

2024

PORTFOLIO



INDUSTRIAL DESIGN
CAROLINE McCORD

01
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04



01.

ZENITH

a space age barstool

duration: **12 weeks**
individual project

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Make furniture that speaks.

Create a piece of furniture composed of at least 50% wood that pays attention to fine details and craftsmanship, while having a compelling narrative.

The Space Age

choosing a narrative

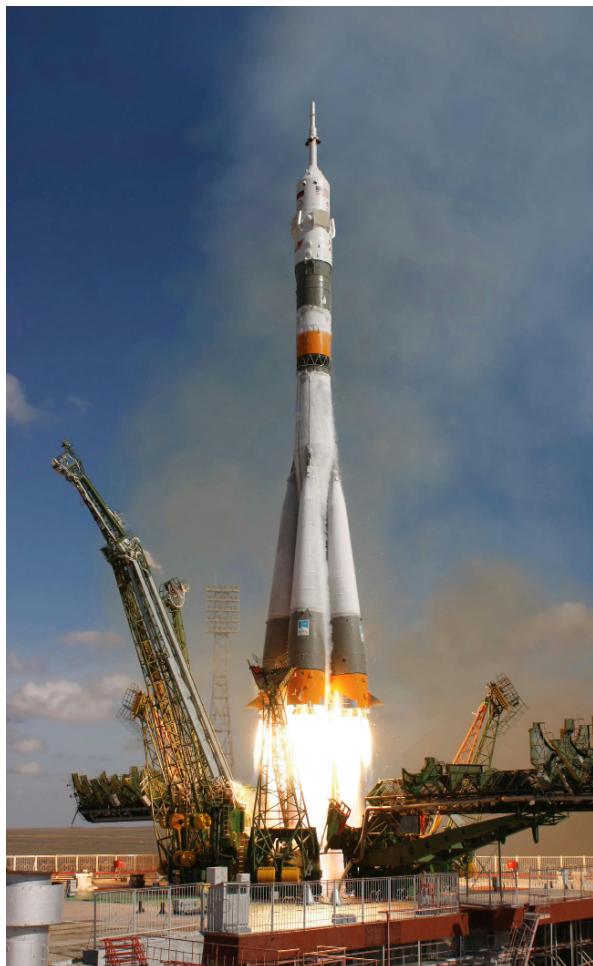
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The Space Age inspired furniture that embraced **sleek, aerodynamic forms**, featuring new materials like molded plastics, fiberglass, and metals. Key aspects of the style were bold colors, sweeping shapes, and a sense of weightlessness. One of my challenges is to **create similar gestures to plastic chairs in wood**.

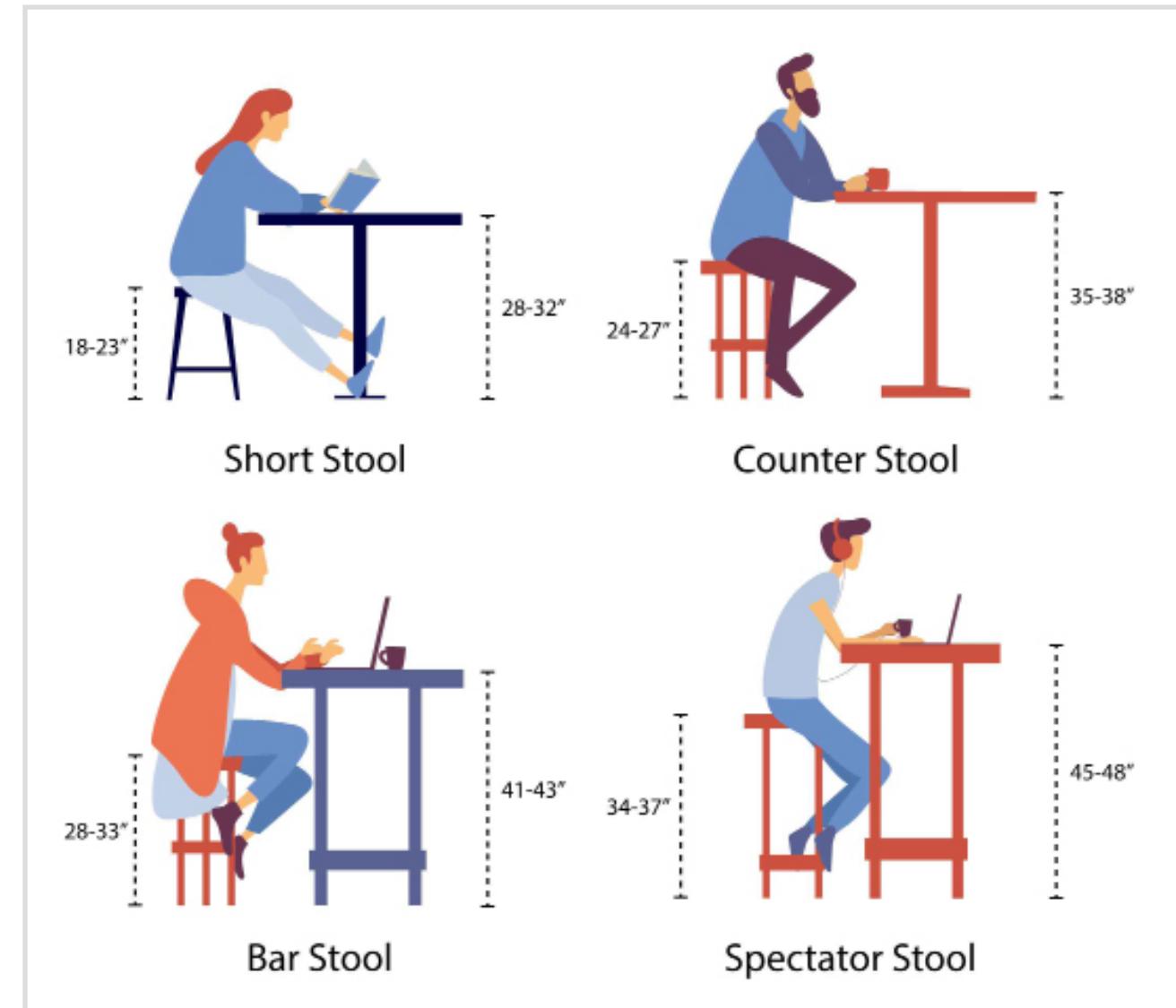


Creating a comfortable sitting experience.

ergonomic research

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I narrowed in on barstools because of their sitting posture. The **elevated stance** while sitting is reminiscent of a rocket taking off. Other ergonomic considerations were **footrests**, essential for reducing pressure on the legs, and **seat depth and width** to ensure a range of body types could sit comfortably.



Maintaining the inspiration in the design.

ideation

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Christine M 10/17/24



Christine M 9/16/24

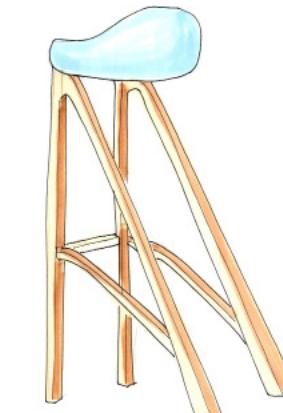


Christine M 9/17/24



Christine M 10/17/24

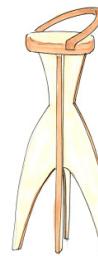
i like how the spreaders slightly mimic the angle of the back legs



Christine M 10/17/24



Christine M 9/16/24



Christine M 10/17/24



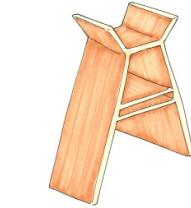
Christine M 9/16/24



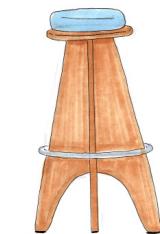
Christine M 9/16/24



Christine M 9/17/24



Christine M 9/17/24



Christine M 9/16/24

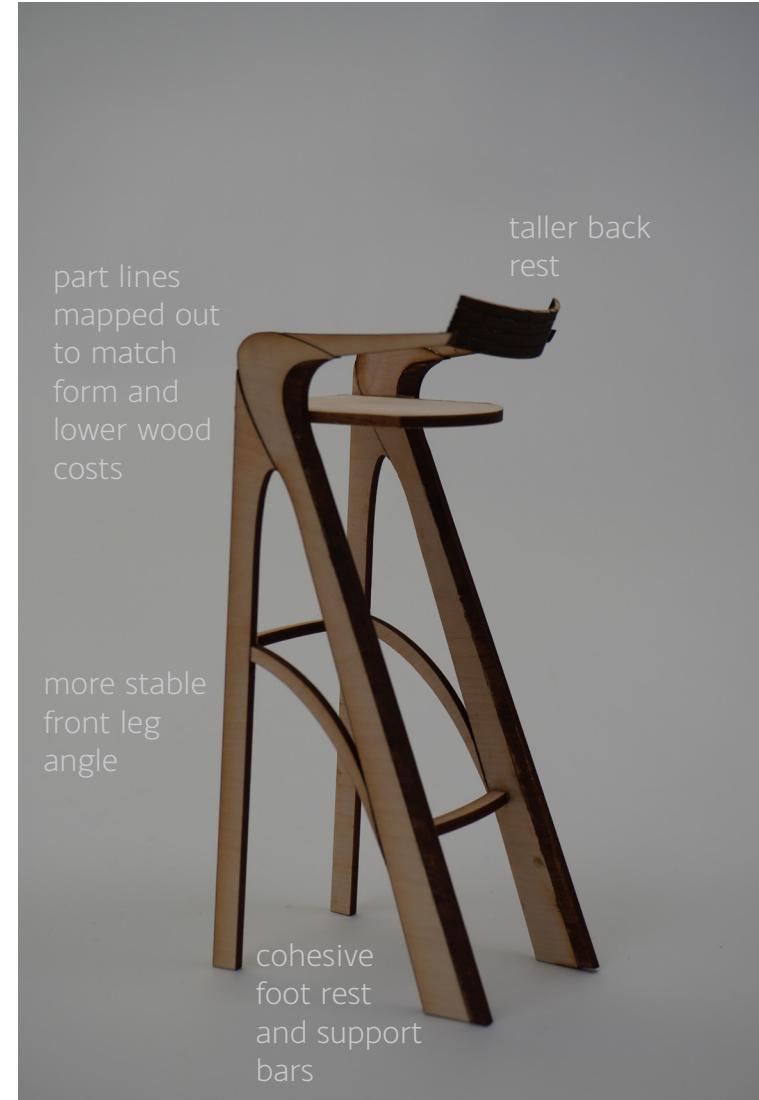
intrigued by the almost cantilevered seat

Christine M 10/17/24

Getting a sense of proportion.

1/6 scale modeling in bass wood

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The Space Age

joinery research

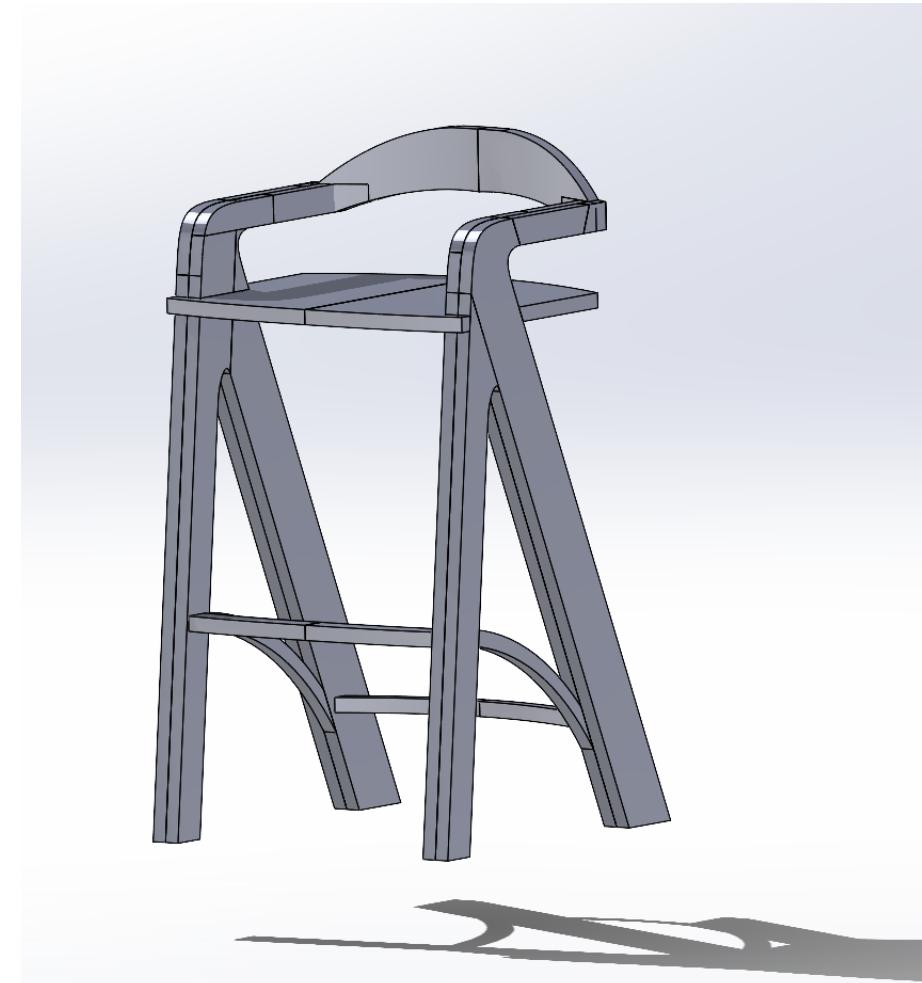
01

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I went into Solidworks to precisely model out the components for control drawings.

This was helpful because it showed assembly sequences, tolerances, and **how individual joints fit together.**

For this chair I use **lap joints** and **mortise and tenons**.



Real human testing!!

pre-final model

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From this model I learned that I needed to reduce the overall height, increase the distance between the seat and the footrest, and rework the joints for the backrest.



Construction

final model

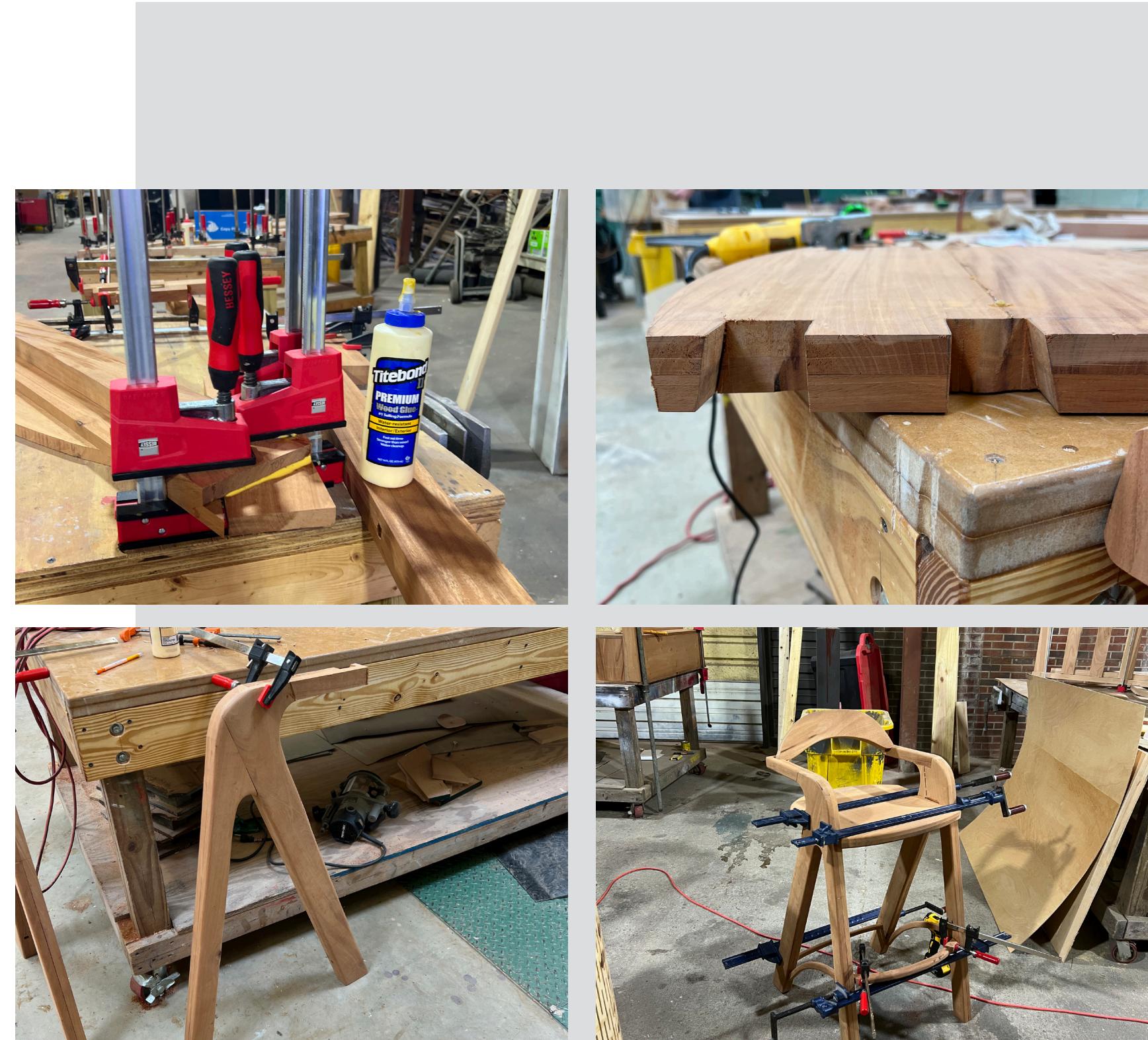
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I laminated most of my mahogany to make the lap joints, and I used an angled jigsaw to cut out the tenon for the seat. Overall, I was able to build this model in 9 days.



How I incorporated my inspiration

final model

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This barstool has sweeping side supports that guide the viewers eye upward towards the floating seat and backrest. The inside of the feet are routed to make it appear as if the stool is ready for liftoff.



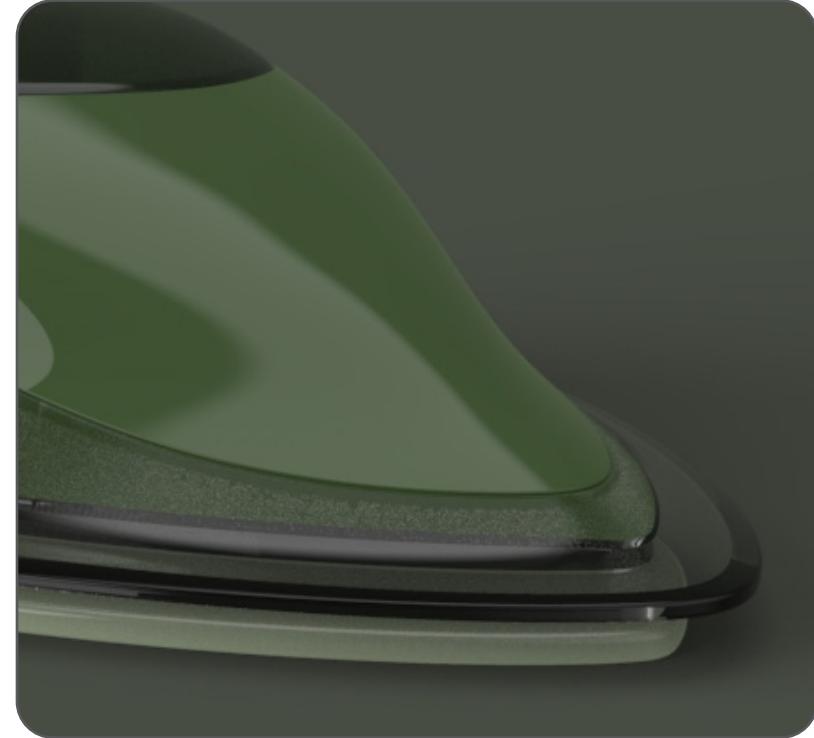
Zenith

a space age barstool

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02. WRIN

GIA Housewares Competition



duration: **10 weeks**
in collaboration with **Daniel Poss & Noah Swaim**

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Make household tasks **enjoyable.**

Identify products or tasks in peoples' homes that are considered to be undesirable, and find a solution that is meaningful and beautiful.

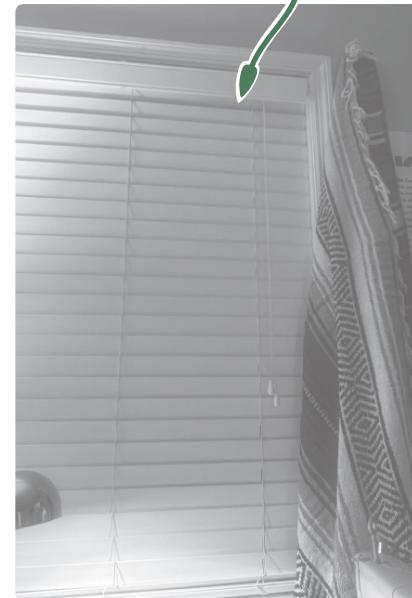
Finding what people dislike.

photo ethnography

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Roommates are unable to keep track of who's food belongs to who causing tension when snacks disappear.



Blinds and curtains allow for privacy but are unable to properly block out all light for light sleepers.



Dirty dishes pile up in sink causing smell and making the chore even more undesirable.



Pots and pans are thrown into cabinet in disarray.



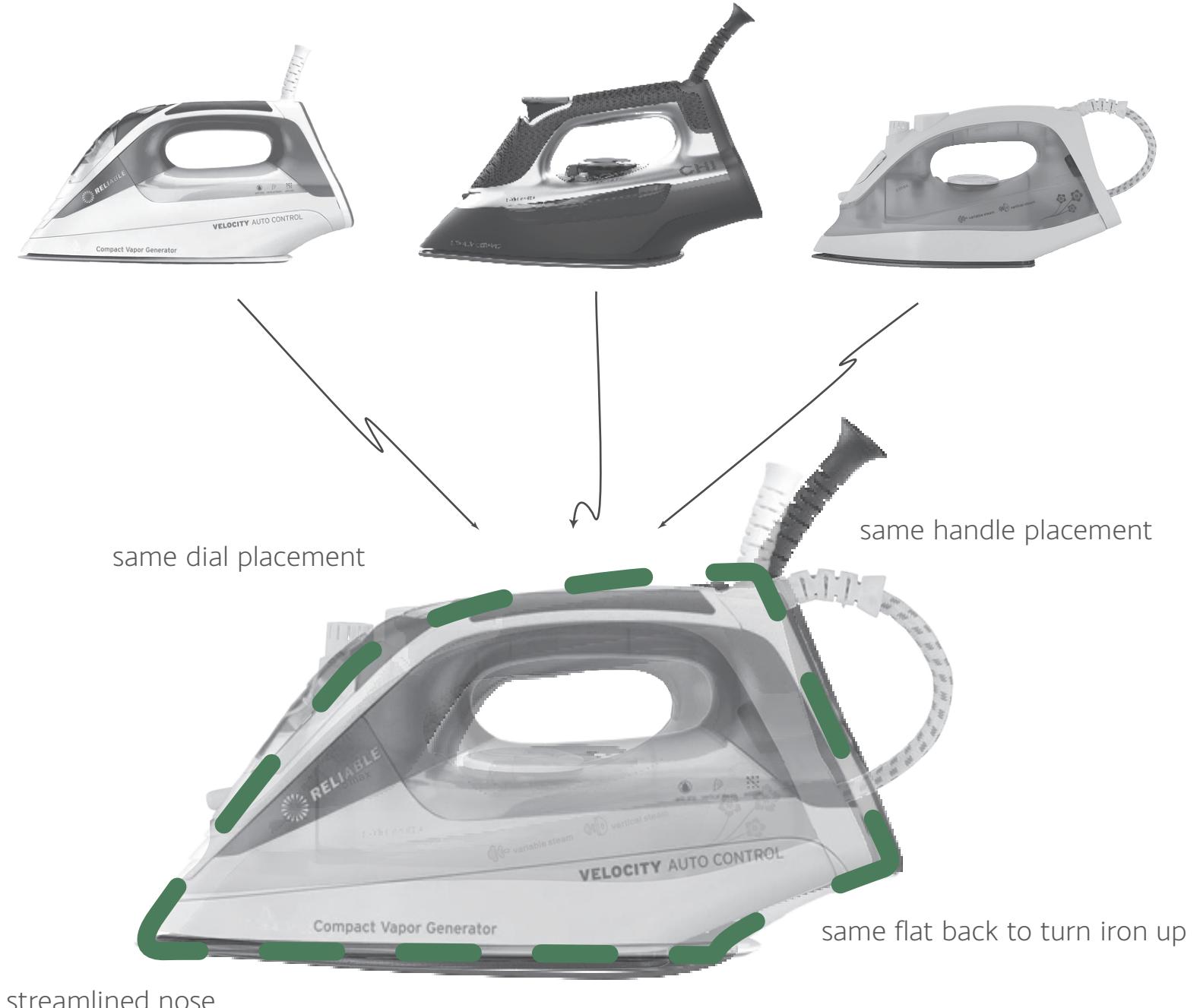
Iron face is fully exposed, could cause serious injury or house fire.

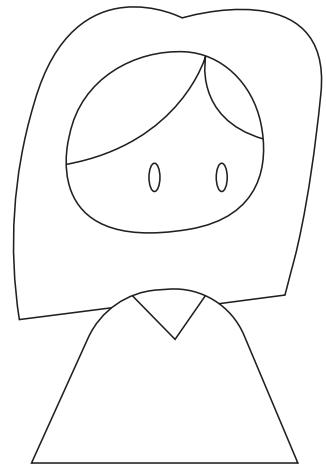
What's already out there?

market research

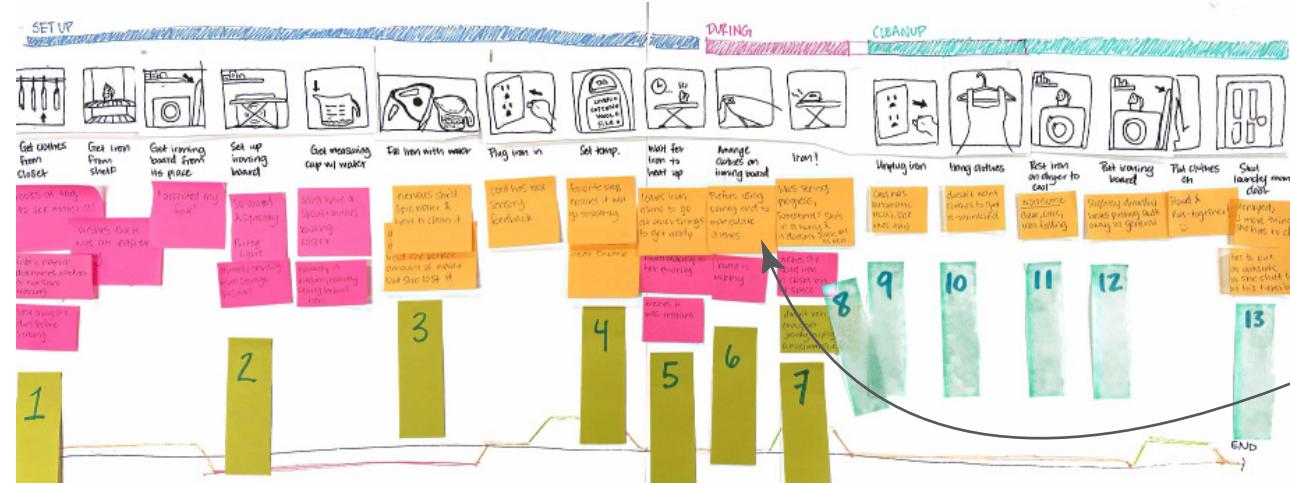
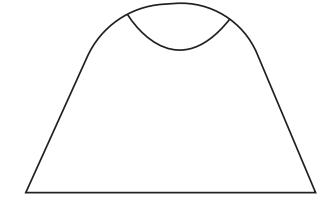
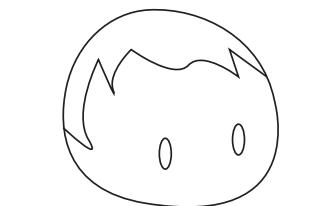
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While looking for products that currently exist we discovered that most irons have a **"spaceship-esc" silhouette**. There's not a lot of innovation currently but people still buy irons anyways. Aside from steaming options, irons **only require a thin nichrome coil and theromstat**, meaning we can make a less bulky product than what currently exists on the market.

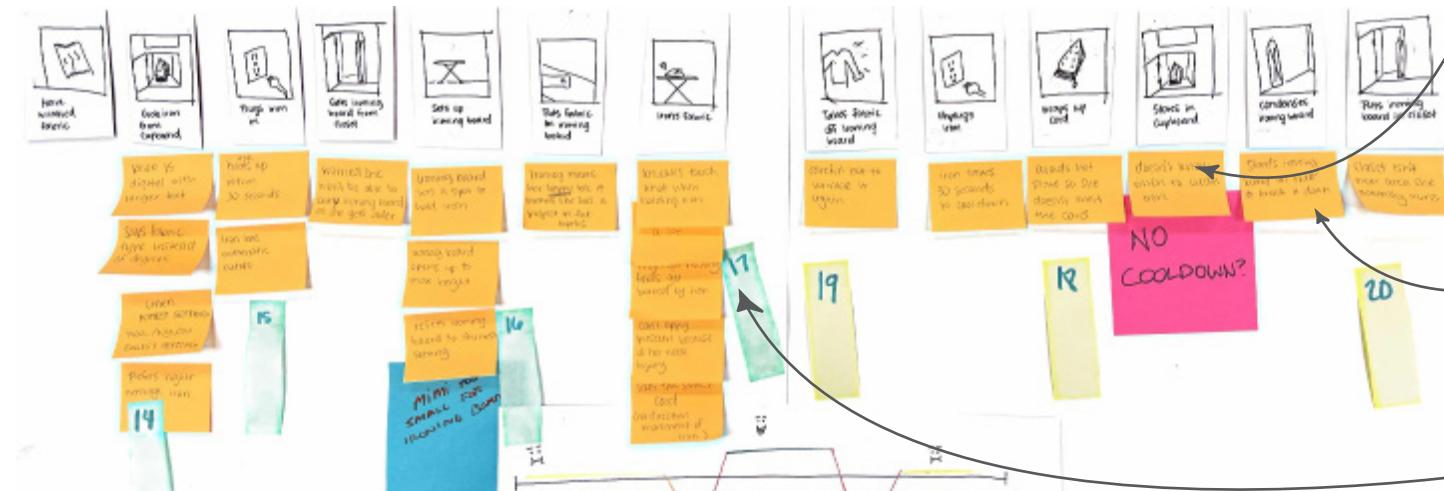




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People are leaving their irons unattended while they are still super hot!



The most dreaded part is putting away the ironing board after finishing a task

Can't tell when the iron needs to be cleaned

BIGGEST TAKEAWAY

"Actually getting wrinkles out of clothes is maybe 15% of the process, the longest parts are **set-up** and **clean-up**."

Product must-haves.

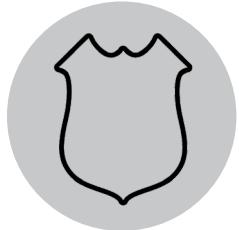
design criteria

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Efficient

speeding up the ironing process from start to finish.



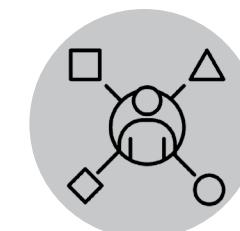
Protective

working around users' current behavior while keeping them safe.



Comprehensive

making ironing an easily understood and sensible event.



Diverse

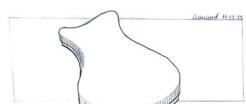
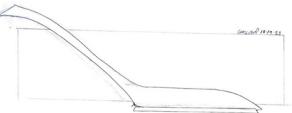
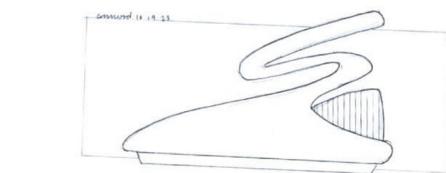
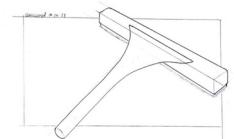
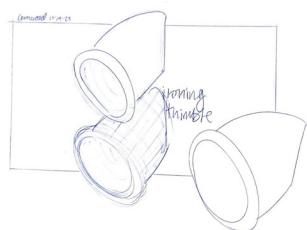
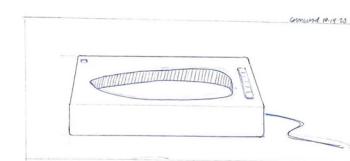
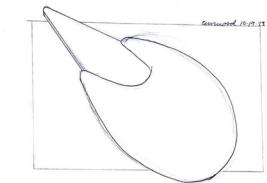
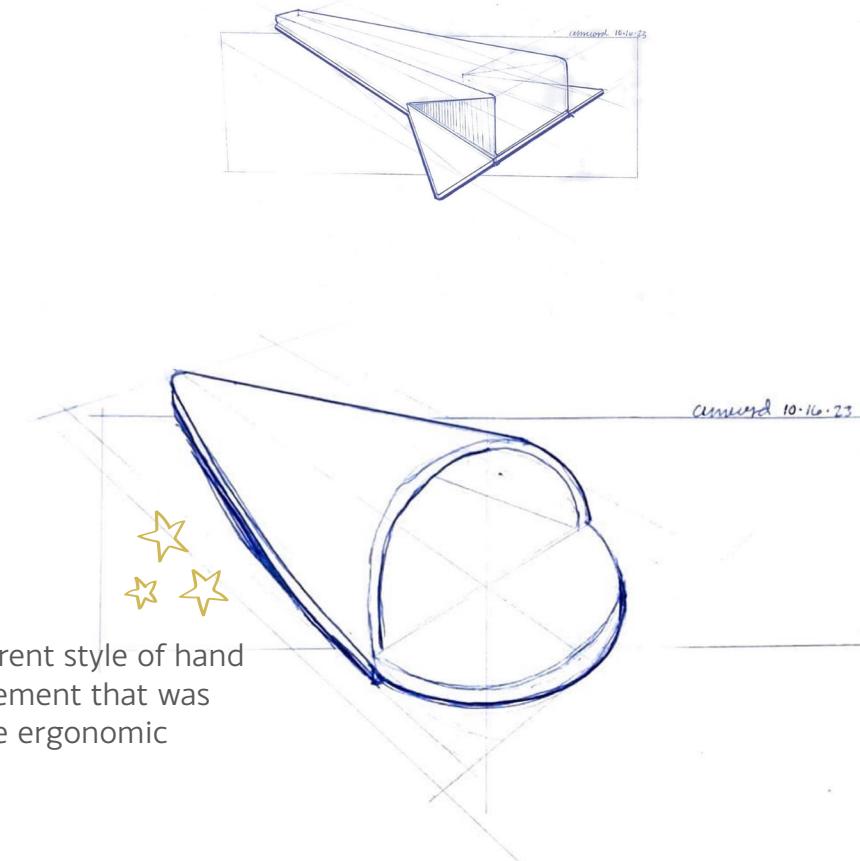
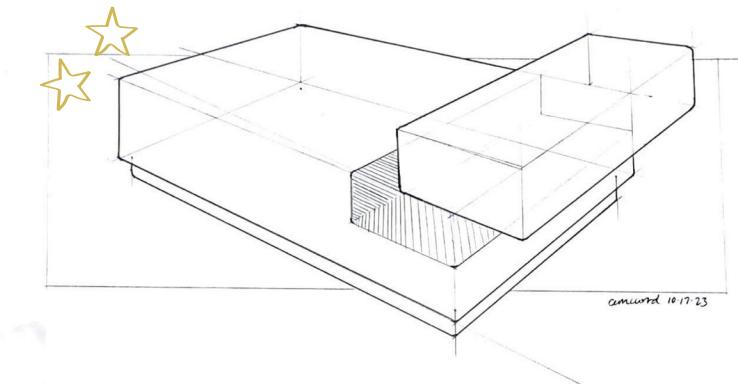
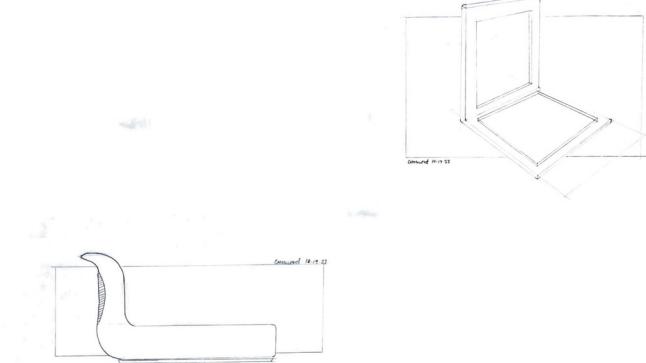
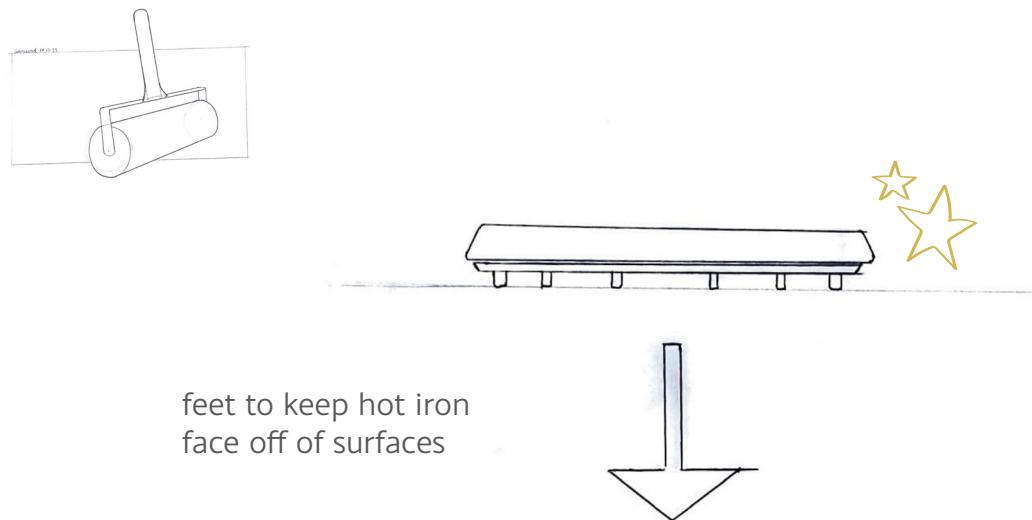
the ability to be used in different situations on a variety of materials.



Experiencial

how a user positively interacts with and experiences a product, system, or service.

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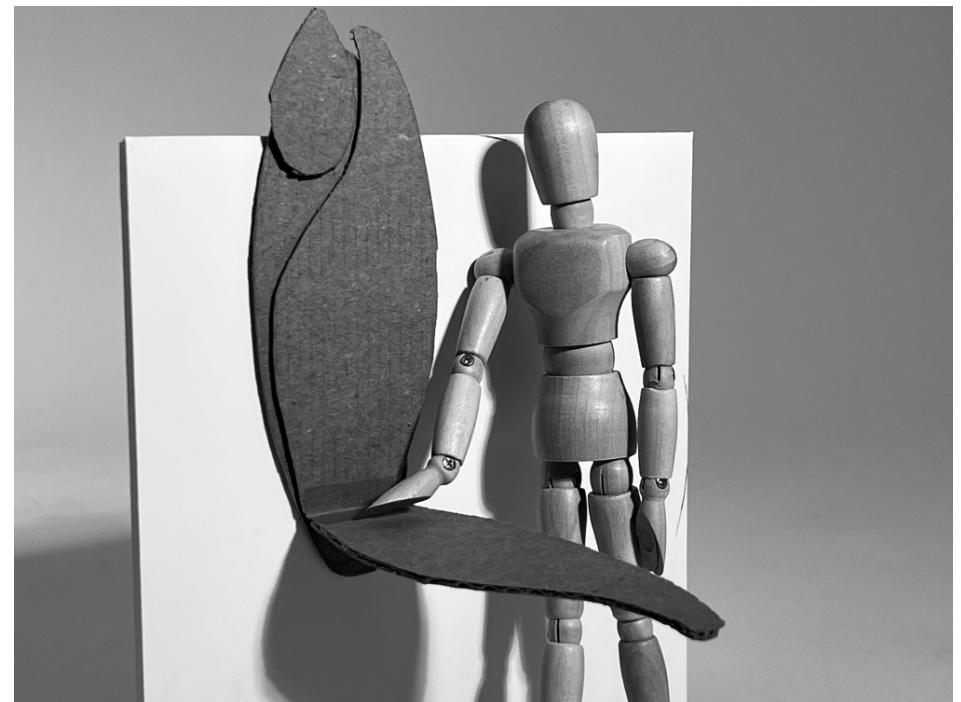
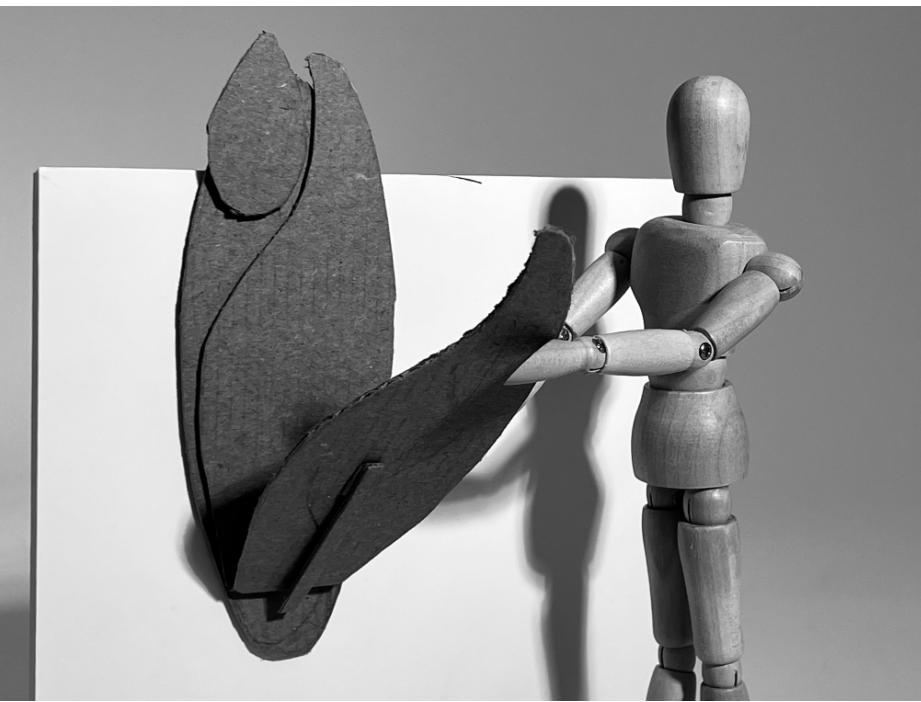
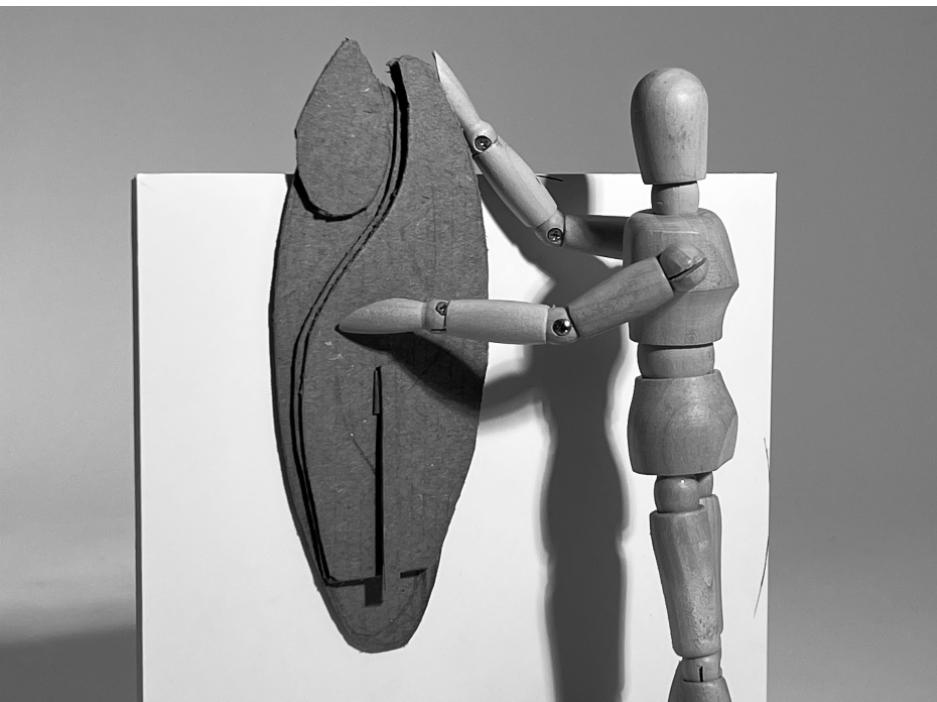


What about the board???

encountering a bump in the road

We were so zoned in on redesigning the iron that we under emphasized the importance of the ironing board. So we had to not only design an efficient board, but one that **fit cohesively with the iron.**

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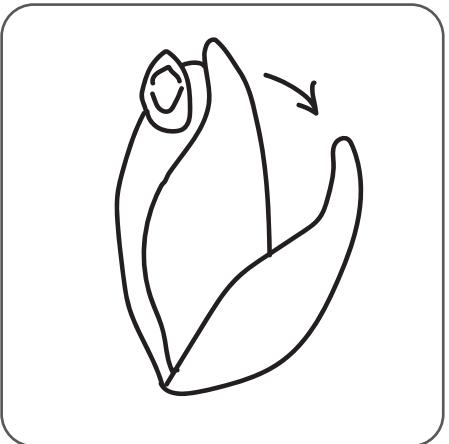


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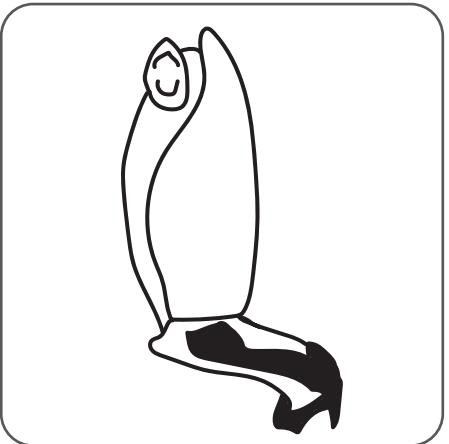


Meet Wrin.
iron away your worries

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1
Lower the ironing board.



2
Arrange fabric as desired.



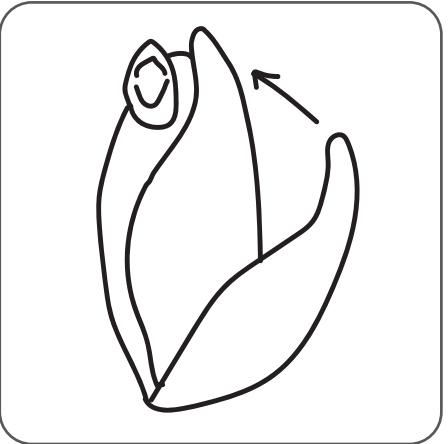
3
Grab your fully charged iron
from the dock.



4
Apply settings as needed and
start ironing.



5
Put the iron up.

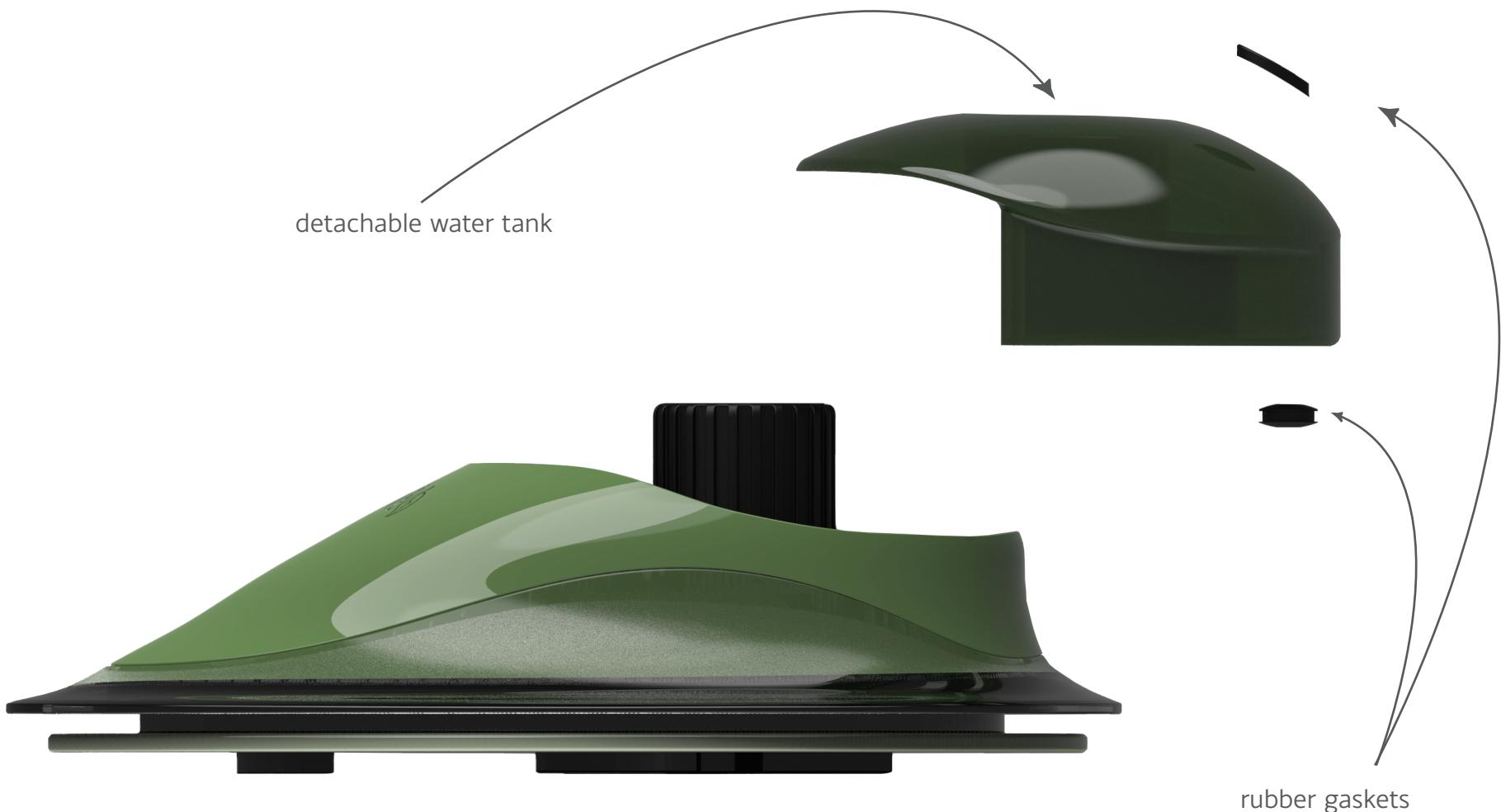


6
Lift the board back into its
upright position.

Preparing the Wrin.

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The detachable water tank makes this iron easy to maintain. There's a lower chance of internal electronics getting damaged and its easier to wash any residue out of the water tank.

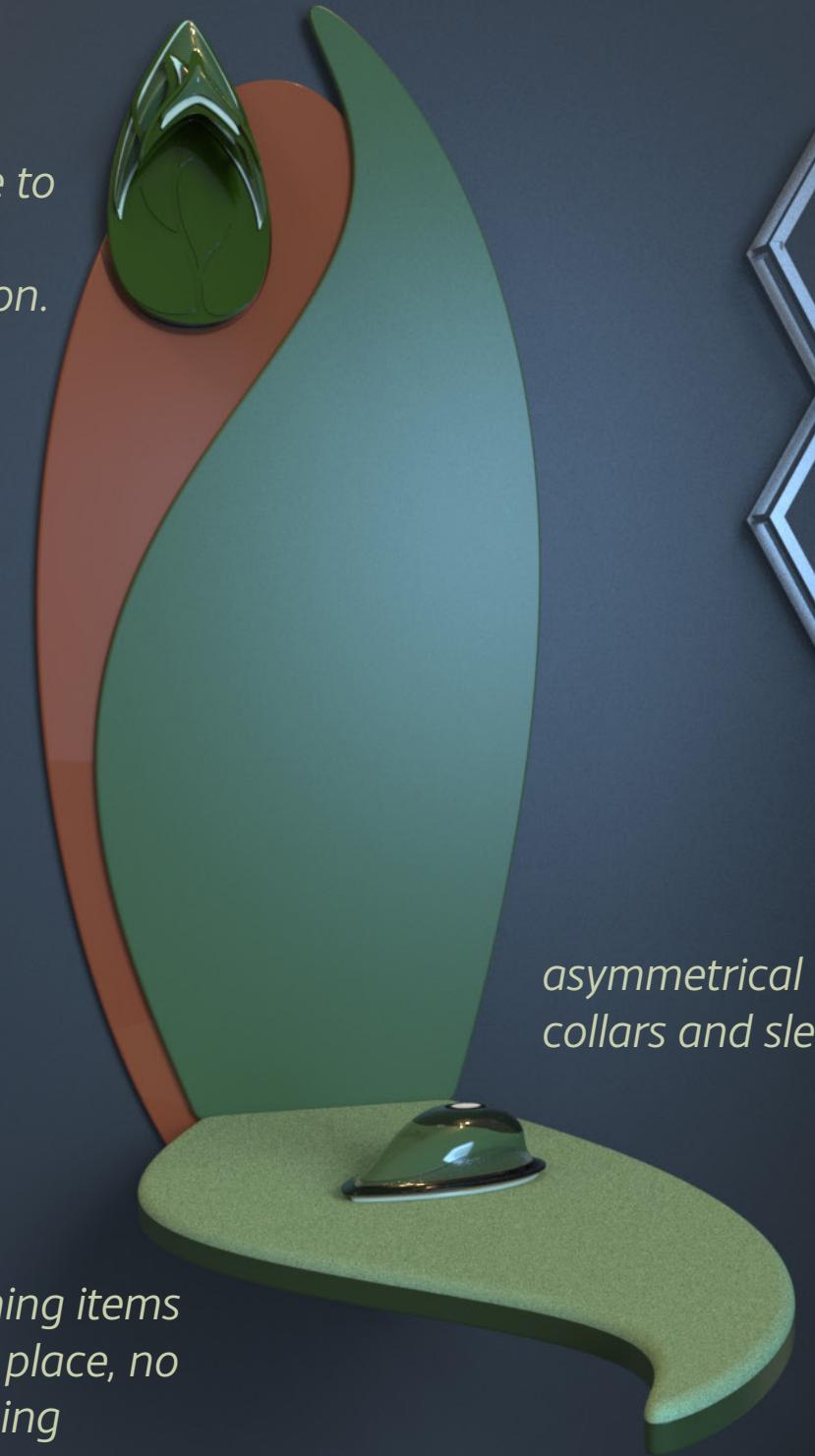


A cohesive system.



*you'll never have to
worry about
charging your iron.*

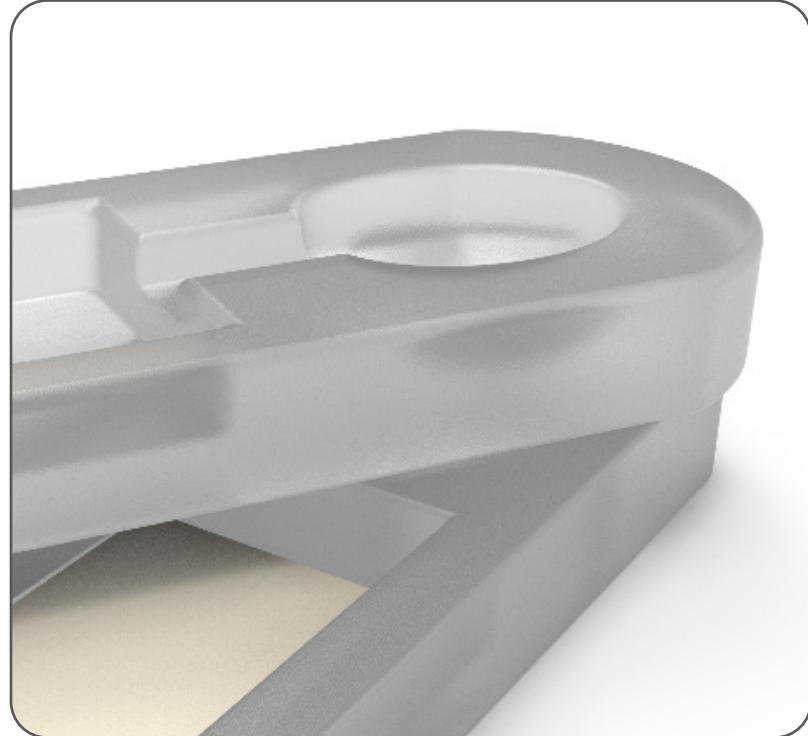
*all ironing items
in one place, no
searching
required.*



*asymmetrical neck fits
collars and sleeves easily*



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03. **CLEARSPOT**

drug test re-design

duration: **3 weeks**
individual project

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Fight drug overdose.

Design a solution to combat the effects of the Opioid Crisis
using empathic modeling methods.

What is the Opioid Crisis?

getting context

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107,543 people died of drug overdoses in 2023. About 75,000 of these deaths were caused by a synthetic opioid called **fentanyl**. The **lethal dose** of fentanyl is pictured in the figure on the right, next to the penny. Many recreational drug users are unknowingly buying drugs that have been **secretly cut** with fentanyl.

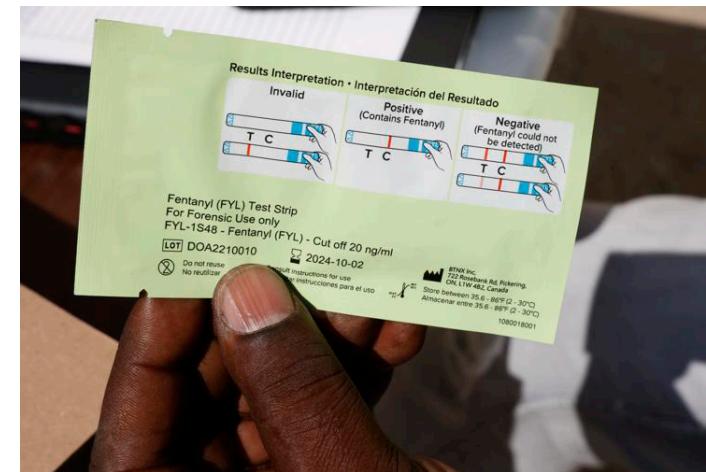


What can we work with?

market research + interviews

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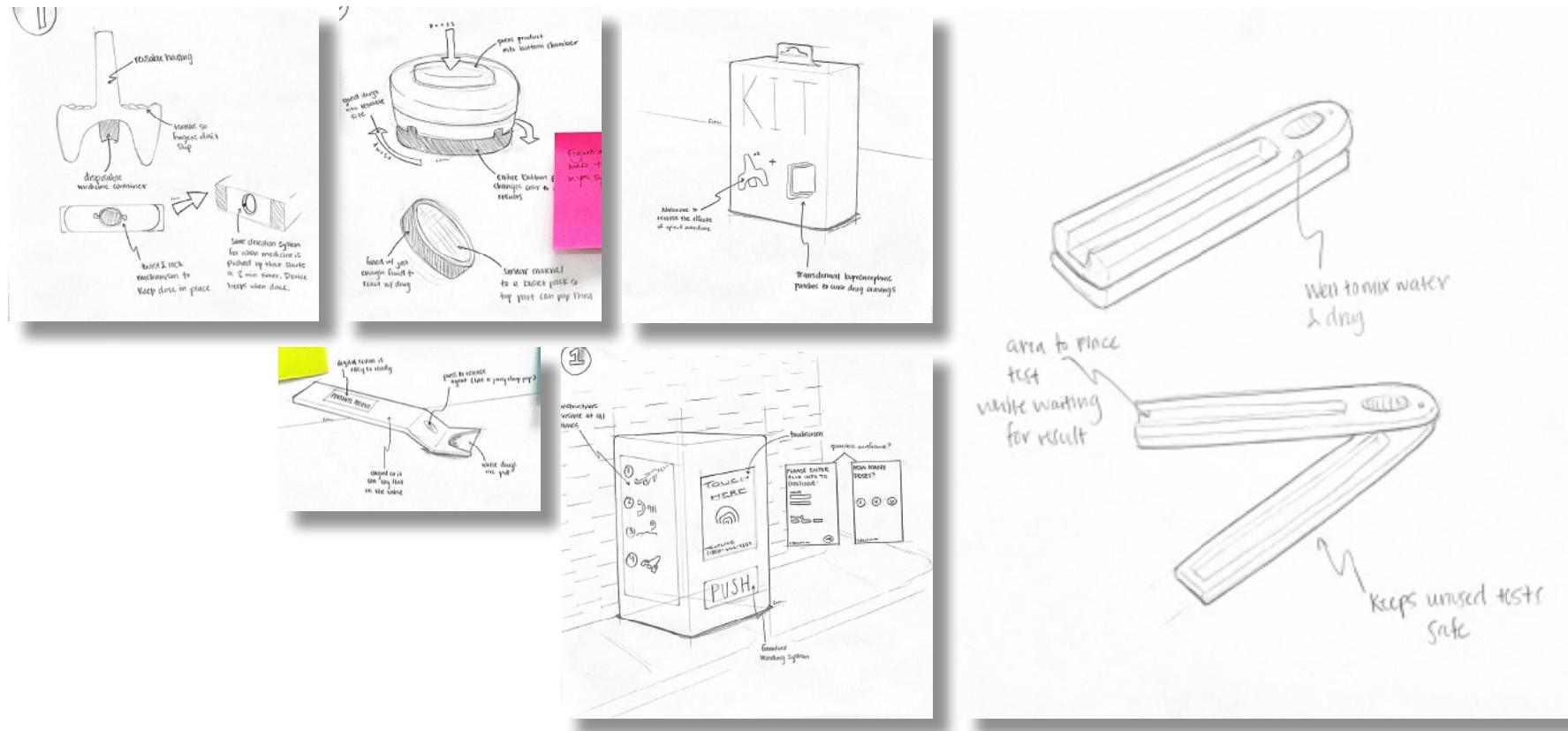
After analyzing different types of health tests I learned that current fentanyl test strips show **two lines if the opiate is NOT present**. This is directly opposite of typical pregnancy tests where two lines means someone IS pregnant.



Investigating pre-consumption solutions

ideation

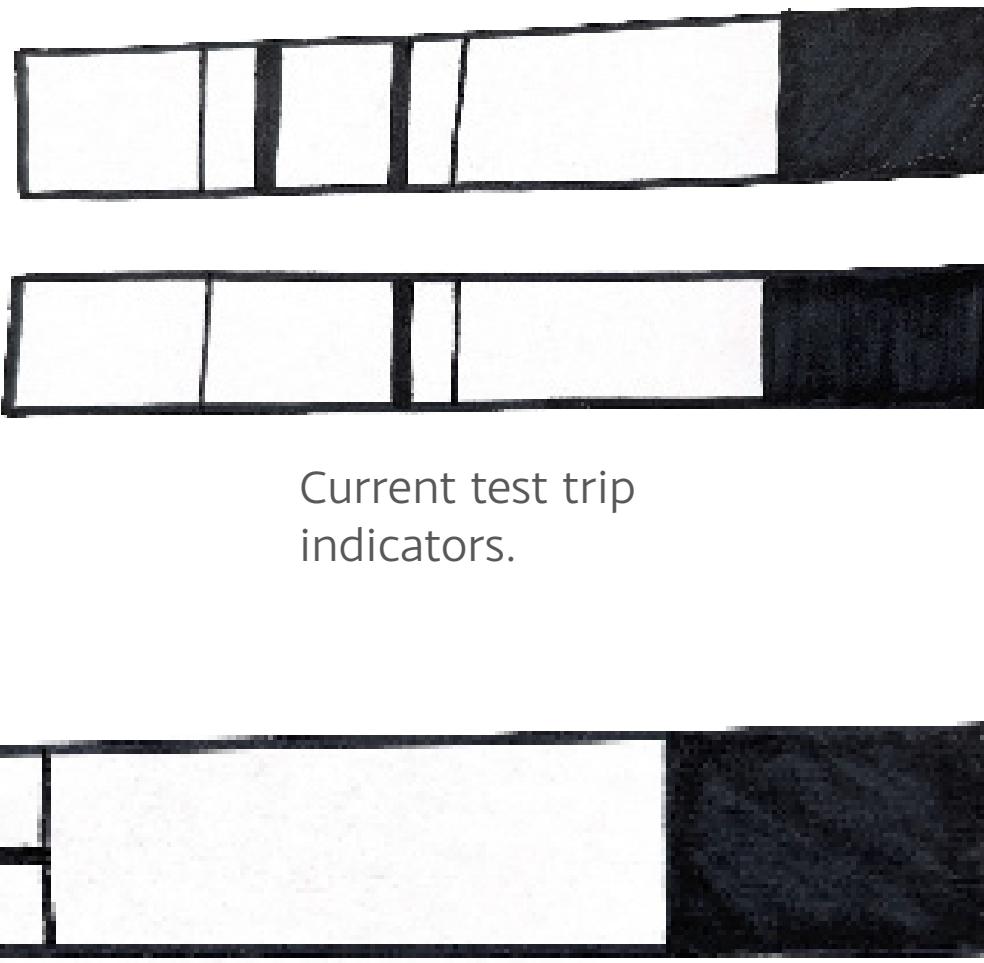
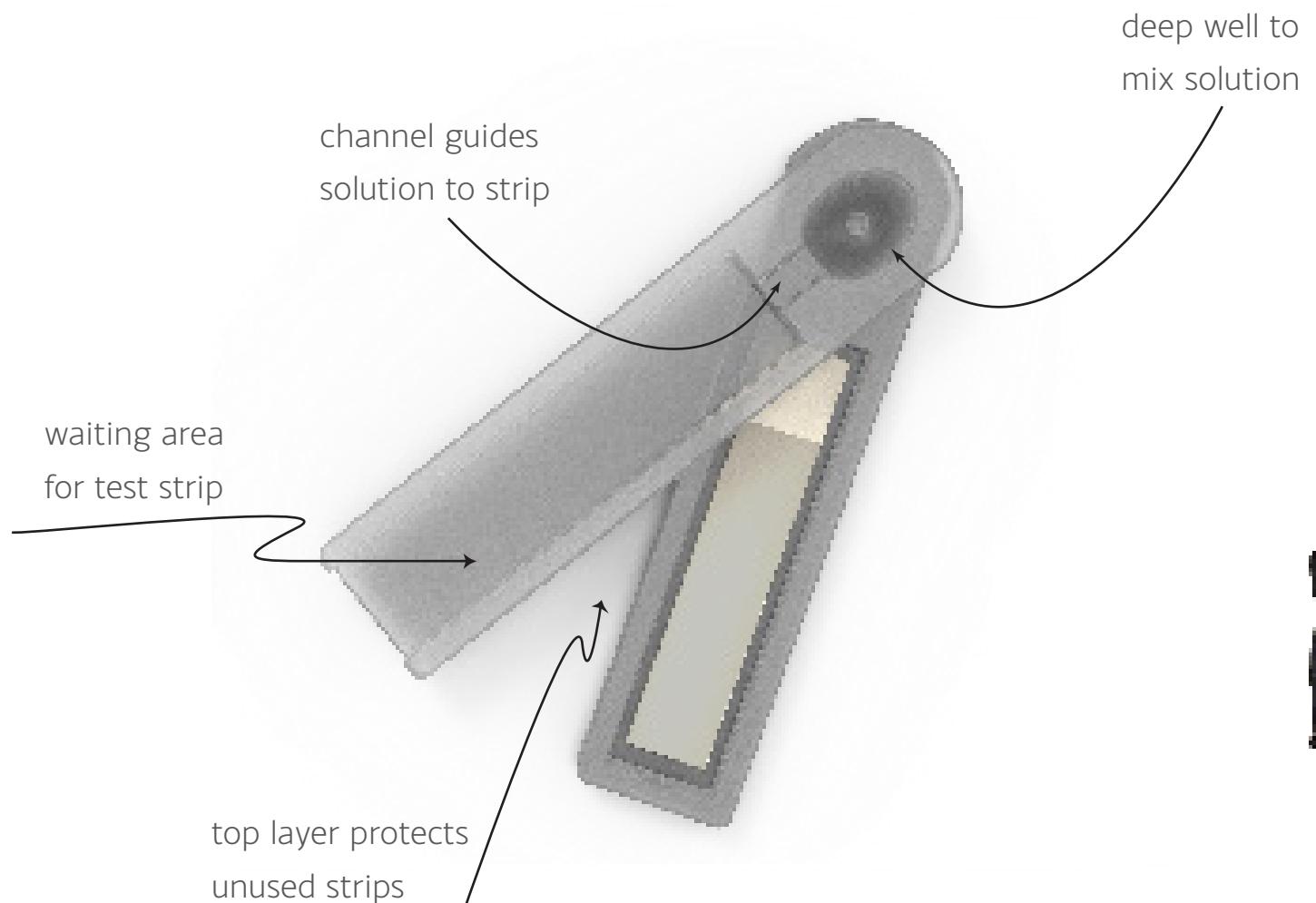
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I mainly focused on solutions that acted **before** drugs had been taken. Ultimately I went in the direction that provided a clean workspace which encouraged **more accurate test results more consistently**.

Concept refinement

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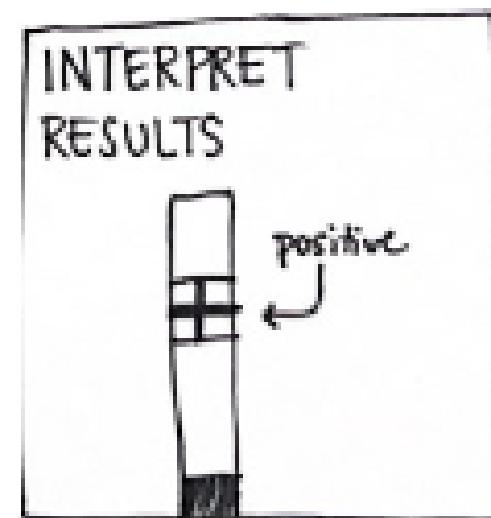
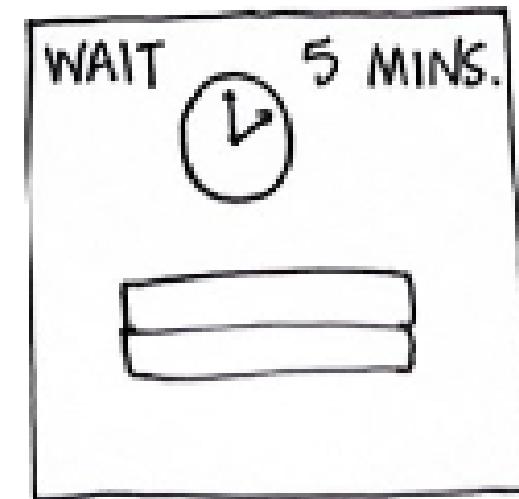
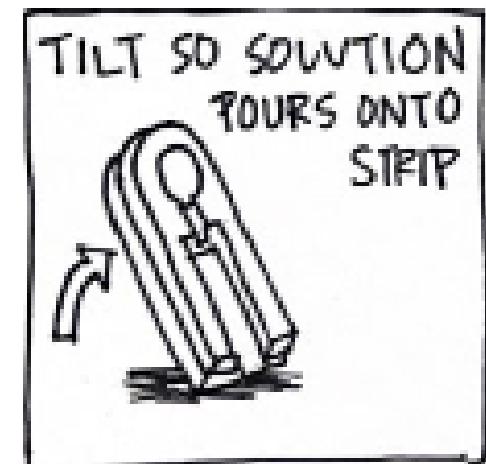
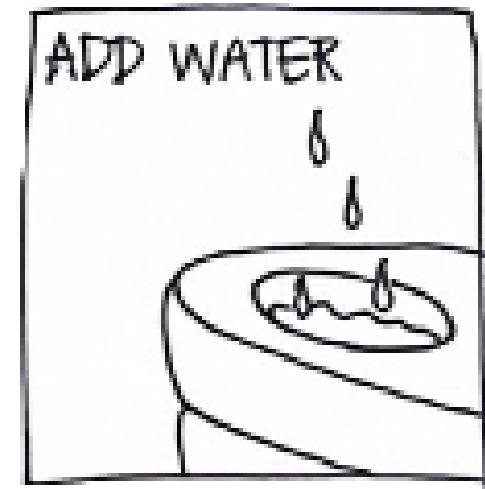
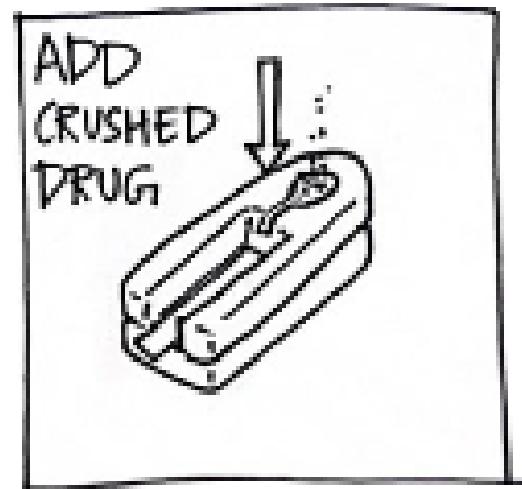
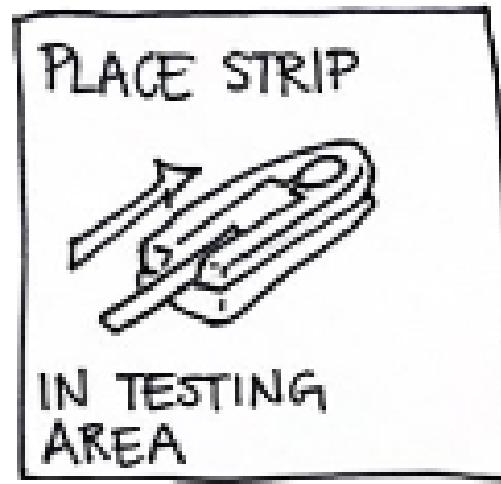
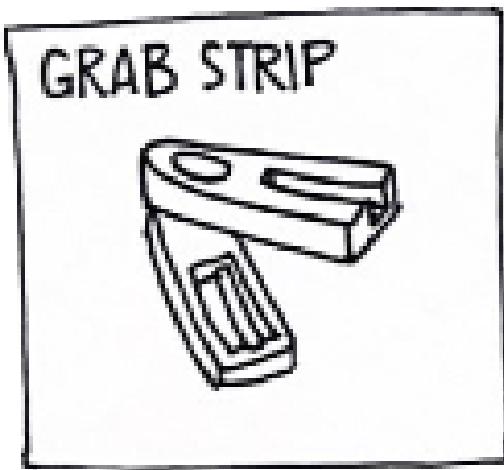


Current test strip indicators.

New plus sign indicator when fentanyl is present.

Sequence of Use

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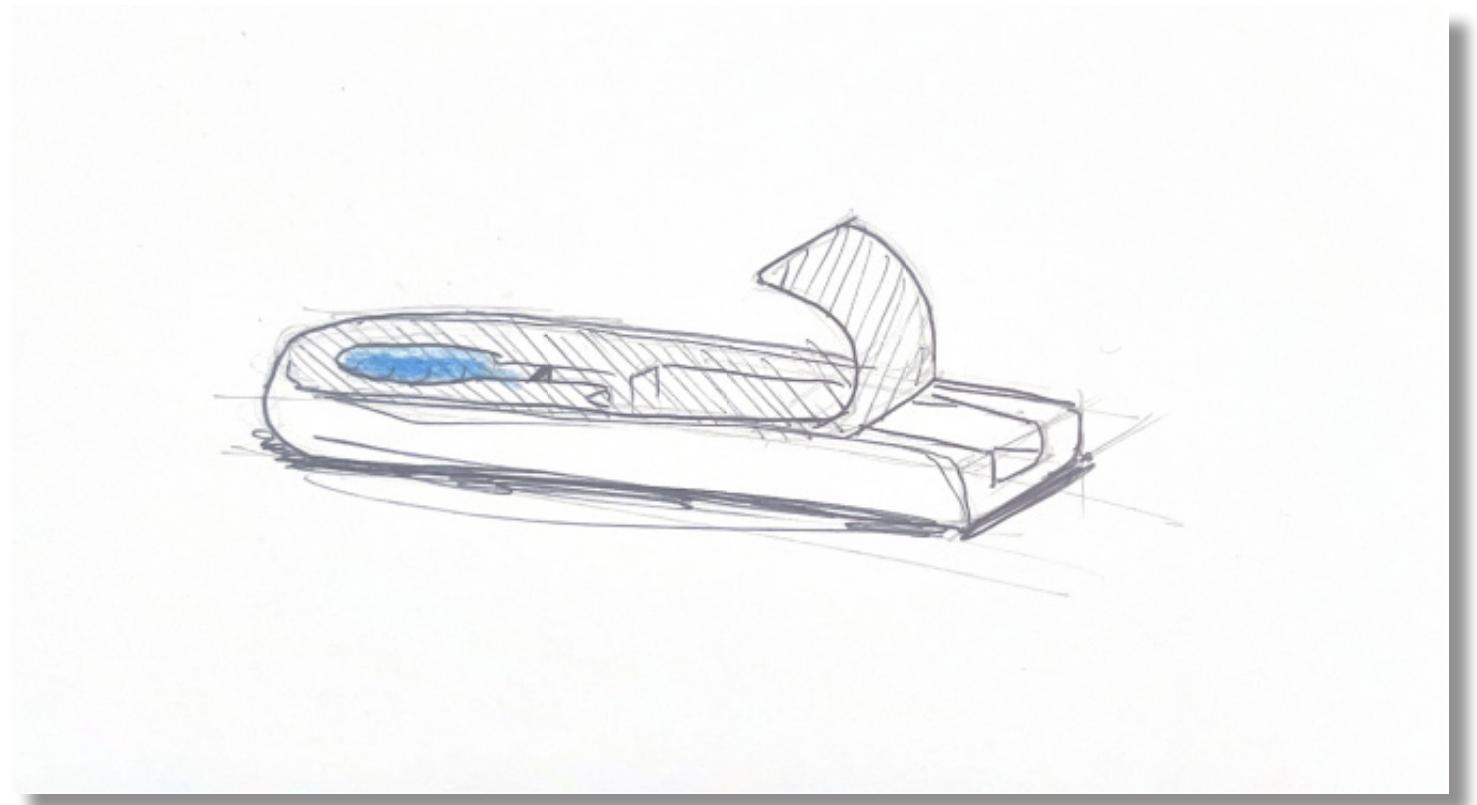


What's next?

things to improve for the future

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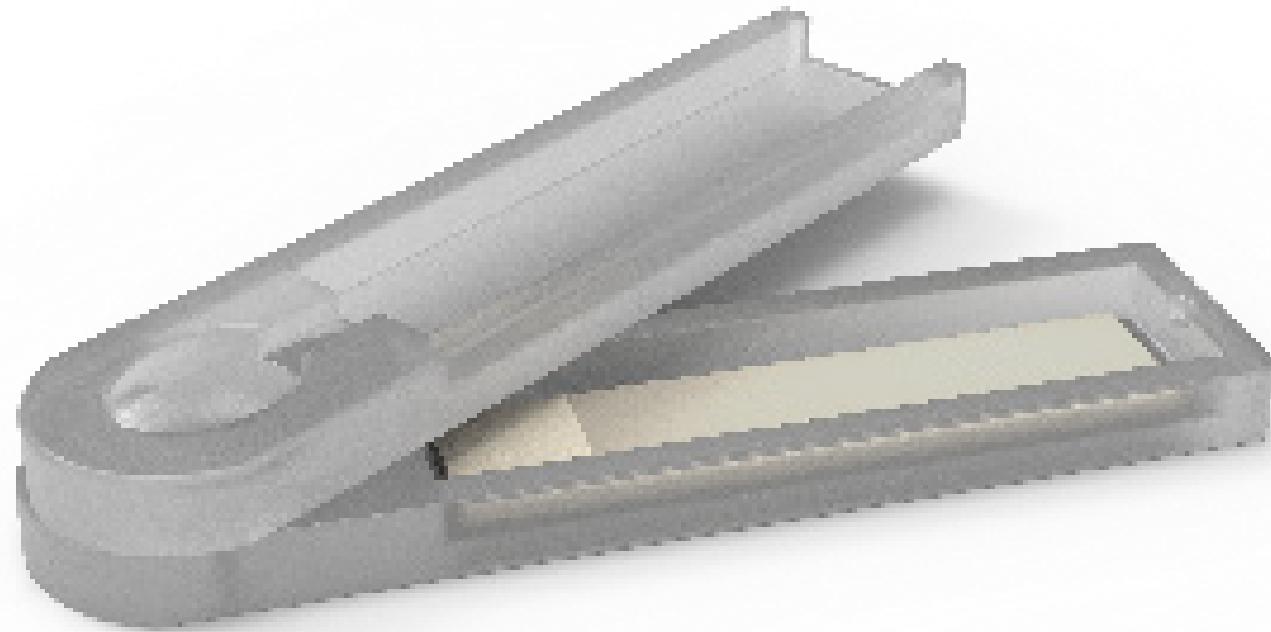
To further iterate I want to figure out how to incorporate **water storage** into the design so that the user doesn't have to have any external items to use the product. The caveat for this is that I would probably have to make it a single-use item instead of storing multiple strips.



Clearspot.

an improved drug test experience

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04.

MOBILE CITY LIFE

design methodology research sprint

duration: **3 days**
in collaboration with:
Avery Beard, Carmen Cutrona, Catherine Russell

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How can we bring the city back to life?

Initial questions

research

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How is the city
of Mobile layed
out?

What resources
are available to
Mobile?

What type of
people live in
Mobile?

What is the
city's history?



1. Why do
people visit
Mobile?



2. How does
Mobile's
history
influence its
culture?

Observations + Takeaways

research

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Mobile has a rich cultural history as Alabama's **oldest** city. The people that live here share a strong sense of **community** and there is a **high turnover** rate for businesses.

Insights:

- Not a lot of directional signage
- High homeless population near Gov. St.
- Everyone knows everyone (especially in the food industry)
- Mardi Gras is highly promoted (what does the city have to offer besides that?)



Opportunity framing *analysis*

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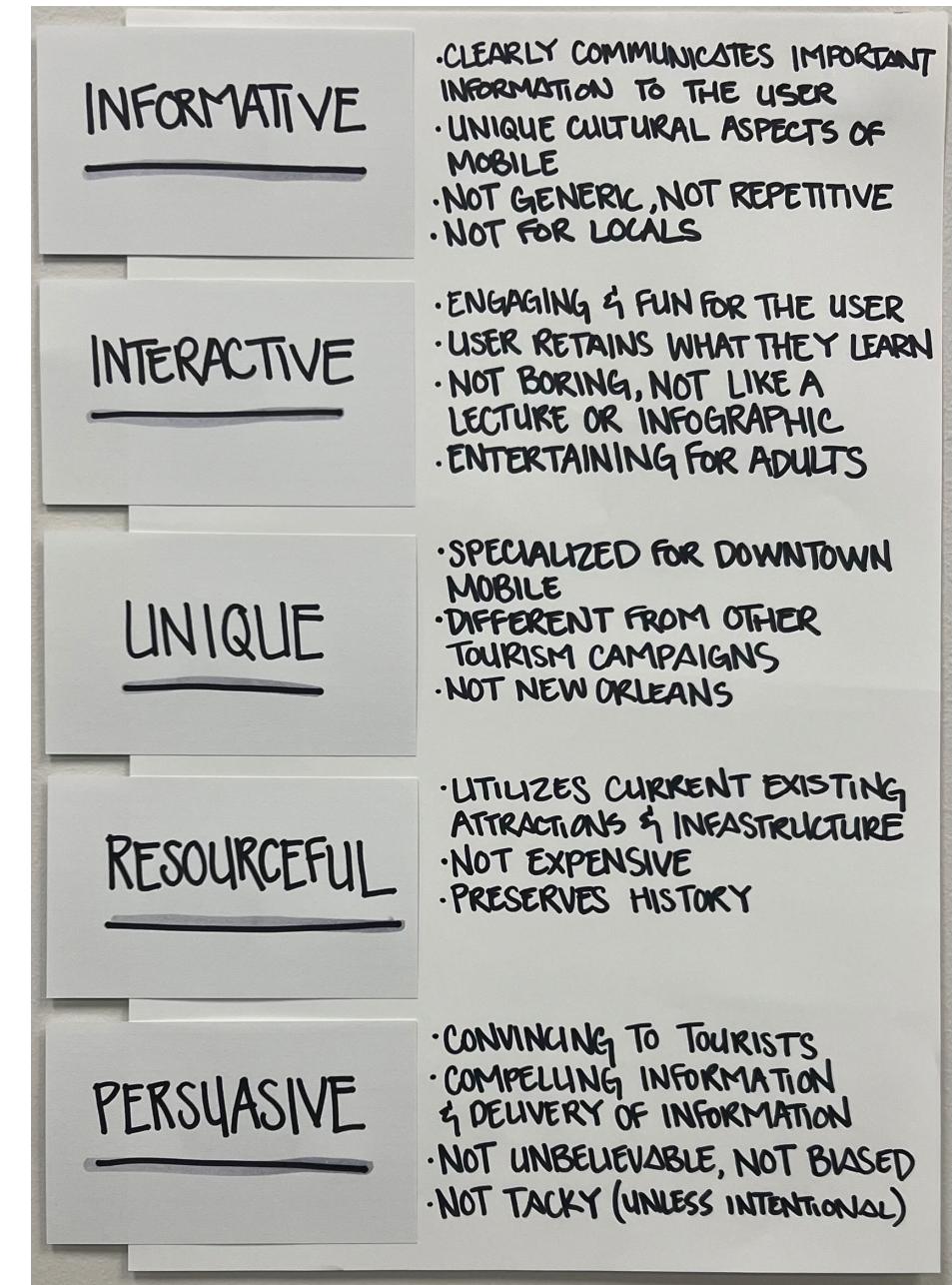
We are designing a **campaign** for
possible visitors that encourages them to
stay in Mobile for **more than Mardi Gras!**

Design Criteria

analysis

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We synthesized all of our observations and insights into concise criteria that we needed to address in order to ensure we were solving the initial problem we set out to explore.



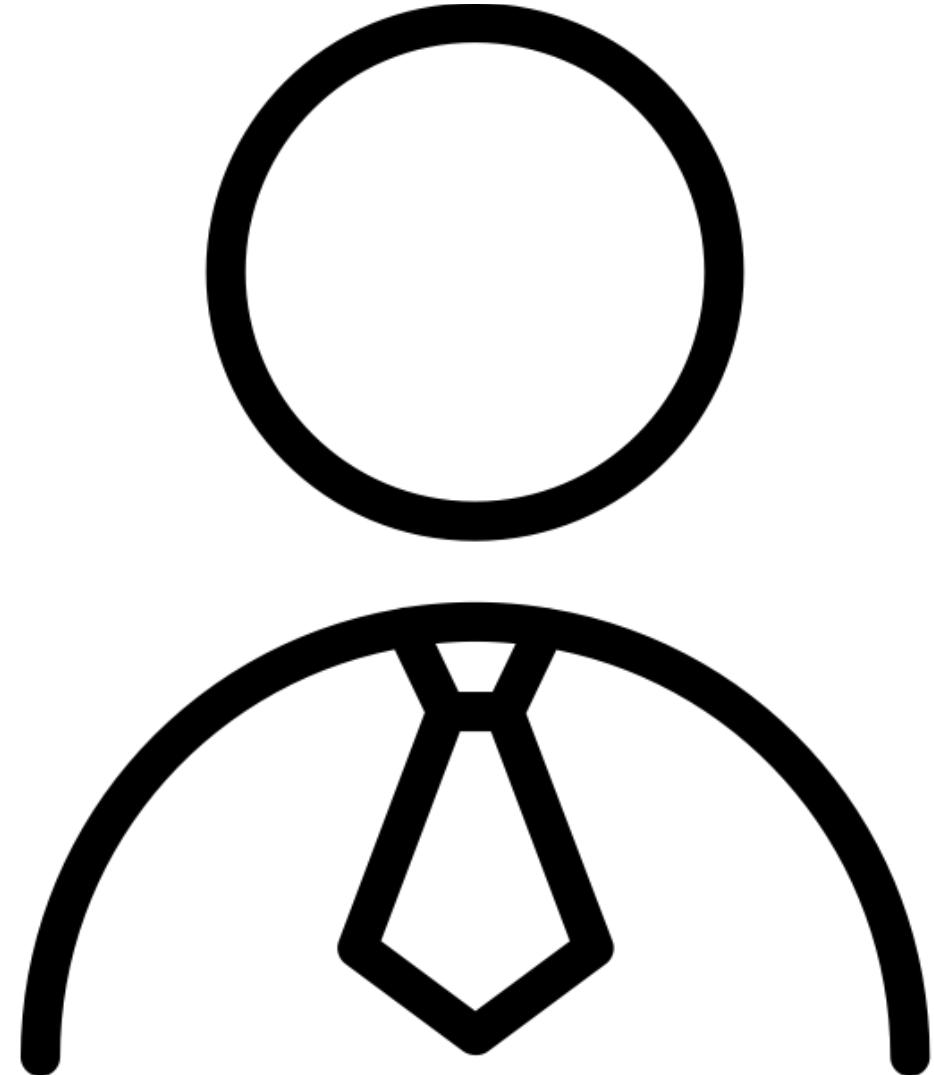
Persona

analysis

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Based on our interviews, the average person visiting Mobile is typically staying for business conventions.

Our persona is a **single, business driven food enthusiast** that's interested in history and loves social settings.



Ideation

conceptualizing

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The results of our research drove us towards a general direction: **incorporating water into the city**. After all, its called Mobile Bay for a reason.

