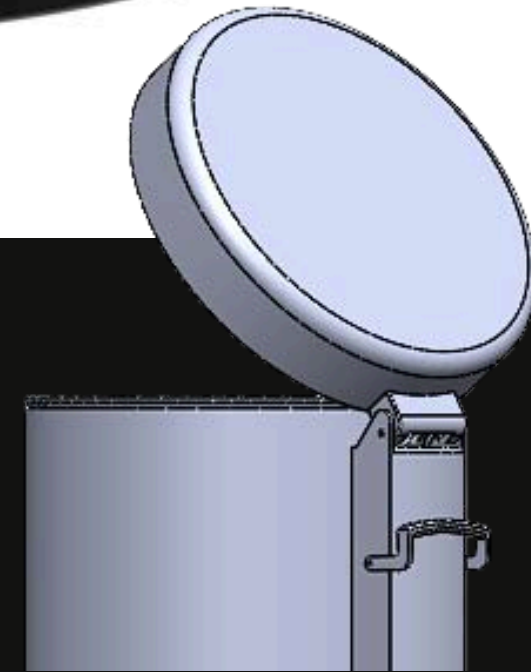
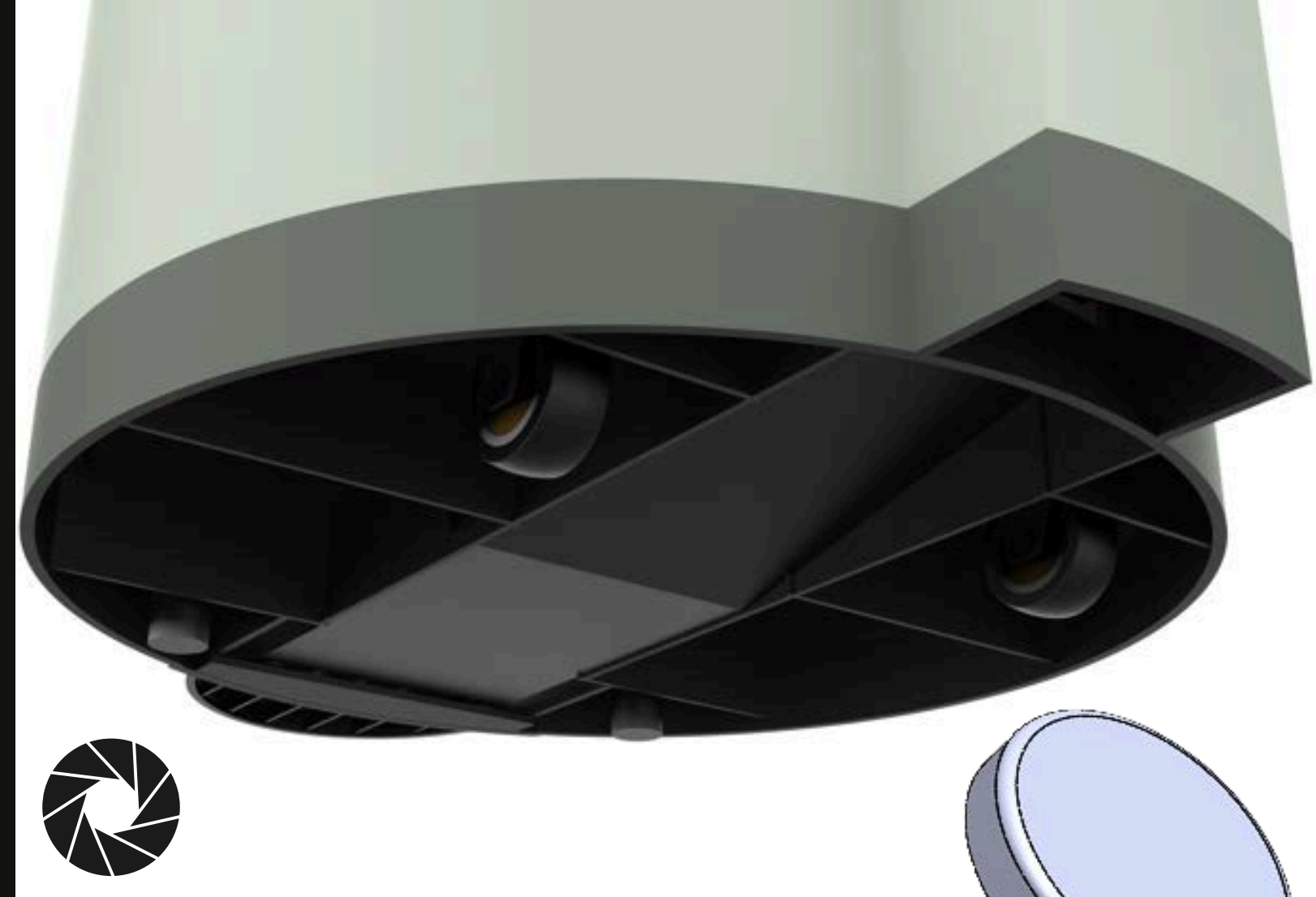
THE MECHANISM USES A SMALL PINNED GEAR THAT MOVES ALONG A HELICAL TRACK WHEN PUSHED UP OR DOWN, ROTATING A LARGER GEAR CONNECTED TO THE IRIS APERTURE, WHICH OPENS OR CLOSES AS A RESULT.

SIMILAR TWISTING MECHANISMS ARE COMMONLY SEEN IN PRODUCTS LIKE LIPSTICKS AND SPIN MOPS, WHERE VERTICAL PRESSURE CREATES A ROTATIONAL MOTION.



TO ENHANCE MOBILITY AND CONVENIENCE, I INCORPORATED WHEELS AND A ERGONOMIC HANDLE, ALLOWING EFFORTLESS MOVEMENT IN EMERGENCIES OR WHEN NEEDED.

# FEATURES



TO SIMPLIFY WASTE DISPOSAL AND MAINTENANCE, A FRONT-ACCESS DOOR HAS BEEN INTEGRATED INTO THE DESIGN, ALLOWING FOR THE EASY REMOVAL AND REPLACEMENT OF THE GARBAGE BAG.



A man in a light blue and white striped polo shirt and khaki pants stands near the patient bed, looking towards the right.

A nurse in white scrubs stands by the desk, looking at a piece of paper.

A television mounted on the wall displays a local news program with the text "LOCAL 10 Good Health".

A square analog clock is mounted on the wall above the television.

A framed informational poster or chart is mounted on the wall to the left of the television.

A receptionist is visible in the background through an open doorway, standing behind a white reception desk.

A tall, cylindrical, light blue trash can with a black lid is positioned in the corner of the room.

# Scoop & Seal

(3)

SCOOP & SEAL WAS A UNIVERSITY-LED COLLABORATIVE PROJECT WITH JOSEPH JOSEPH, FOCUSED ON DESIGNING AN INNOVATIVE AND A DISRUPTIVE PRODUCT FOR THE PET CARE SECTOR. THE PROJECT EXPLORED USER NEEDS WITHIN PET OWNERSHIP AND TRANSLATED THEM INTO A FUNCTIONAL, HYGIENIC, AND USER-FRIENDLY SOLUTION.

DURATION / 3 MONTHS



# Insights



**Owners often use regular spoons for pet food and must keep them separate from everyday utensils.**



**Many owners use zip-lock bags, and some even throw leftovers away because they're unsure how to store them.**



**Owners also need to wash their spoon after every use, adding extra effort.**



# How to use?



**EXTEND**



**SCOOP**



**RETRACT**



**SEAL**



Easy to detach and clean



Tight corners

Lip Edges

Flat Edge

Rubbery edge with a reimagined spoon shape



Locking mechanism with guide slots



flat edge along the guiding-slot side, help identify the orientation by touch

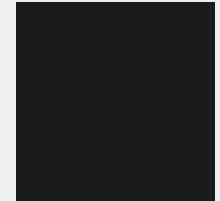
Stands upright for easy drying

# Features

# CMF



#000000



#2B2B2B



#FF5A09



Materials:  
Polypropylene (PP)  
Food-grade silicone  
Stainless Steel Spring

# BLUETOOTH SPEAKER

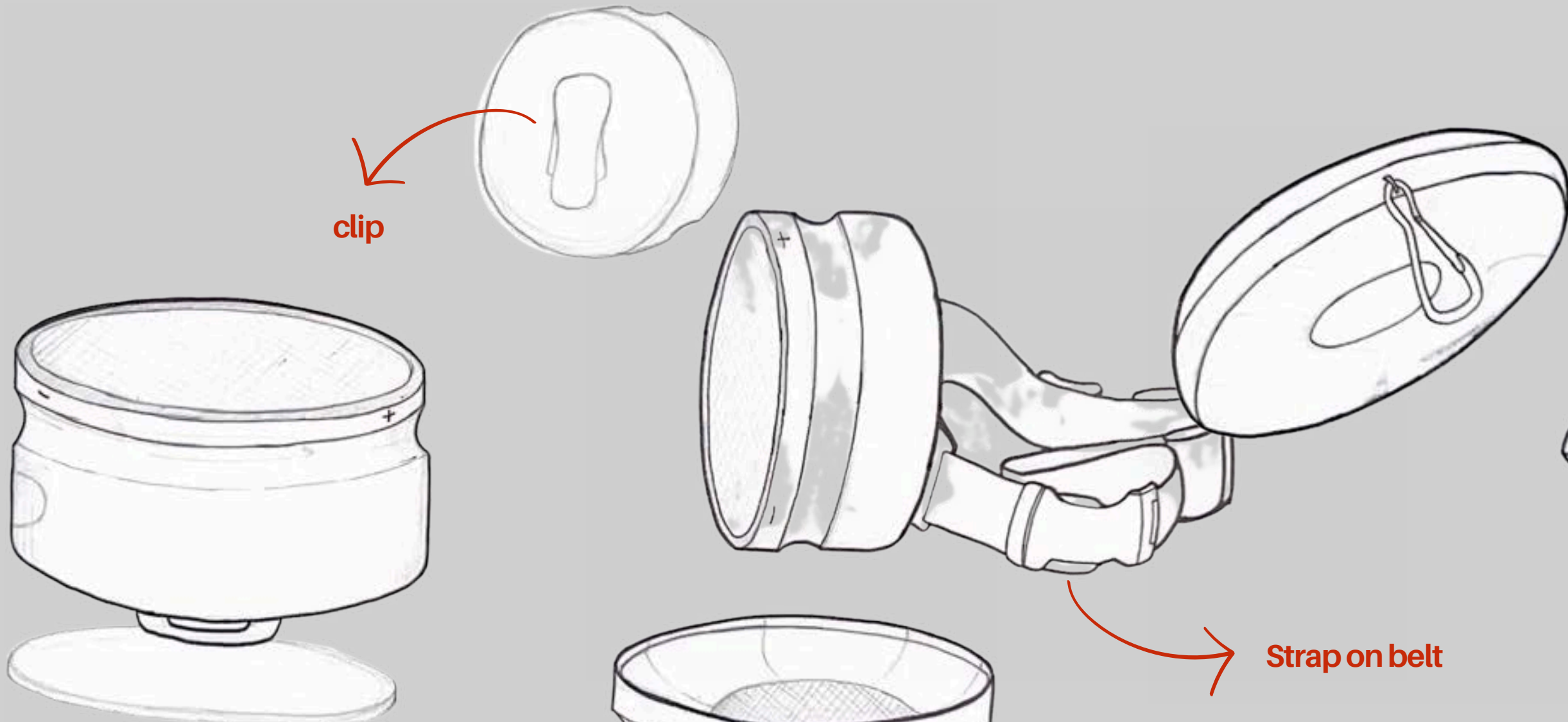
DESIGNING A  
BLUETOOTH SPEAKER  
SPECIFICALLY  
TAILORED FOR  
WORKSHOPS AND  
GARAGES.

THIS CLIP-ON MODEL  
PRIORITIZES  
DURABILITY,  
FUNCTIONALITY,  
AESTHETICS, AND  
USER-FRIENDLINESS  
AND ADDRESSES  
VARIOUS CHALLENGES  
OF THIS ENVIRONMENT  
(HIGH NOISE LEVELS,  
DUST, AND POTENTIAL  
IMPACTS) WHILE  
ENSURING EXCELLENT  
SOUND QUALITY AND  
ERGONOMIC  
PERFORMANCE.

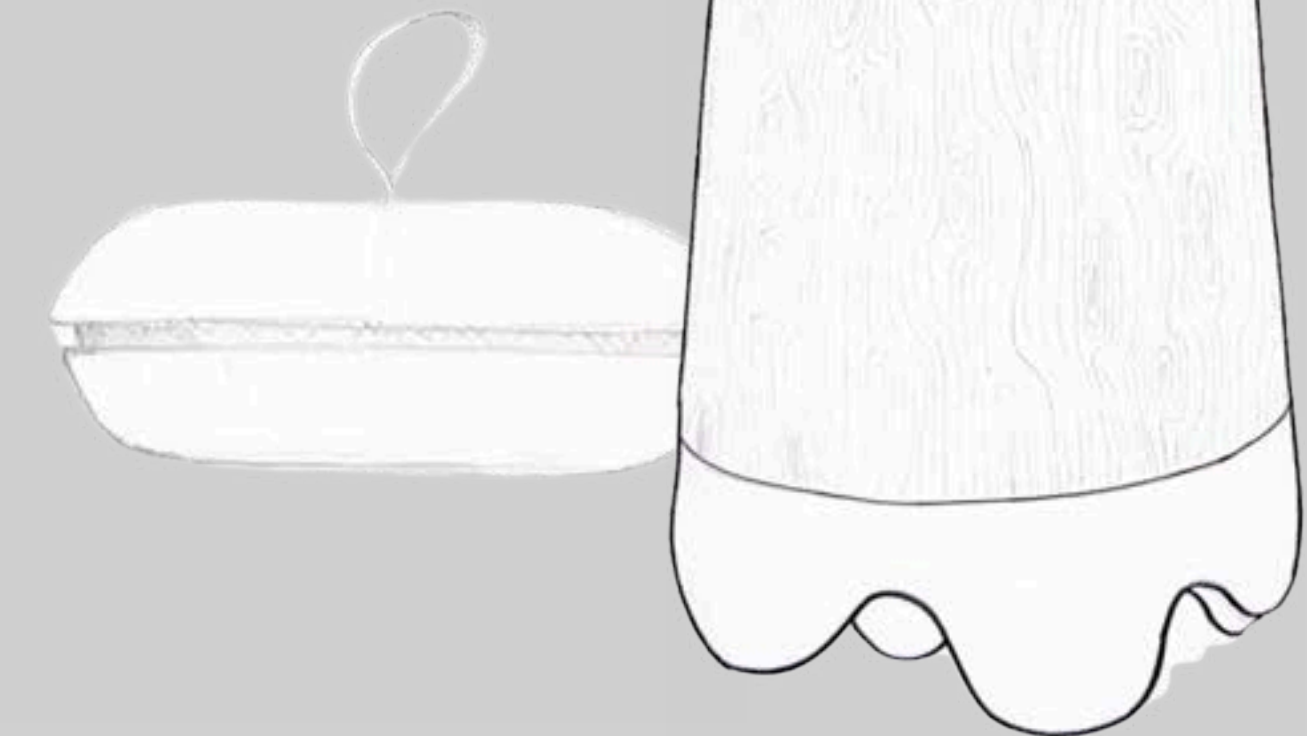
(4)

DURATION / 1 MONTH





GARAGES AND WORKSHOPS ARE OFTEN CROWDED WITH TOOLS AND MACHINERY, LEAVING LITTLE FREE SPACE. TO ADDRESS THIS, I FOCUSED ON DEVELOPING DESIGN CONCEPTS THAT PRIORITIZE SPATIAL EFFICIENCY AND INTEGRATE FUNCTIONAL FEATURES.



THUS, I EXPLORED VARIOUS WEARABLE SPEAKER SOLUTIONS TO OVERCOME CHALLENGES RELATED TO BULKINESS AND LIMITED SPACE.

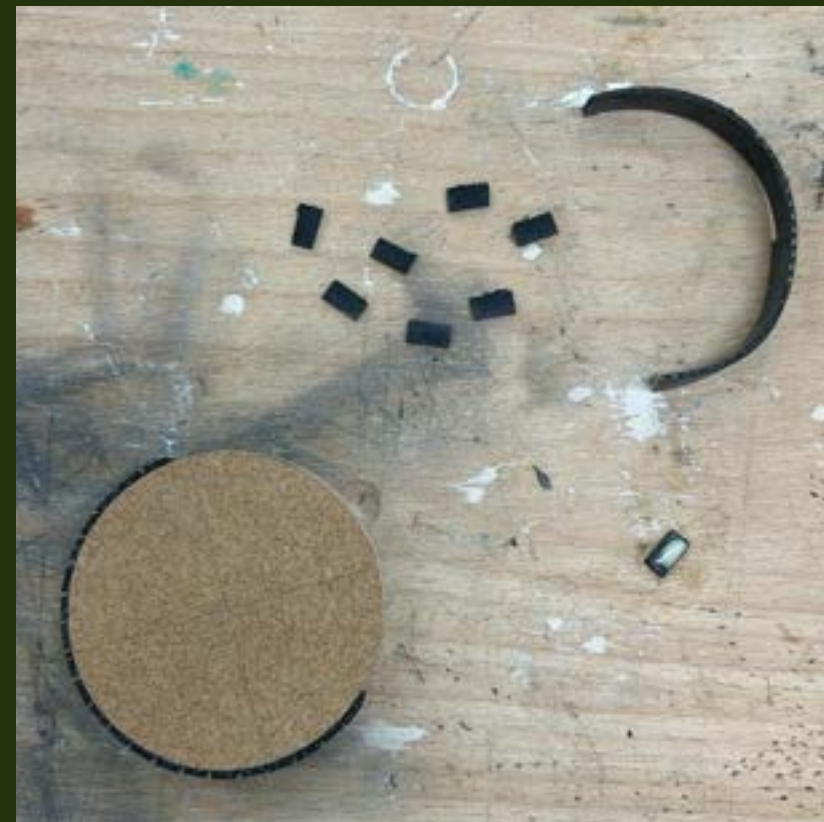
AFTER EXPLORING A RANGE OF SHAPES AND FORMS, I DEVELOPED A COMPACT, ROUNDED SPEAKER DESIGN FEATURING A TURN DISK FOR QUICK AND INTUITIVE VOLUME CONTROL. IT IS DESIGNED TO CLIP EASILY ONTO PANT POCKETS OR ANY CONVENIENT SURFACE FOR FLEXIBLE USE IN BUSY WORKSHOP ENVIRONMENTS.



## MODELLING



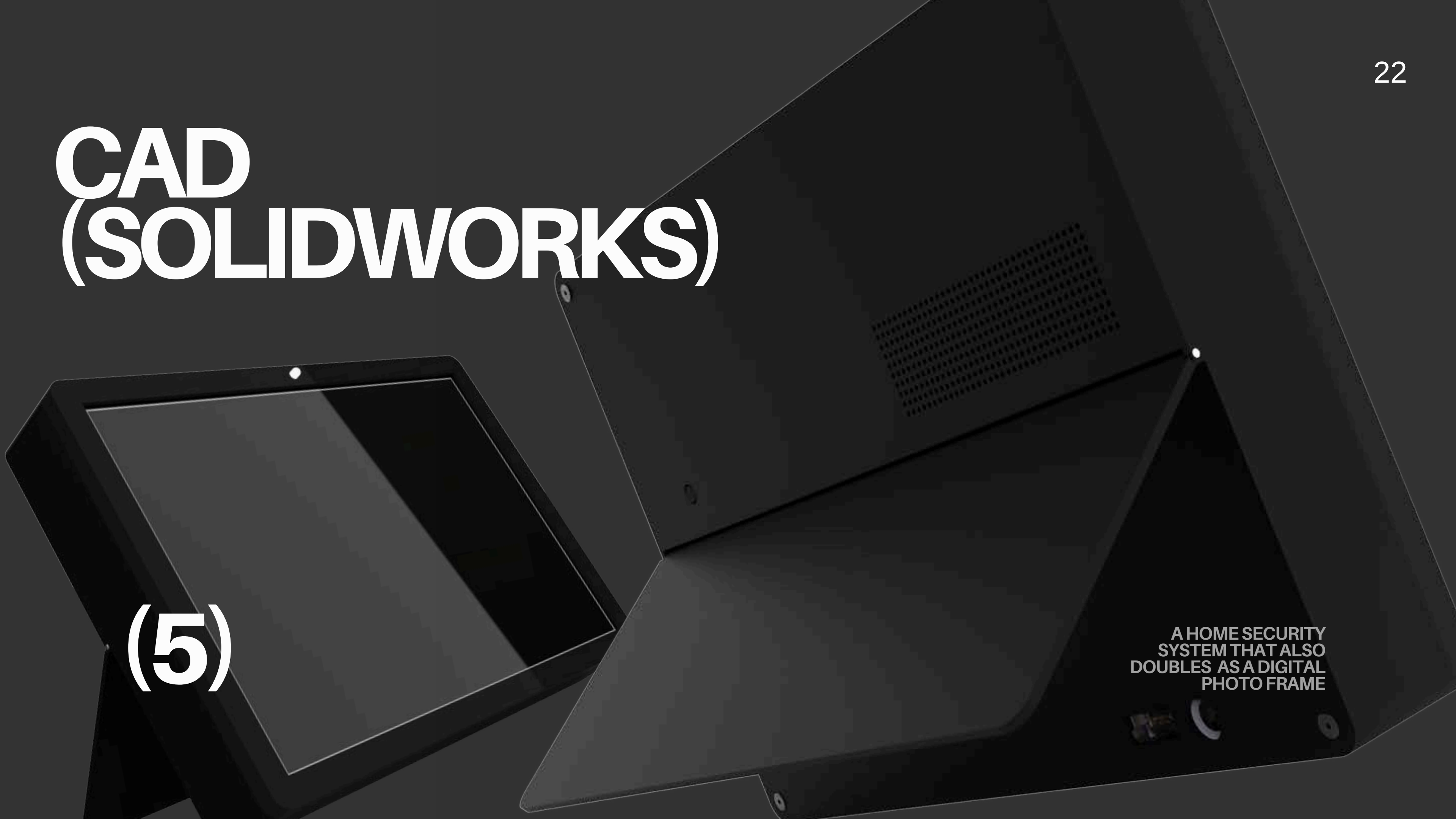
THIS DESIGN IS INTENDED TO FUNCTION AS A PERSONAL AUDIO DEVICE, ALLOWING USERS TO CLEARLY HEAR SOUND WITHOUT DISTURBING OTHERS IN A SHARED WORKSPACE. THE INTEGRATED CLIP AT THE BACK SERVES AS A UNIQUE SELLING POINT, OFFERING A LEVEL OF PORTABILITY AND CONVENIENCE NOT COMMONLY SEEN IN TRADITIONAL BLUETOOTH SPEAKERS.

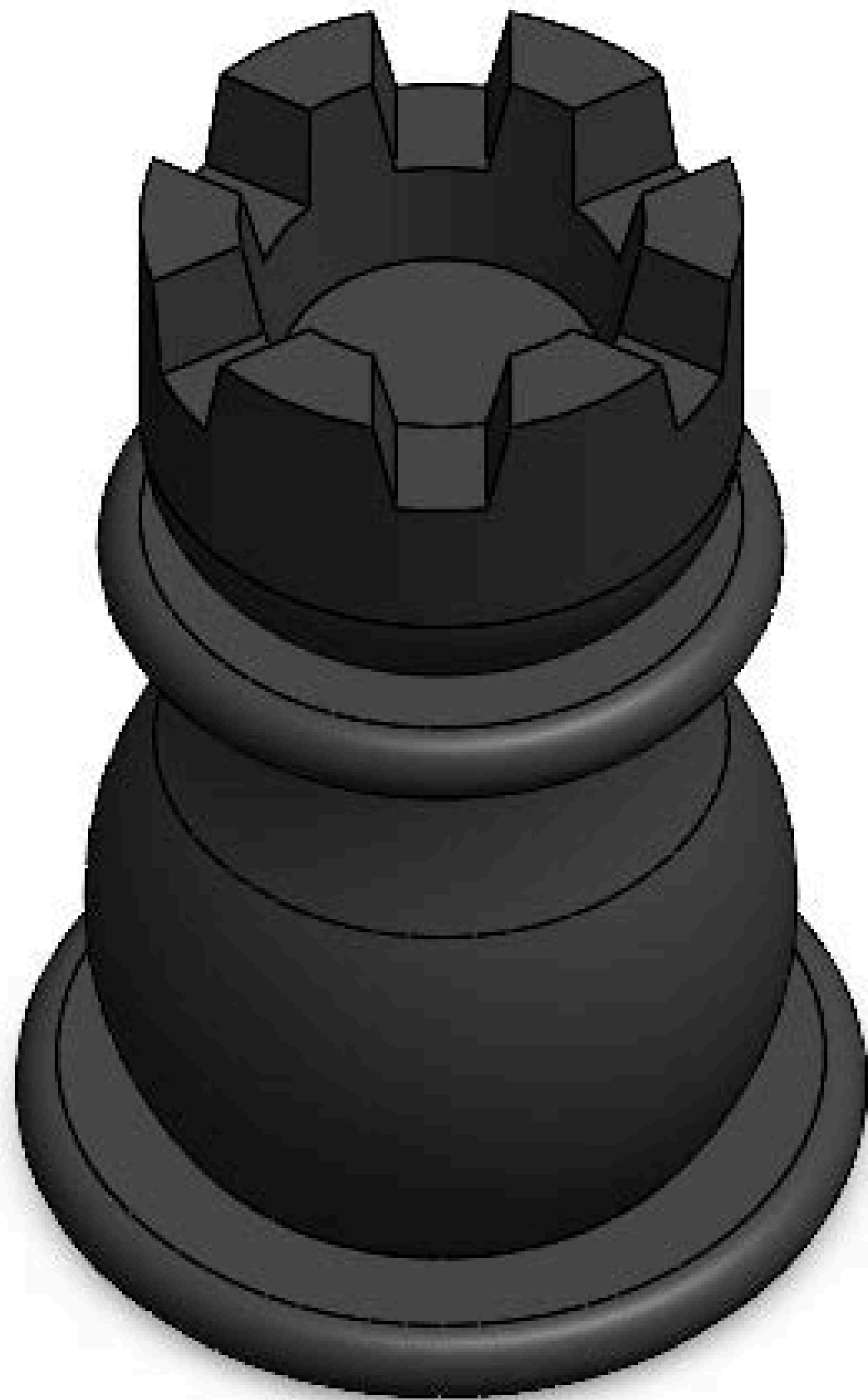


# CAD (SOLIDWORKS)

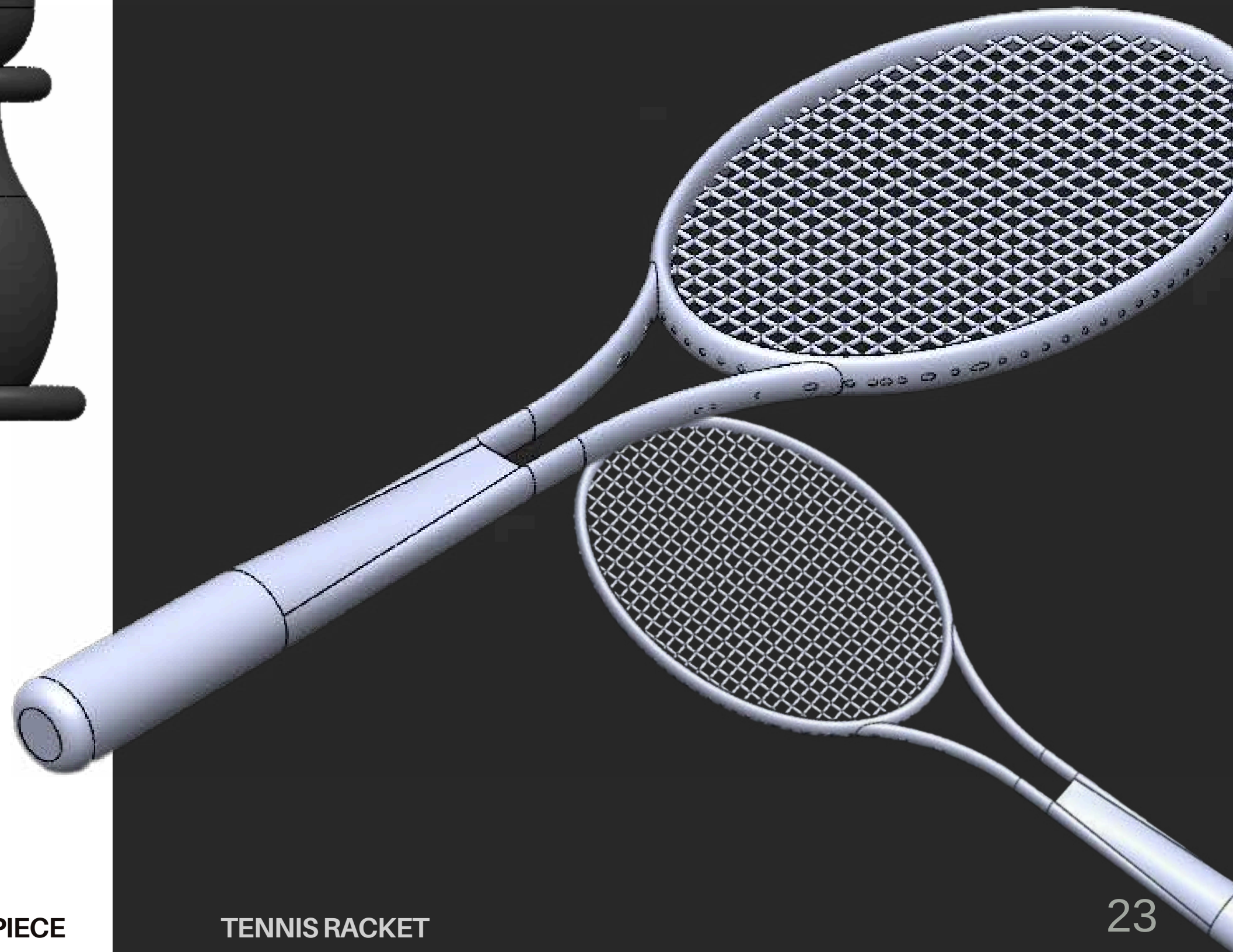
(5)

A HOME SECURITY  
SYSTEM THAT ALSO  
DOUBLES AS A DIGITAL  
PHOTO FRAME





CHESSE PIECE



TENNIS RACKET



CANDLE STAND



GOLF PUTTER

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**THANK  
YOU.**

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+44 7587403481

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