Design Portfolio
2022

Brennan Eagle

Industrial Designer

soundcradle

20th century media for a 21st century consumer

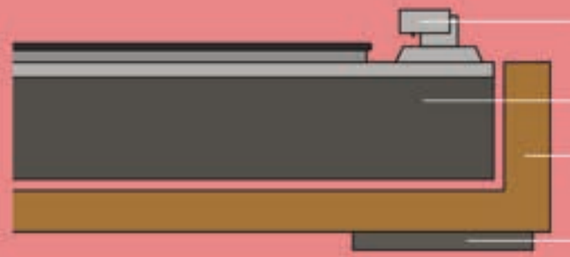
Historical Inspiration

With the vinyl being the predominant format of commercial audio in the mid-century, came hardware ***designed to preserve the lifespan of the media***

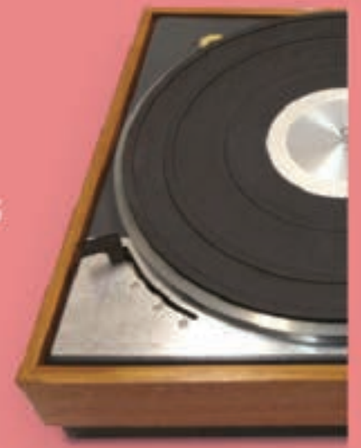
Soundcradle

Why the RECORD PLAYERS of the RECORD AGE worked

During the vinyl heyday of the 1970's, higher quality turntables were designed with a suspension system, allowing the product to absorb the force of footsteps and other sudden vibrations to prevent the needle from skipping and scratching the record.



1968
Goldring/Lenco GI75



Historical Inspiration

In Contrast with Today

Vinyl LP sales have increased from less than 1 million in 1995 to over 27.5 million in 2020

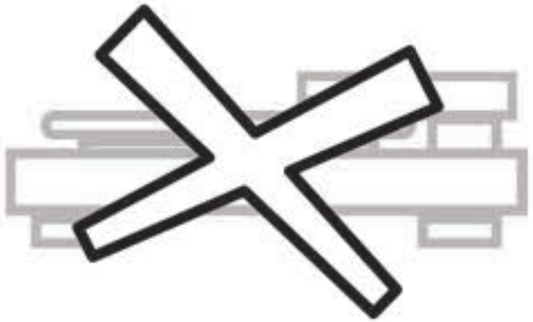
Source: Statista - The Vinyl Comeback Continues

The vinyl comeback of the 21st century has caused enormous sales of records, in part due to its charming physical tactile aspect, and its niche audiophile hipster appeal. Unfortunately, **cheap and tacky record player turntables have dominated the affordable entry-level marketplace** for new record collectors.

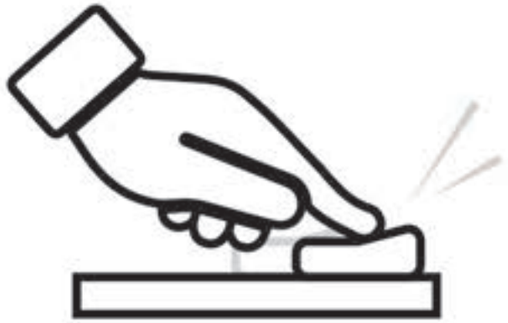
Design Opportunity

How might we design an entry level record player that provides better stability and support for fragile vinyl records?

Primary Design Considerations



Record player should be visually significant in a homogeneous contemporary market of turntables dominated by minimalist box forms



Record player should incorporate engaging on board controls to compliment the tactile nature of playing music off vinyl records

Embody a design language that elicits positive responses from a consumer base between ages 15-30 and find overlap due to the broad range

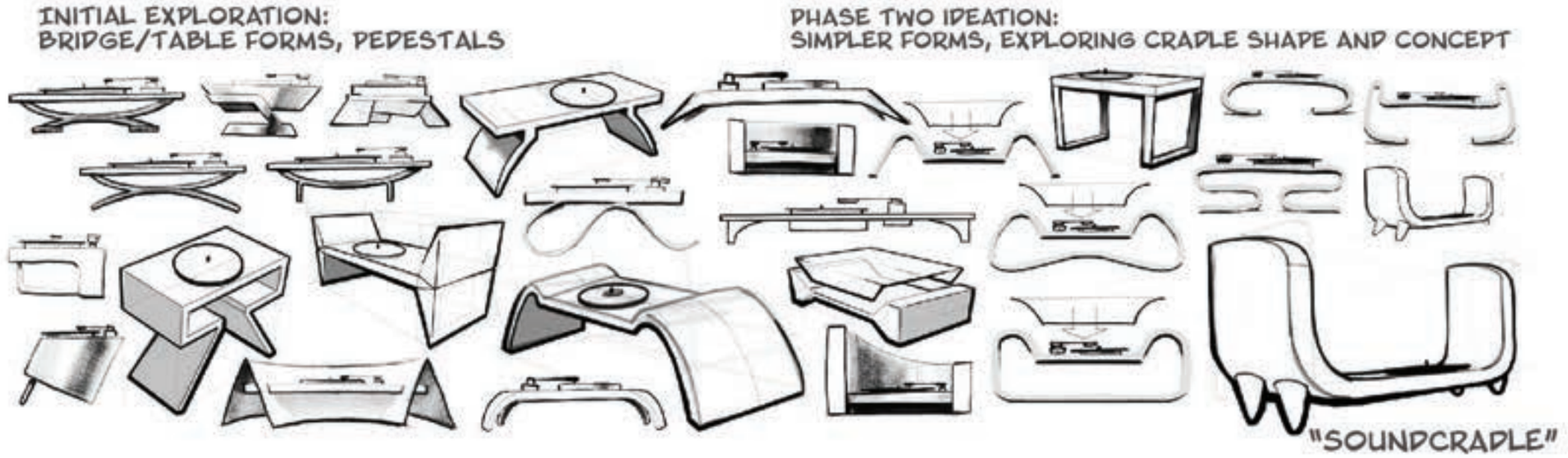
Exploration

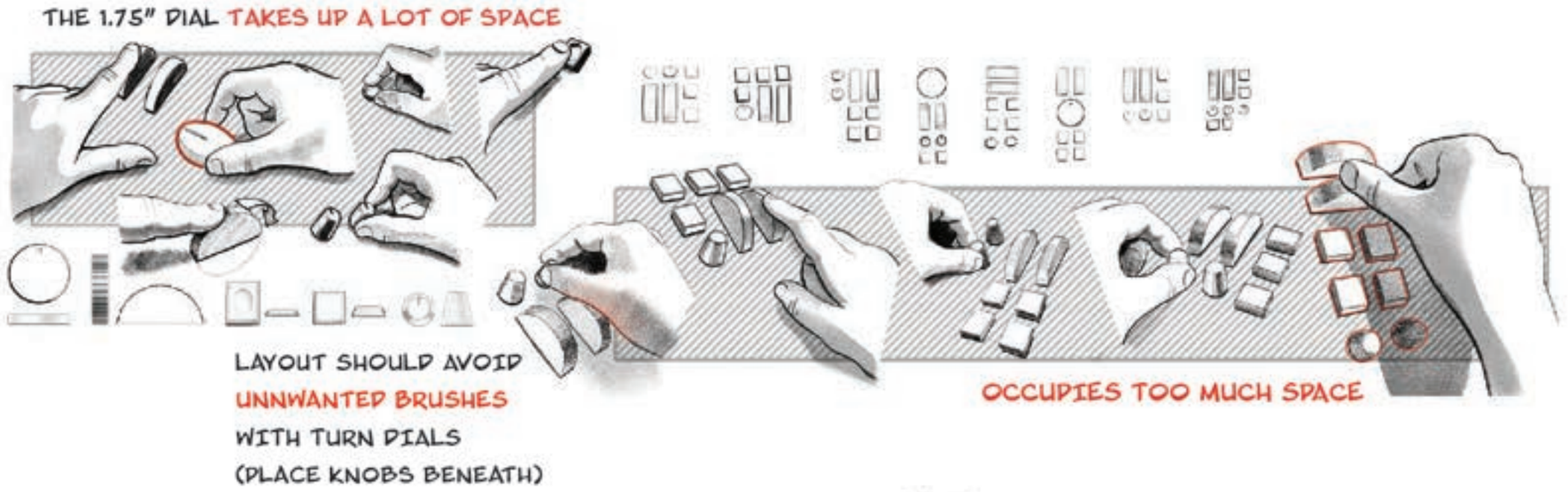
1. Primary Form/System

Exploring opportunities to find solutions that bridge the need for a dynamic form and a shock-proof frame/system.

2. User Interaction

Exploring different parts and arrangements of knobs, buttons, and switches to provide control to the user with added tactile response.

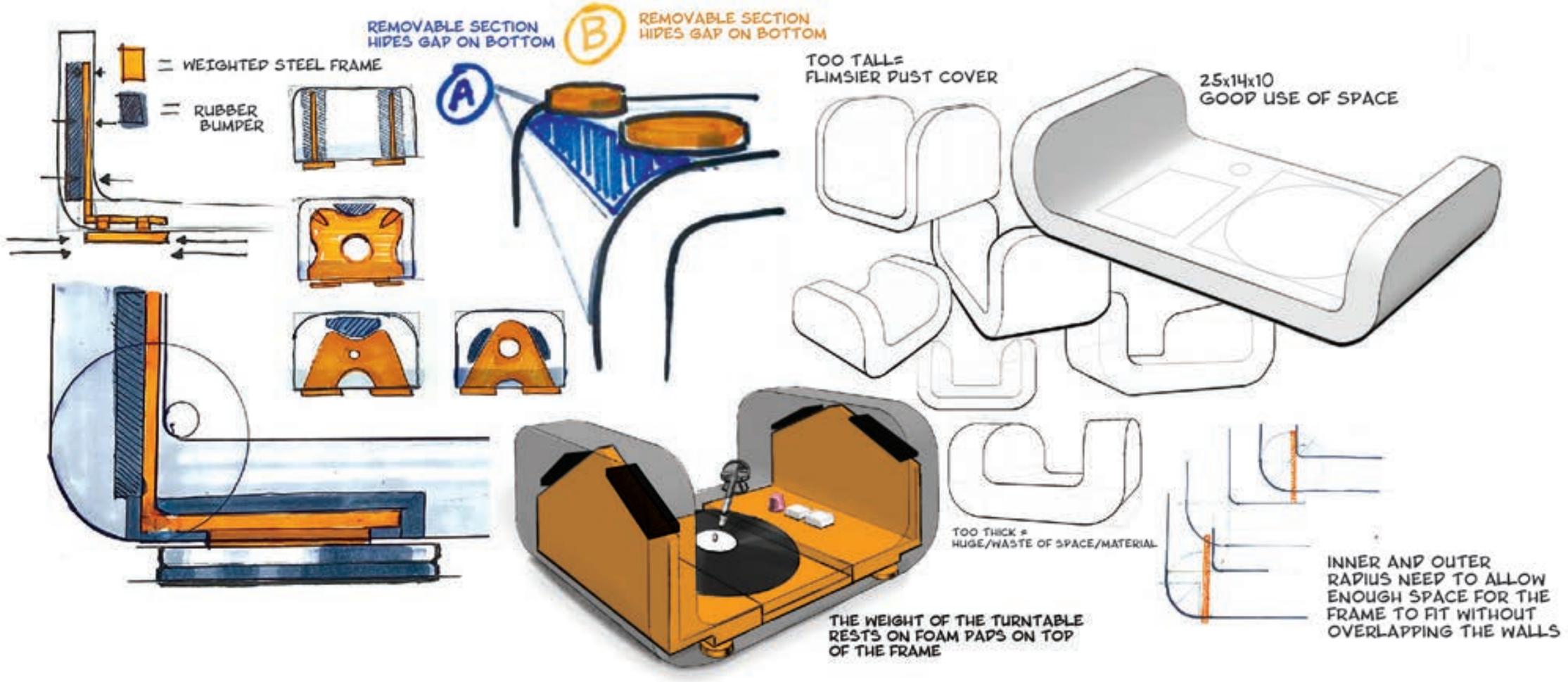




Ideation

Suspension/Form Scaling

Soundcradle's turntable rests on a weighted steel frame that rests on a surface and collects vibrations and defends against unwanted shaking and record skipping. To fit the frame, the controls, the 12" turntable, and the tonearm, the size and proportions were considered skeptically to conserve manufacturing cost.



Formcore Model/Scale Testing

Foamcore, cardstock scale models. A larger and shorter record player from the form refinement phase were mocked up and tested for scale, user accessibility, and a top view aesthetic.

+ Accessible from sides
+ More open space
+ Sturdier, hinge-able dust cover

TRAY V.1

TRAY V.2

TRAY V.3

FINAL DESIGN FORM

BOWL V.1

BOWL V.2

BOWL V.3

TOO TALL

+ Easier to lift/carry
- Dust cover reaches too far back

Final Concept

Soundcradle

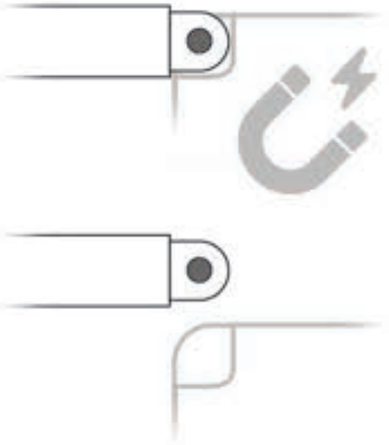
SOUNDCRADLE

AUDIO TURNTABLE

Final Design

Soundcradle's suspension frame provides the turntable a soft cushion of protection against unwanted physical tremors and shakes.

A magnetized pin in the edge of the dust cover allows safe and secure locking and ease of removable



Inspired by parts of previous century, Soundcradle's control panel embellishes the under-recognized value of touchy, tactile controls

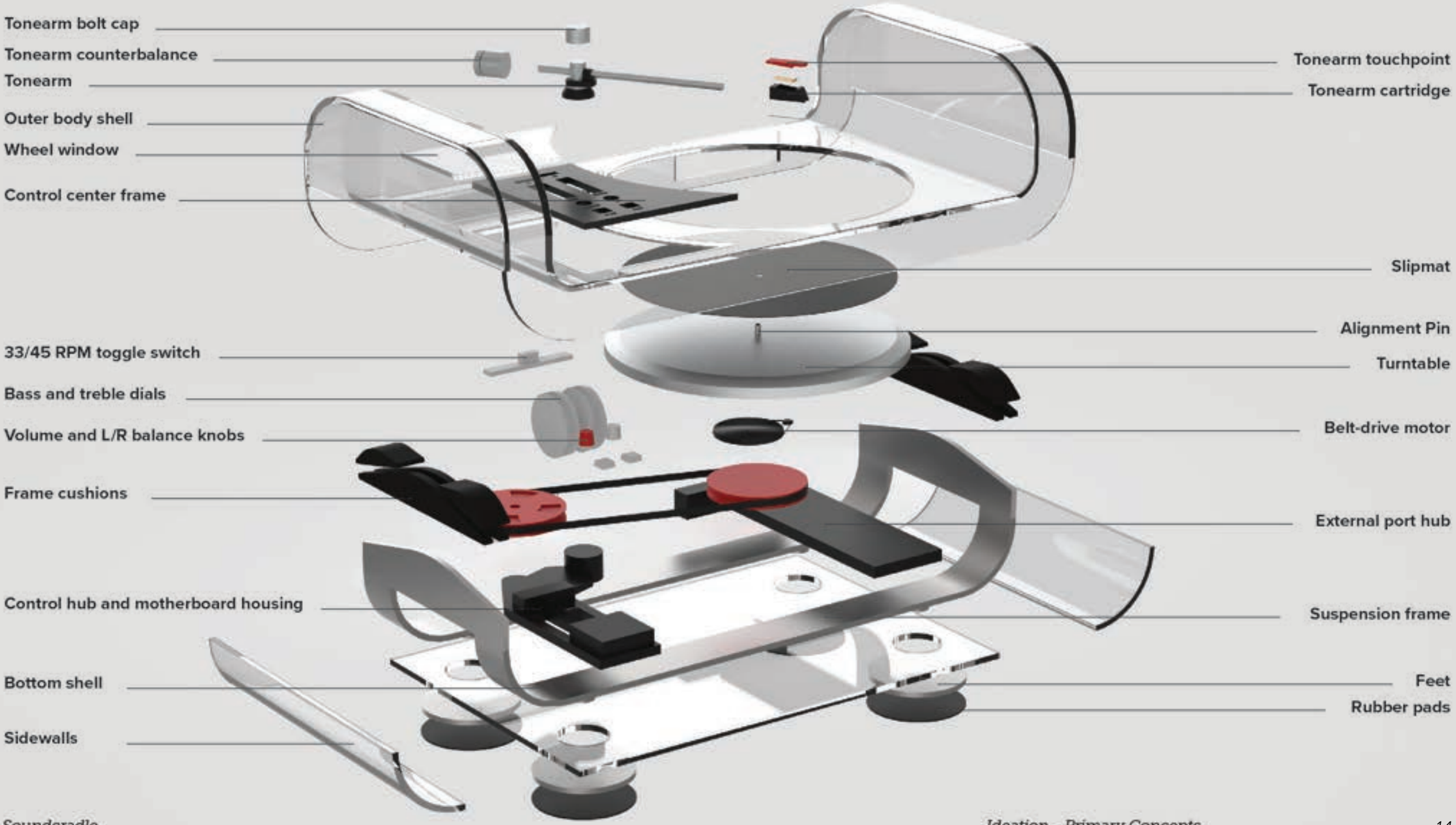
Colorways and Trends

GEN Z

Bright, modern, highly energetic colorways for Gen Z, marketed for entry-level turntable users ages 15-25

Millennial (Gen Y)

Clear colored outer shells as a throwback to the early 2000's, marketed towards entry-level users ages 25-35


Tonearm bolt cap
Tonearm counterbalance
Tonearm
Outer body shell
Wheel window
Control center frame
33/45 RPM toggle switch
Bass and treble dials
Volume and L/R balance knobs
Frame cushions
Control hub and motherboard housing
Bottom shell
Sidewalls
Tonearm touchpoint
Tonearm cartridge
Slipmat
Alignment Pin
Turntable
Belt-drive motor
External port hub
Suspension frame
Feet
Rubber pads


QUEEN QUEEN QUEEN

FELLOW Clara Coffee Scale

Fellow Scale

The Fellow consumer treats coffee as more than just a hobby, demanding professional tools that are tailored to a fine-tuned ritualistic brewing experience.

Opportunity:

Design a new coffee accessory to solve for the unmet needs of the amateur home barista.

Identifying a major pressure point via

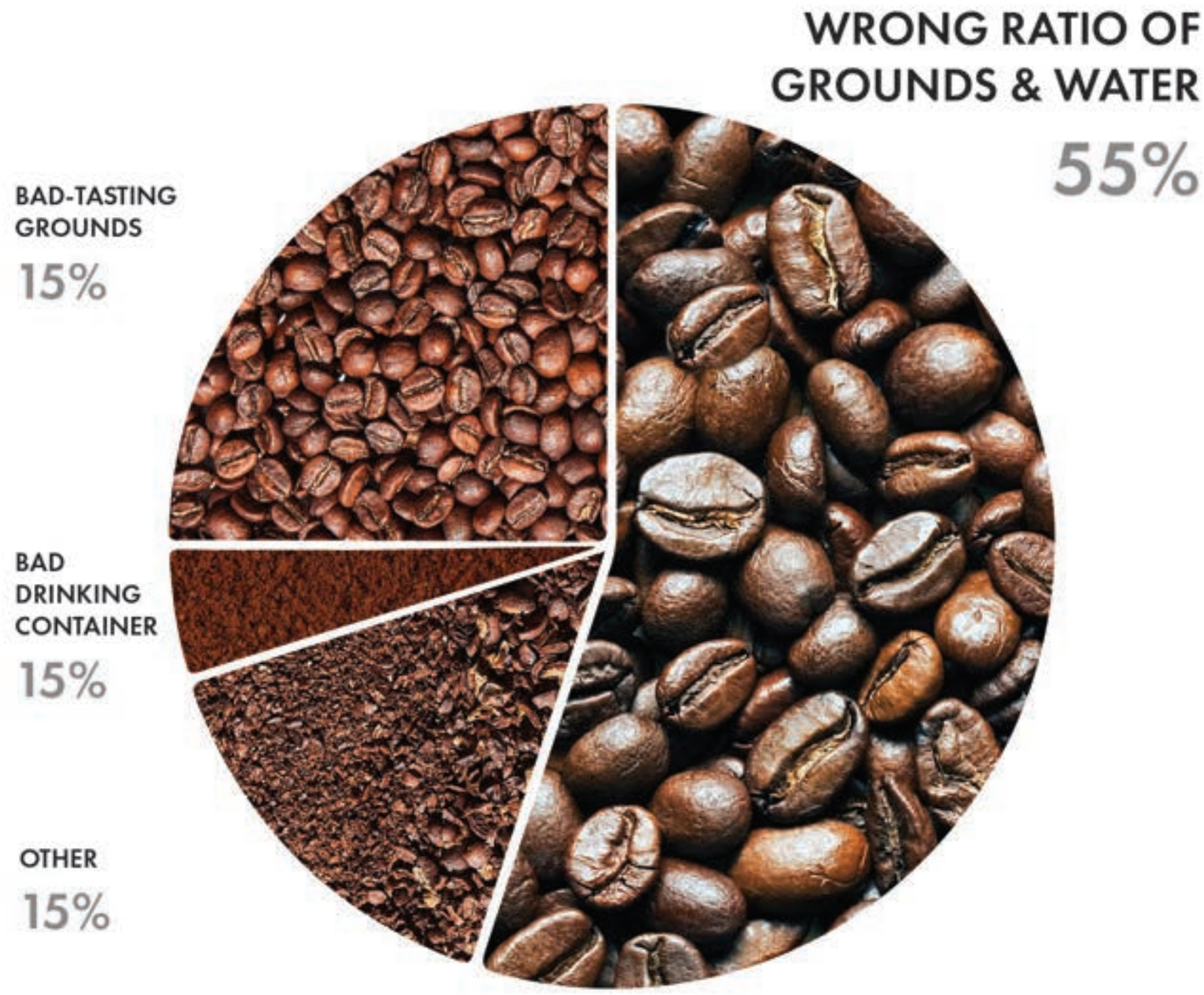
Survey Data:

What is the EASIEST way to RUIN a cup of coffee?

In a local 75-person study, participants were asked to identify what would be the greatest reason behind a "BAD" cup of coffee.

Over half of participants responded that the "wrong coffee grounds/water ratio" had the biggest impact on serving a bad brew of coffee.

Consumers demonstrate concern that their coffee could be made too strong or too watered down, and striking a fine balance between the two is important to their practice of home brewing.



Design Directive and Constraints:

Design a Coffee Scale to Compliment the Fellow Brand

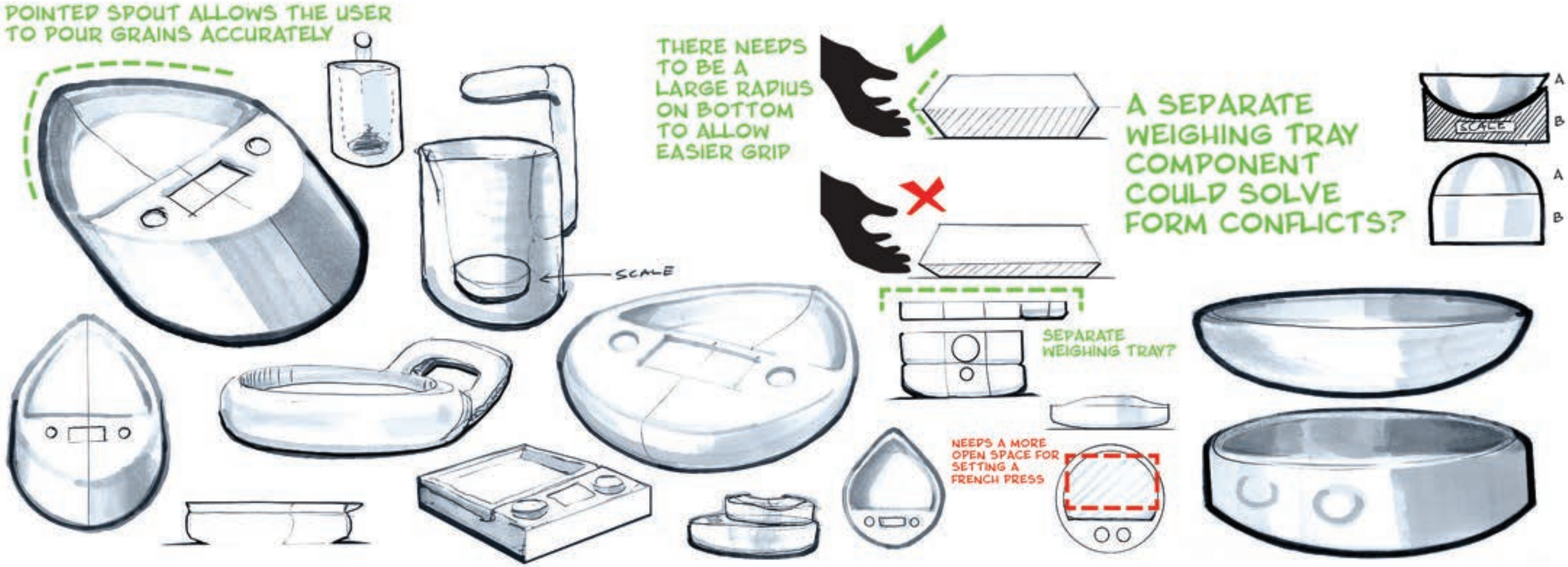
1. Must apply FELLOW brand and form language.

2. Must functionally compliment other tools in the FELLOW product family

3. Must allow user to weigh grounds directly or indirectly, via another instrument.

Exploration:

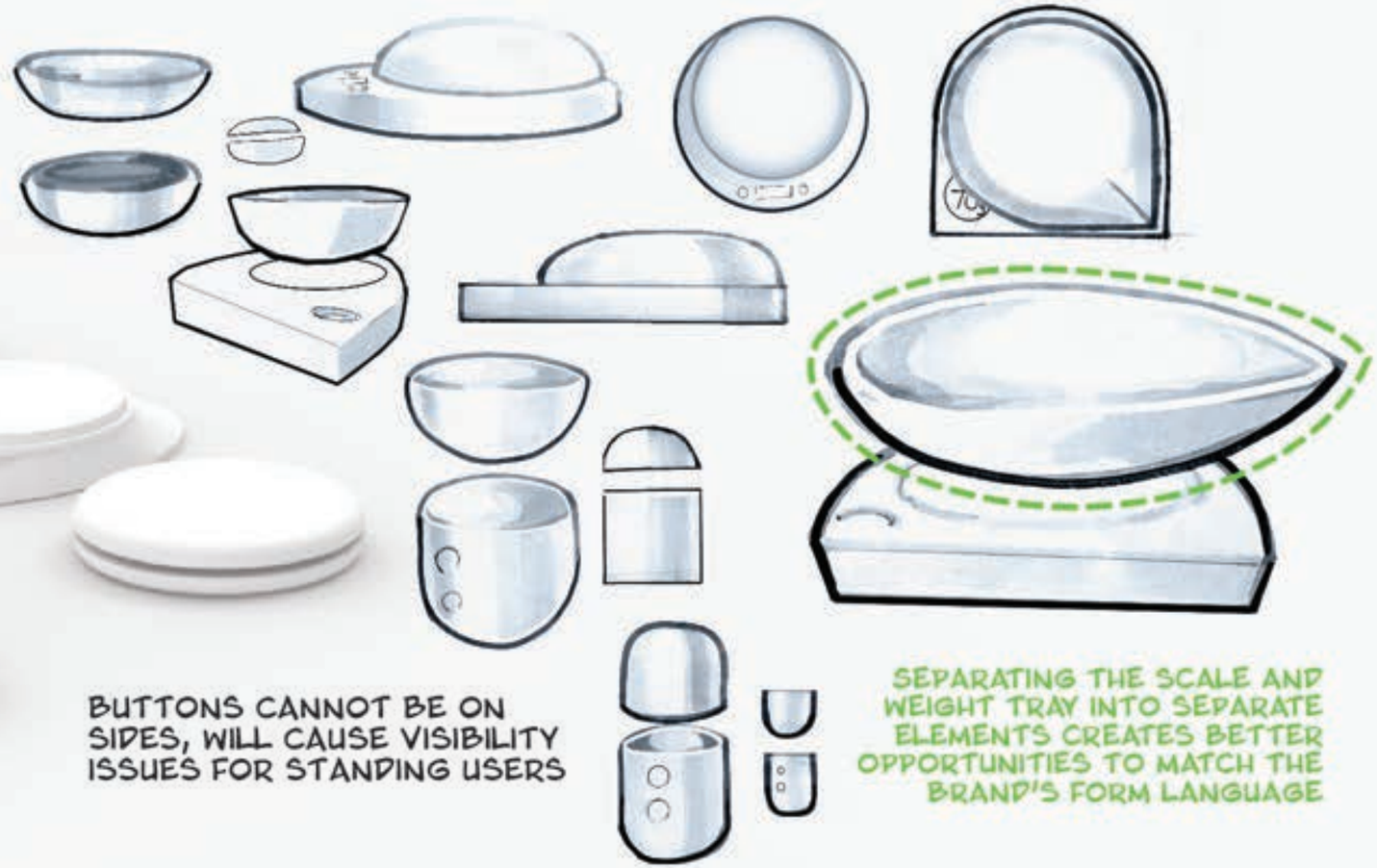
Function



Exploration:

Form

Some CAD ideation was included in the process to flesh out ideas in a 3D space



Exploration:
Refinement

The design was refined to a 2-part clamshell design, allowing users to fill, weigh, and pour coffee grounds with little to no mess and fine accuracy. A journey map with the current design was composed to illustrate the various steps and then identify pressure points.

One pressing issue with the existing design was identified:

The lack of a pouring spout made it difficult to pour back a small portion of the grounds initially poured in.

1 *Grab the scale*

2 *Separate Parts*

3 *Turn on/Set Zero*

4 *Set Weight Basin*

5 *Add Grounds*

-Circular shape creates visibility issues for standing users looking down

6 *Pour Grounds*

-Needs a spout for cleaner, more accurate pouring

Final Concept:

Clara Coffee Scale

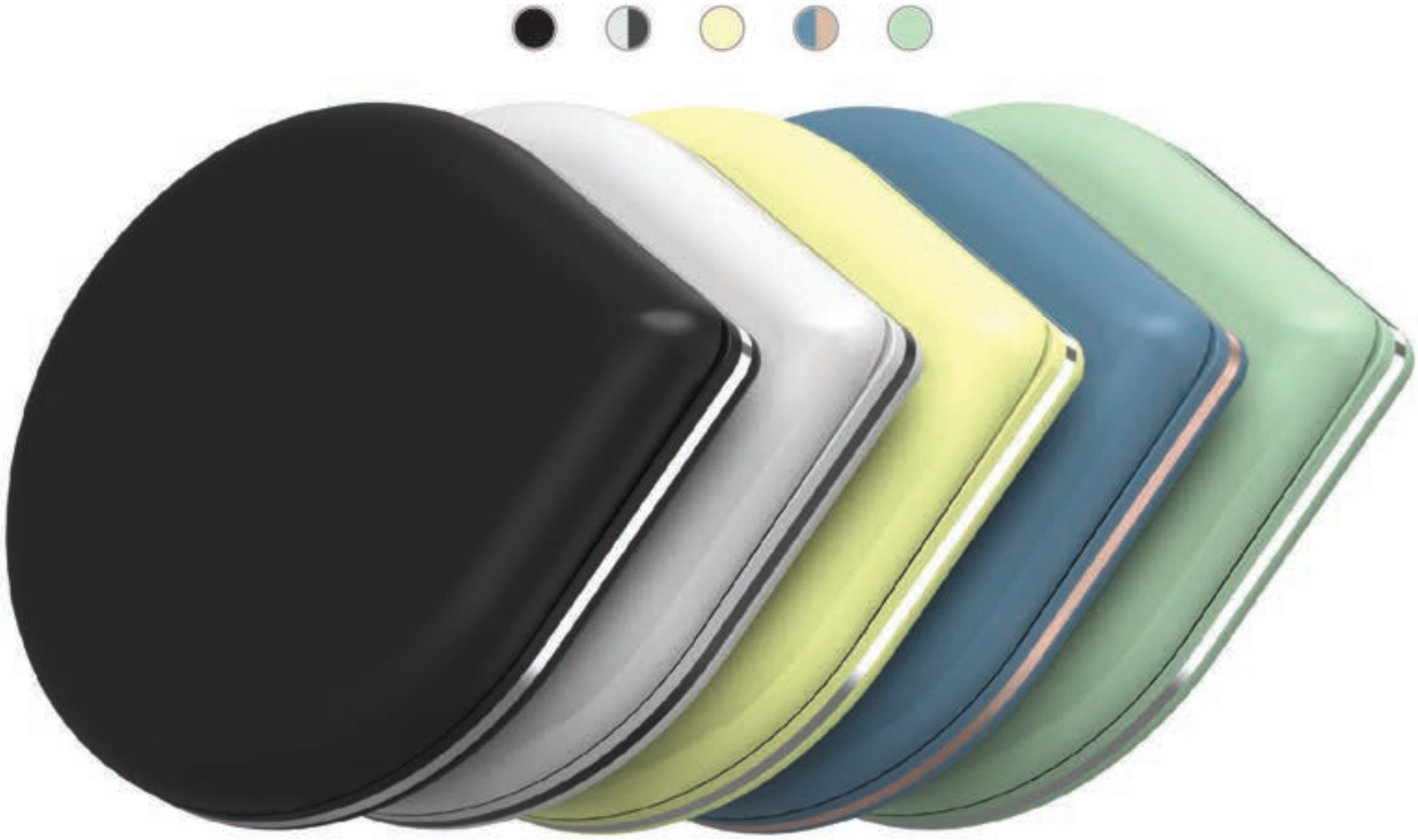
Though similar to the previous design, this scale includes a pouring spout for more accurate pouring.

The addition of a sharp corner also allows the user easier access and visibility to the controls and on-board screen.

Photoshop Render

Final Concept:

Proportioned to fit and compliment other products in the Fellow coffee product line, the scale is the perfect companion piece for Fellow's Clara french press.



Fellow Colorways


Thank you!

polk HYDROSONIC BOTTLE BOOM

SUMMER 2021 ONE-WEEK DESIGN SPRINT

How might Polk BOOM, the sports expansion to the legendary Polk Audio, create a product to redefine the potential of this sub-brand? In addition to this, how can we bring Polk's signature water resistant, dirt proof, drop proof audio to a domain of sports not previously explored?

Making a Connection

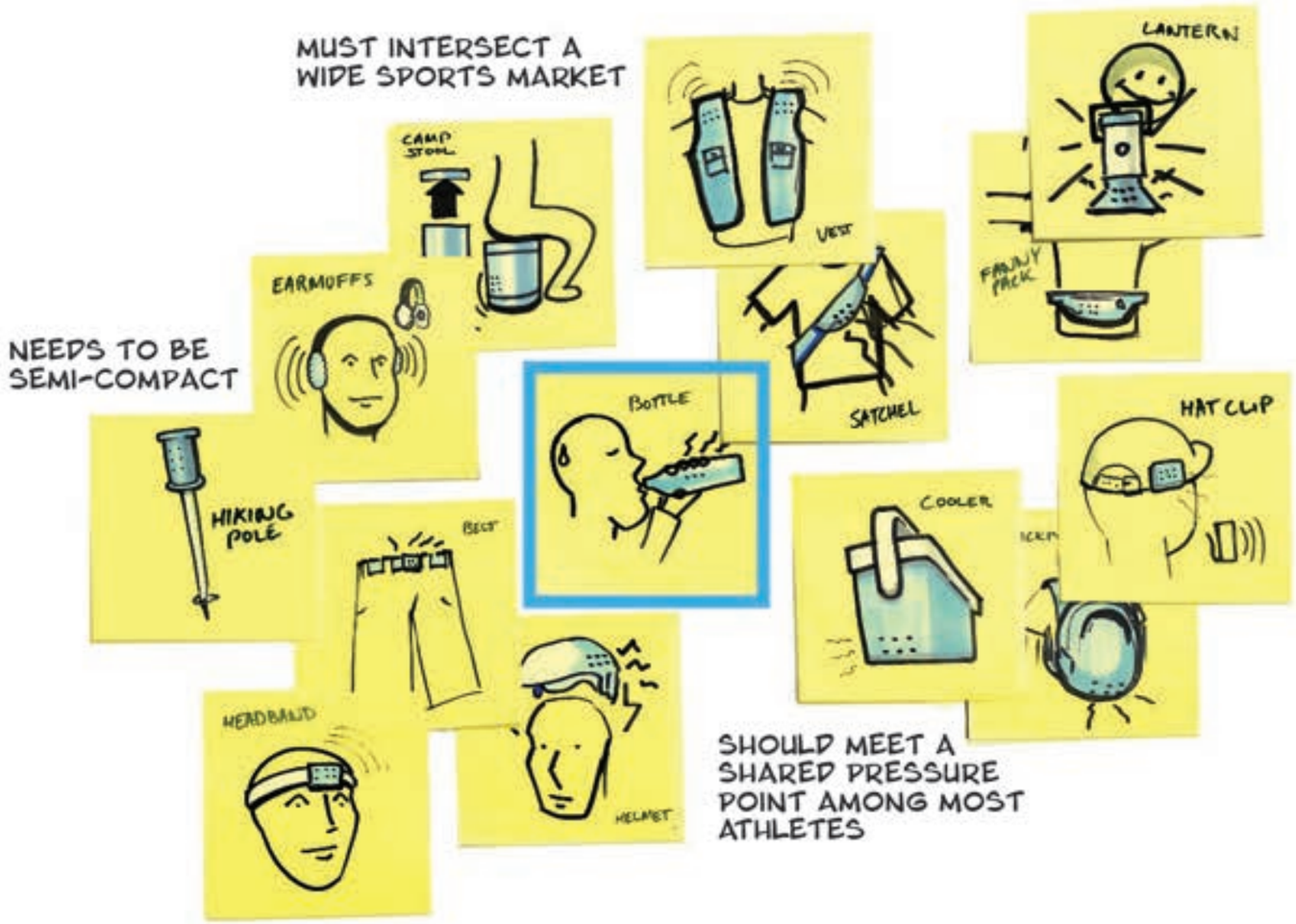
Polk BOOM operates as a branch of the audio brand that markets heavily to the outdoor sports market. The power of the previous two Polk speakers is in the connection gadget included, be it a shirt clip, a suction cup, or a bending tail.

What untapped potential exists to create a speaker with something new?

Identifying Universally-Shared Gear

A hybrid product would expand the use cases of the product, depending on what function the speaker is paired with. Outdoor sports employ a wide range of equipment.

What product pairing would have the largest reach for a new Polk BOOM speaker?

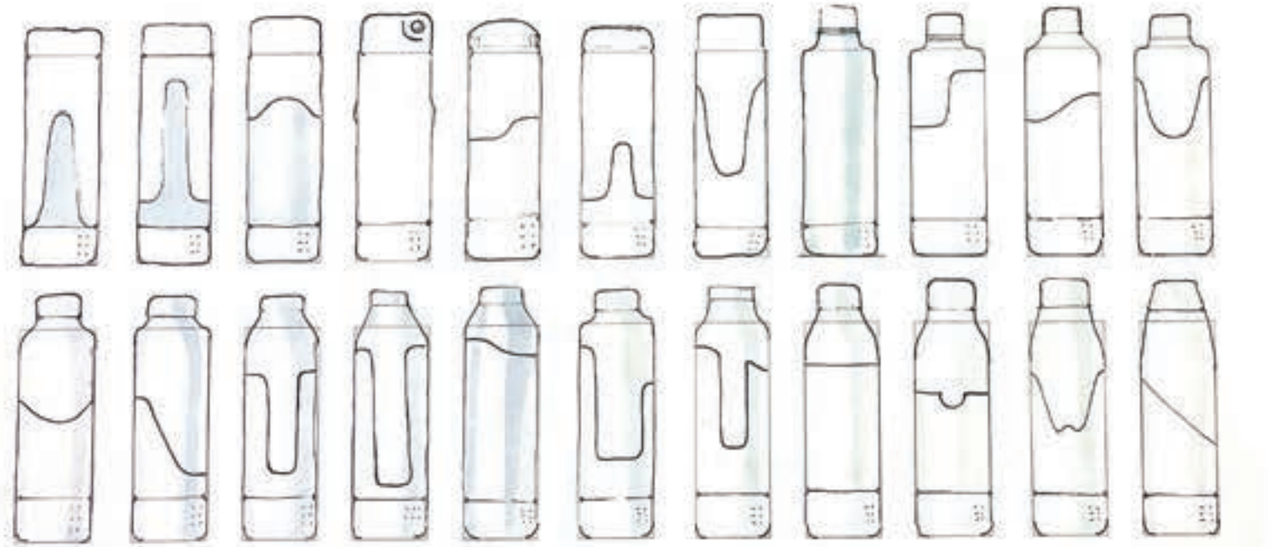


Hydration remains essential to all sports, a water bottle would be the perfect intersection of any athletic market.

How might we incorporate Polk audio into a sports bottle while maintaining functionality in both?

After exploration, design requirements were narrowed down to these 3 elements:

WHAT KINDS OF PROPORTIONS AND PATTERNS ARE MOST APPEALING VISUALLY AND EMULATE THE STYLING OF THE EXISTING PRODUCTS UNDER THIS BRAND?



THE DRAFT ON THE BOTTLENECK SHOULD BE SIMILAR TO THE FORM LANGUAGE USED IN OTHER POLK BOOM PRODUCTS

The Polk BOOM Hydrosonic Speaker is a water bottle/speaker hybrid that combines powerful Polk audio and cold refreshing water to help you complete any outdoor sporting outing event with your soundtrack of choice.

Cap

Stainless steel

Bottle

A glossy hard plastic upper half and a soft plastic rubber lower half, for added grip.

Speaker

Soft rubber speaker, same as the shock-proof material used in other Polk BOOM portable audio products.

Photoshop Render

The cap incorporates the dot matrix from the Polk BOOM speaker mesh for added grip/texture.

20 oz insulated water bottle to keep water cold, with a rubber grip to keep hydration in your hands

A 2.5" Bluetooth speaker that brings the same water, dirt, and shock-proof tech that Polk BOOM is known for.

Polk BOOM Hydrosonic

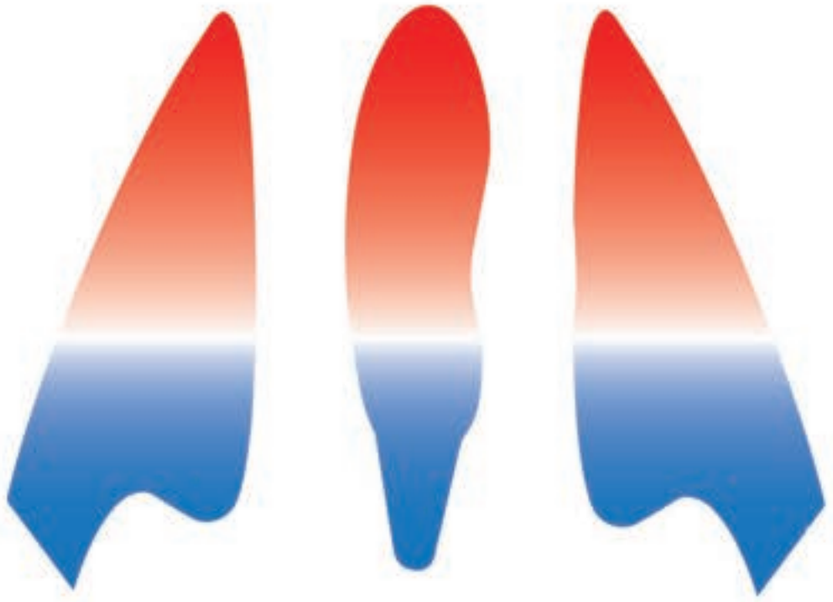
The Speaker

With a snap release, the removed speaker exposes a magnet that allows the user to attach their playlist to any metallic space

Clasps for a secure connection

Polk speakers blend into the signature BOOM hole matrix

THANK YOU



LUGE 22

Updated Performance Footwear
for the 2022 Beijing Winter
Olympic Games

Sponsored Studio in association with
USA Luge and White Castle

What are Luge Boots?

Luge rider footwear, known as "luge boots," are vinyl booties that the rider wears, and play a huge role in how fast the rider moves.

What is Luge?

Luge is a winter olympic racing sport, where the rider uses their own body weight to steer and accelerate a one/two man-sled. Luge racers compete alone on a track against a timer

It is one of the most precisely timed olympic sports, where races can be determined sometimes by a **one one-thousandth of a second.**

2018 Luge Medalist Times

Men's Singles:

🥇	David Gleirscher	Austria	3:10.702
🥈	Chris Mazdzer	USA	3:10.728
🥉	Johannes Ludwig	Germany	3:10.932

Women's Singles:

🥇	Natalie G.berger	Germany	3:05.232
🥈	Dajana Eitberger	Germany	3:05.599
🥉	Alex Gough	Canada	3:05.644

Proper Angling

Luge boots act like the nosecone on a plane, being the first object to make contact with and break the air in front of the rider. The angle and position of the rider's feet can have an enormous impact on their performance, and maintaining proper positioning is key.

Toes are too high, creating underdraft, and thus lift from the track.

Toes are just right, creating even draft and ideal track contact.

Toes are too low, creating overdraft, and thus pressure with the track.

Pressure Points
TOP

Zipper Placement

Due to the exposure this portion of the boot has to the wind, the zipper's placement along the bridge of the foot causes the pores in the zipper fabric and teeth to trap air in it's gaps, creating drag.

Materials with the most air exposure should have the least porous materiality.

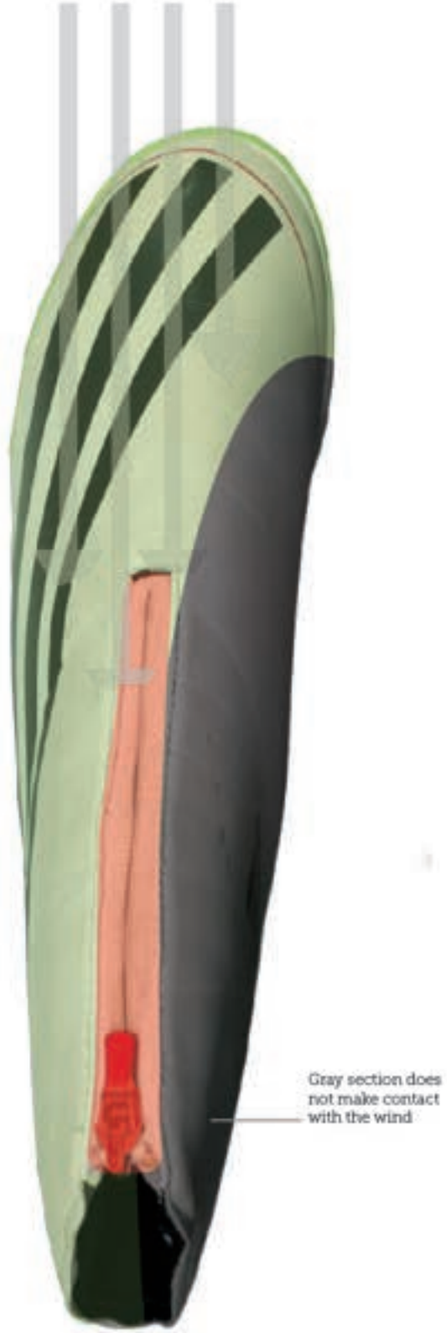
No-Contact Zone

Marked on the right in gray, the medial side of the boot does not make contact with the wind, making an ideal place for implementing mechanical elements.

MATERIAL AERODYNAMICS - LEGEND

MORE POROUS
LESS AERODYNAMIC

LESS POROUS
MORE AERODYNAMIC



Pressure Points
BOTTOM

Tooling Shape

The tooling on the boot has relatively sharp corners where air cannot seamlessly flow around the boot. Like a dull knife blade, the boot cannot make a clean cut through the air with this shape.

AIR TURBULENCE - LEGEND

MORE TURBULENT
LESS AERODYNAMIC

LESS TURBULENT
MORE AERODYNAMIC

Pressure Points
LATERAL SIDE (Outside)

More wind-contact side

The lateral side of the boot will be angled towards the wind, making it crucial that the surfacing and materials on this side are relatively seamless and aerodynamic.

Durability Issues

The outside of the boot undergoes the most damage during practice runs before competitions. Riders will typically purchase and use brand new boots specifically for competition. This is costly for the manufacturer who is making these items as a specialty product.

Pressure Points
MEDIAL SIDE (Inside)

Less wind-contact side

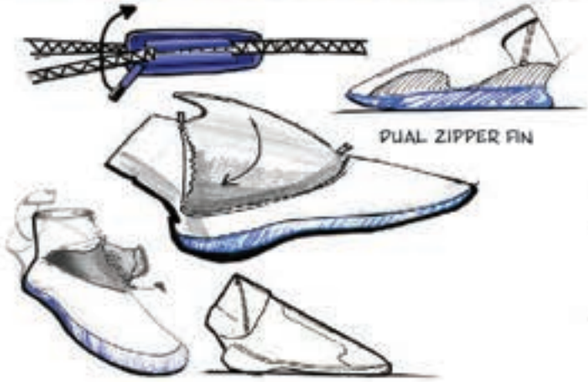
Due to the position of the rider's feet, this side of the boot has the least contact with the wind, making it an ideal place for any necessary material/form breaks.

Unnecessary Arch

The foot arch in a piece of footwear is intended to assist in walking. If a softer arch shape with walking being less prioritized, a more aerodynamic shape could be applied to the same spot.

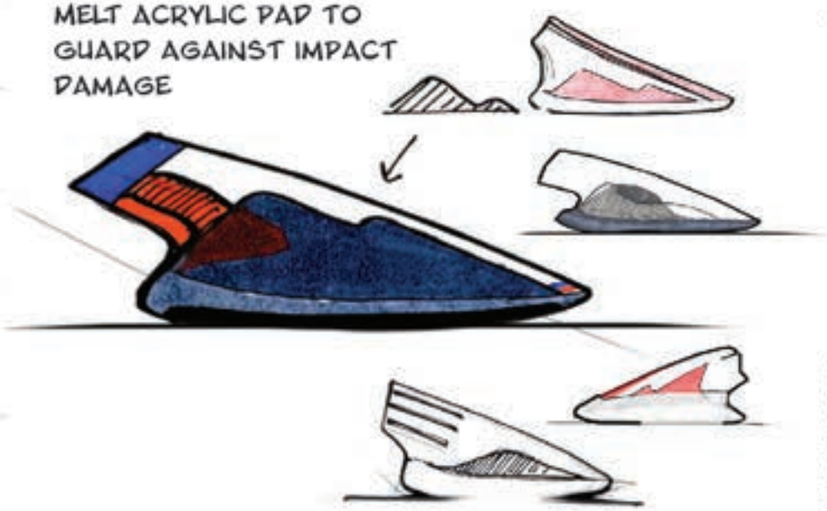
Function Ideation

WHERE WILL THE ZIPPER CREATE THE LEAST AMOUNT OF DRAG?

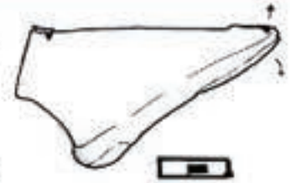


DUAL ZIPPER FIN

INCORPORATING A HOT MELT ACRYLIC PAD TO GUARD AGAINST IMPACT DAMAGE



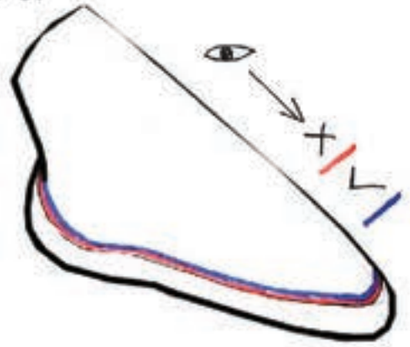
INCLUDING A GRAPHIC DETAIL TO SIGNAL TO THE RIDER THEIR FOOT POSITIONING



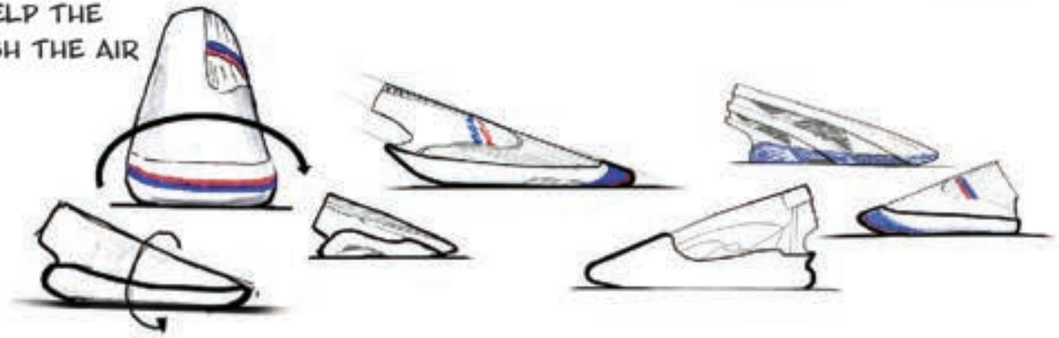
TOO HIGH

TOO LOW

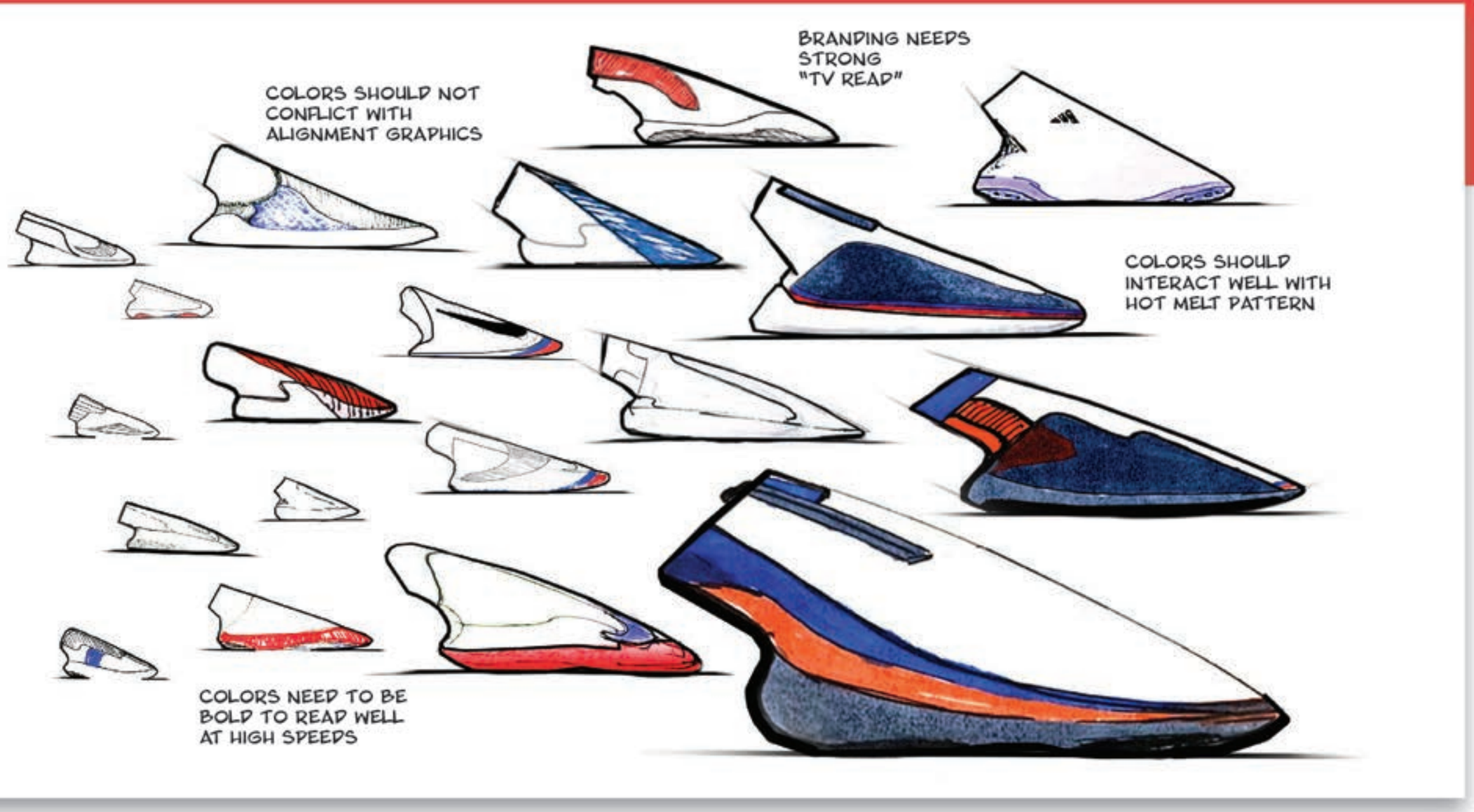
SIMILAR TO THE SIGHTS ON A GUN, THE VIEWER WOULD FOCUS ON LINING UP 2 SETS OF MARKERS



WHAT FORM WILL HELP THE BOOT CUT THROUGH THE AIR EFFICIENTLY?

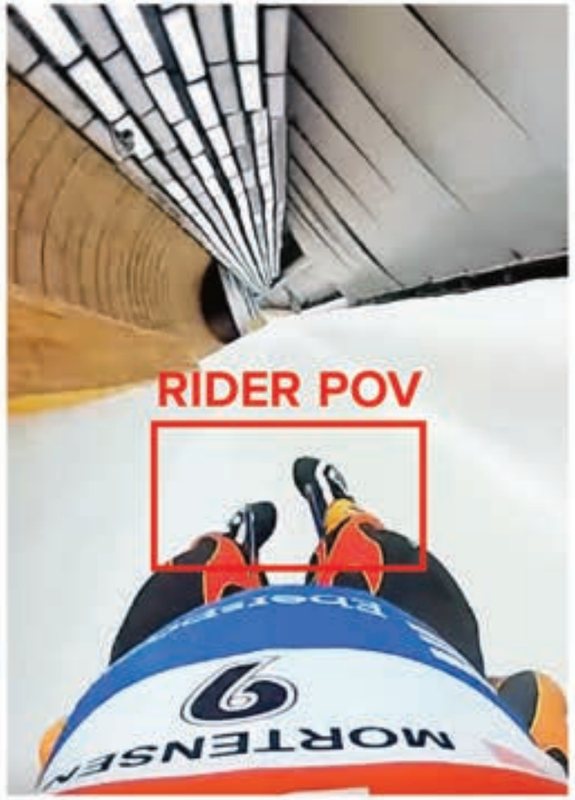


USA Livery Ideation



Anglometer Graphic Detail

A graphic line detail could be added along the material break at the edge of the tooling to allow the rider a visual indicator of what angle their foot is at relative to the ideal foot position crucial to aerodynamic riding posture.



TOO HIGH

The User can see the black tooling, which indicates they have their feet pulled too far back. Creates too much lift, slowing the slider down.

PERFECT

The User can see the full red line and some/none of the black tooling, indicating proper angling.

TOO LOW

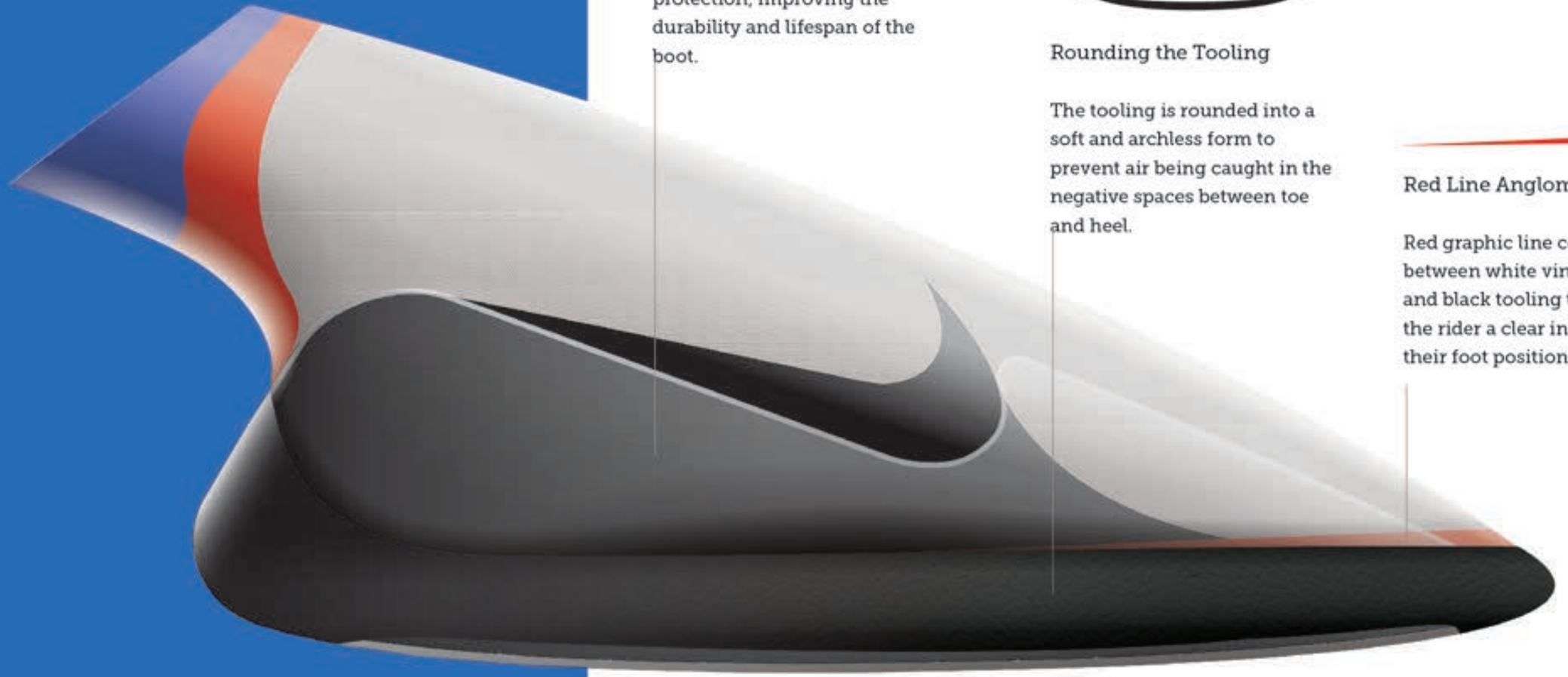
The User cannot see the full red line. Creates too much draft on top of boot creating downward pressure against the sled.

Final Design

Luge 22 is designed with form, material and fit in mind to offer sliders the best performance a foot can have.

Lateral Side Details

Since the lateral side makes more contact with the air, it has no significant surface changes



Defending the Lateral

A hot-melt TPU shield on the lateral side provides additional protection, improving the durability and lifespan of the boot.

Rounding the Tooling

The tooling is rounded into a soft and archless form to prevent air being caught in the negative spaces between toe and heel.

Red Line Anglometer

Red graphic line contrasts between white vinyl upper and black tooling to offer the rider a clear indicator of their foot position.

Medial Side Details

Form changes and details can exist on the medial side since it makes almost no contact with the wind.

Repositioning the Zipper

To reduce the drag on the top/lateral sides, a reversible is relocated to the medial side. Still serving the same function, but creating less drag and surface change.

Minimal Bridge

On the medial side only, a soft bridge is added to the arch to allow for comfortable but unprioritized walking.

Bottom/Sole Details

Form changes and details can exist on the medial side since it makes almost no contact with the wind.

"The Canoe"

Inspired by the NIKE Vaporfly running shoes, with their tapered heel tooling, the heel forms a fin in the back that helps to direct air around the sides of the shoe and lessens turbulence in the back.

Outward Bow

The tooling is lightly curved on the lateral side, transferring air flow around the boot without any negative space to get trapped in.

THANK YOU

BRENNAN EAGLE

Product Designer

CONTACT INFO

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WORK EXPERIENCE

Kohler Co.

Industrial Design Intern (Summer 2019)

Worked as an intern for Kohler KBA, Shower and Bath division, developed concepts for expanding and incorporating Kohler's sustainability lab into their shower products, as well as packaging solutions to reduce waste

360 Fly

Industrial Design Intern (Winter 2019)

Internship with 360 Fly, an 360 action-camera start-up. Developed camera mounts for school buses and police vests, prior to the company's untimely closure that year.

USA Luge Sponsored Studio

Student, Sponsored Designer (2019-2020)

Designed boots for the USA Winter Olympic Luge Team, focusing on the boot's form to improve speed and aerodynamics. Was selected with 3 other designers to present to the Sport Program Director in New York.

Xenith Sponsored Studio

Student, Sponsored Designer (Winter 2018)

Developed concepts for Xenith, a football equipment company. Collaborated with Xenith designers to create concepts to expand the brand into the baseball equipment market.

EDUCATION

College for Creative Studies

Bachelors Degree in Fine Arts (Class of 2020)

Majored in Industrial Design (Product)
Minored in Communication Design (Graphic)

Offsite, Advanced Design

Supplementary Program (Summer 2021)

SKILLS

General

Sketching, Product Design, Graphic Design, Video Editing, Wood/Metalworking

Software

Adobe Creative Suite, Solidworks, Rhino, CATIA, Blender, Keyshot, Microsoft Office