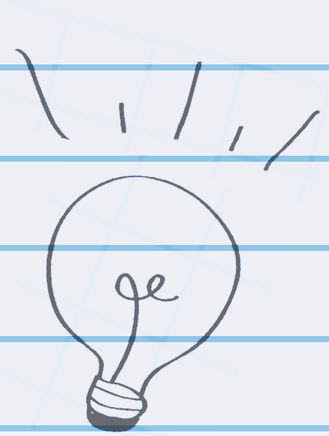
Cydney Vicentina

Interaction Design Studio - Section B

10/12/20

2D OR



NOT 2D!

TABLE OF CONTENTS

Control Analysis: Pepper Shaker Lid

In order to redesign something, you first need to find out what's wrong with it. This is where the control analysis came in. One thing I have a gripe with is my pepper shaker lid, which has some awful feedforward.

Feedforward informs user about what the result of an action will be.

BUILDING BLOCKS OF INTERACTION DESIGN	PRE-ACTION	POST-ACTION
Perceptual Affordance	+"U" shaped indentation on both sides indicate areas to place fingers	+lid stays propped open, indicating that it needs to be closed, indentations on inside of lid show it needs to be pushed down
Feedforward	+2 white horizontal lines indicate hinges while perpendicular cuts indicate "lids" that might lift -little indication of what lid doors will open to (we know it to be open or dotted)	
Feedback		+audible click when opened and closed
Inherent Feedback		+immediate auditory and haptic feedback when opening lid tightly coupled with action
Coupling (time, direction, dynamics, modality, expression)		+time and direction coupling, lid springs open immediately in direction force is going (up / down)
Uniformity	+consistency in shape and usability of both lids	-uniformity confuses user about which lid opens which type of shaker

Control Redesign: Pepper Shaker Lid

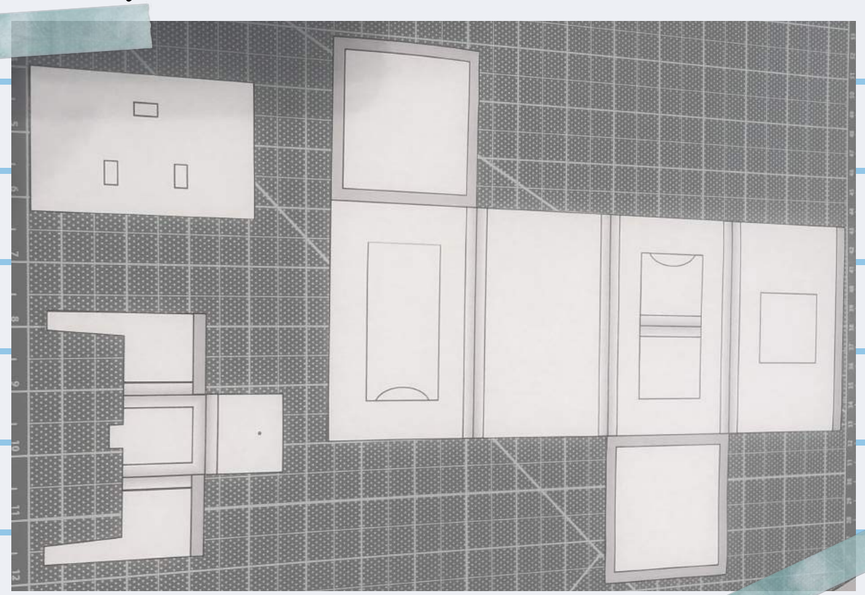
I didn't like how difficult it was to tell which lid opened the dotted vs. the fully-open side. So, I did a rapid 3D sketch of a revised pepper shaker lid with more feedforward.

The symbols "engraved" into the top would quickly indicate to the user which side they were opening.

I also tried to add deeper half-circle indents for users to comfortably fit their thumbs into in order to open the lid.

This was my first attempt at 3D prototyping!

Foam Board Practice



But, paper prototypes are pretty low fidelity. So, the next step was to try using a more substantial material.

I've used foam board before, way back in high school. But, I was always rushing to finish projects so my edges often looked like a shark bit straight into them.

This time, I was determined to go slow and get those crisp, clean edges.

Foam Board Practice - A drawer!

Believe it or not, this tiny drawer took me an hour (basically all of studio time)!

By the end of it, I came out with much straighter edges and a much better feel for how much force to apply in order to cut through the foam and paper (also, all 10 fingers in tact, yay!).

Although I still don't love foam board (it's super finnicky), I was pretty satisfied at my first creation, even if it's technically just a glorified cube. Anyway, onto the juicy stuff!

The Final Prompt

express intentions by exerting force, which changes the state of the product (push buttons, twist knobs, rotate dials, slide bars, toggle switches, etc)

mechanisms that negotiate between people (needs, desires, actions) and computational systems (rules, states) [i.e. buttons, knobs, etc]

Analyze a mechanical control and redesign it in a way that improves interaction through the processes of sketching and iterating.

quick, inexpensive, disposable to explore different directions and variations of design

start with low fidelity prototypes (cheap and quick) to determine interactions and solve pain points, rinse and repeat to refine into final form

understands how users make sense of interfaces that mediate intent with system capability, considering context and physical limitations, applying knowledge of human perception for controls that are elegant, intuitive and easily learned

Love It: Control Selection

The product I chose to redesign was this puck light from Amazon. It's been a great addition to my room, especially at night when the lights create a nice ambience. I also love the pressing functionality.

However, pressing the light only offers you white, red, green, and blue light. To use the full range of colors, the timer, and brightness functions, you need to use the included remote. So, let's fix that.

Iteration 1: Notes

AMAZON PUCK LIGHT Re-design

PROBLEMS

- pressing = only 5 states
- no way to specify color brightness quickly switch on/off
- currently only sits one-way
  ↳ not much functionality

THINGS I LOVE

- pressing interaction
- functions (color, brightness, time)
- portable, small
- fills room easily

THINGS I DON'T LOVE

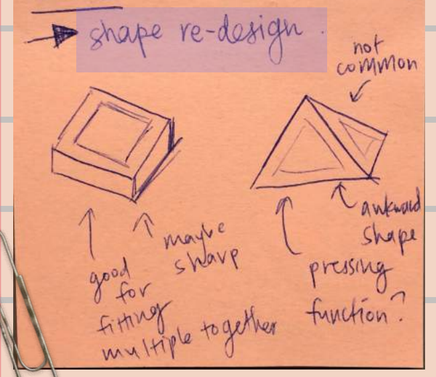
- takes too long to setup
- need remote
  ↳ also +, can operate at long distances
- most functionality not on ~~puck itself~~ puck itself

CLIENT IN MIND:

- wide age range
- desire to change or add to a room's mood
- people whose bedrooms and offices are the same space, need to differentiate

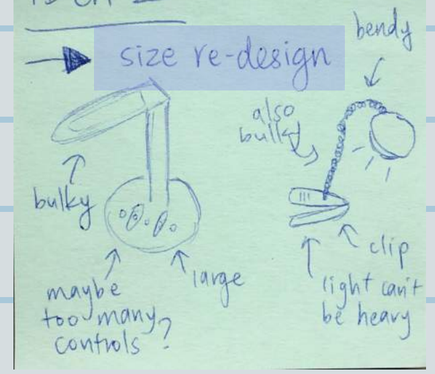
IDEA 1

shape re-design



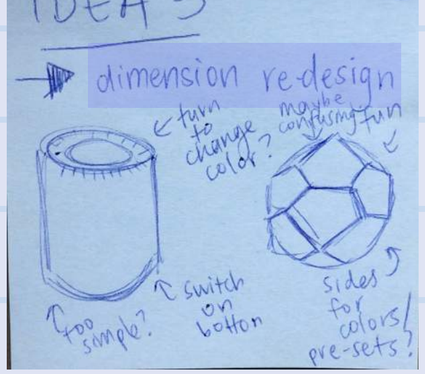
IDEA 2

size re-design



IDEA 3

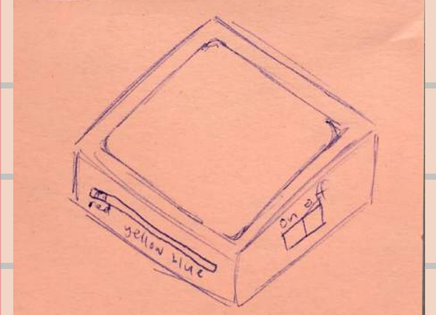
dimension re-design



IDEA 4

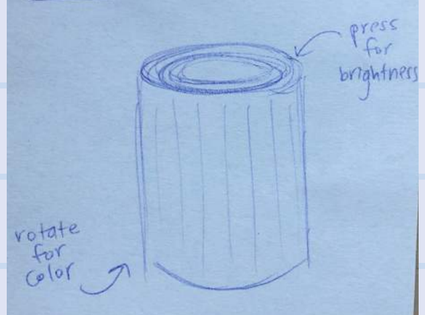
-> wild card

IDEA 1 sketch



IDEA 2 sketch

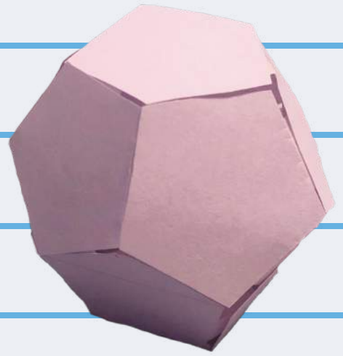
IDEA 3 sketch



IDEA 4 sketch

inspiration photos

Iteration 1: 3D Sketches



1: Shape

In my first design, I played around with shapes, settling on a square puck light with a different usage feature on each side.

2: Size

Then, I went big, designing a full sized lamp. Eventually, I decided that there were enough lamps on the market like this (boring!).

3: Function

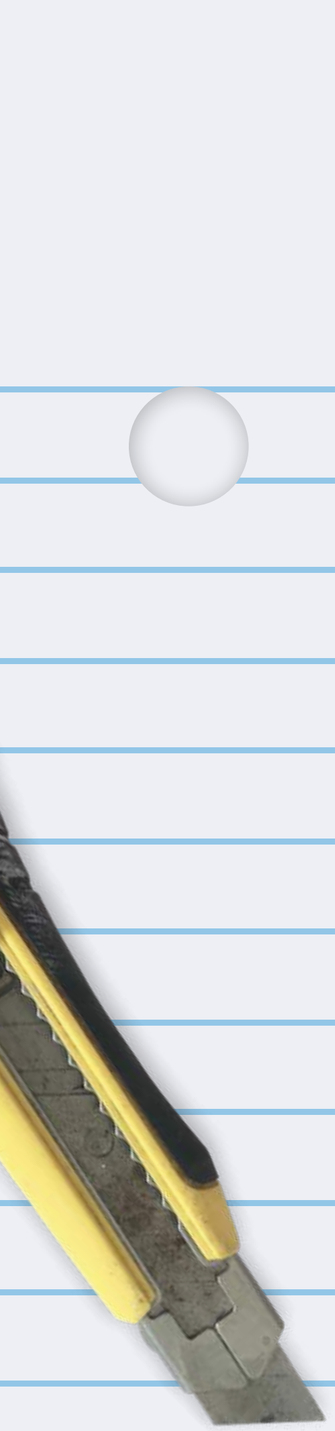
Next, I imagined a stackable puck light system, turning the entire tower into a lantern, producing light from every angle (my fav).

4: Wild Card

Finally, I went bold and used the Megaminx puzzle as inspo. In my head, each side would be a different color or light pre-setting.

Iteration 2: Foam Board Model

-> I went with idea #3!



PRESSABLE:
like the original, this model's center dome can be pressed down to turn the light on and off

STACKABLE:
three puck lights clicked together to form a tower structure

CRITIQUES:
- it's confusing how lamp works while stacked
- there are no color or timer functions

onto the next iteration...

Iteration 3: Refined Model

STILL STACKABLE:
people loved this feature from the previous iteration

ADDED TIMER:
center dome's arrow would rotate to set time, tabs on dome to help with rotation

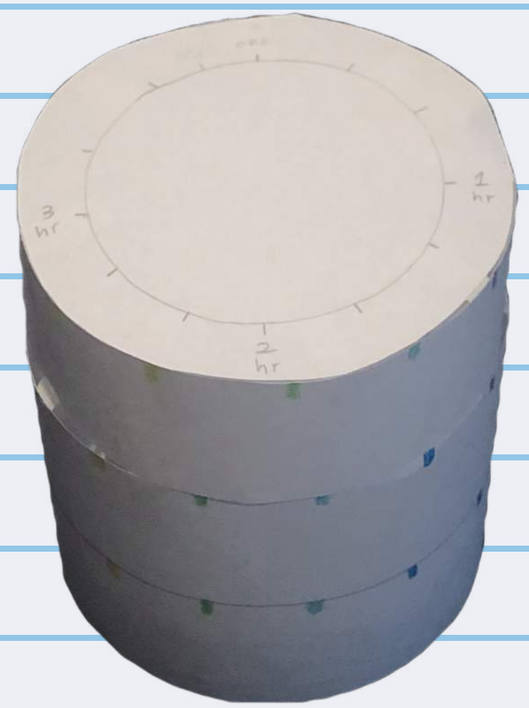
ADDED COLOR LABELS:
idea is that outer ring would rotate to select color of light

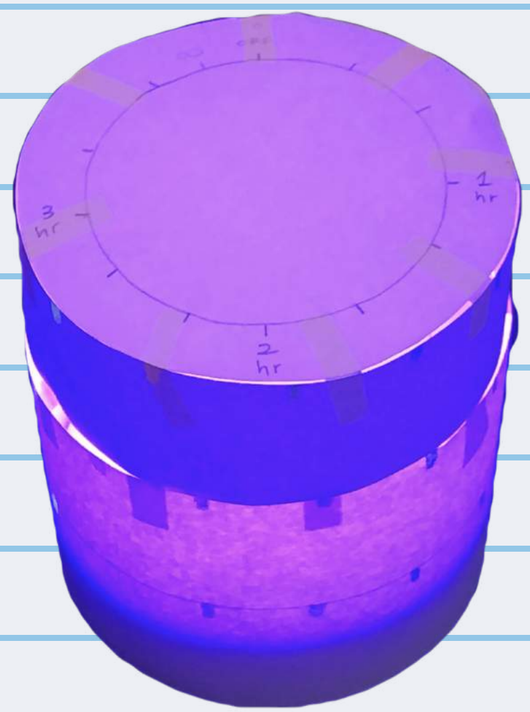
CRITIQUES:
- don't like the tabs or anything that would obscure light
- user error of rotating dome and outer ring simultaneously

The Final Redesign! - Side View

In order to show off the lantern feature, a separate prototype was made out of paper.

In these images, you can see how the puck lights would illuminate from all sides.





Set your desired time, color, and brightness on the top puck light, whose settings would then be applied to the entire structure.

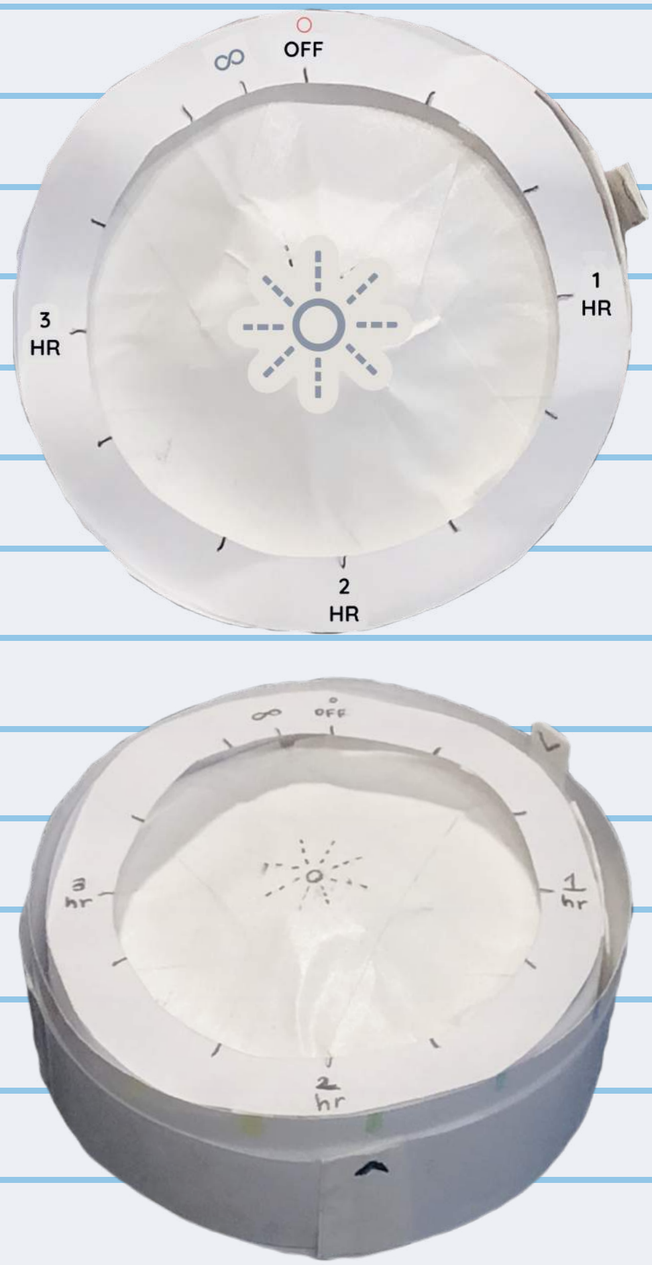
Don't like the tower? Simply detach the top or bottom puck lights for more options.

The Final Redesign! - Top / Down

Each puck light will look like this.

The little notch rotates like an old kitchen timer, counting down how much time is left.

Once it reaches 0, a red light will flash for 1 minute and the timer immediately resets to infinity.

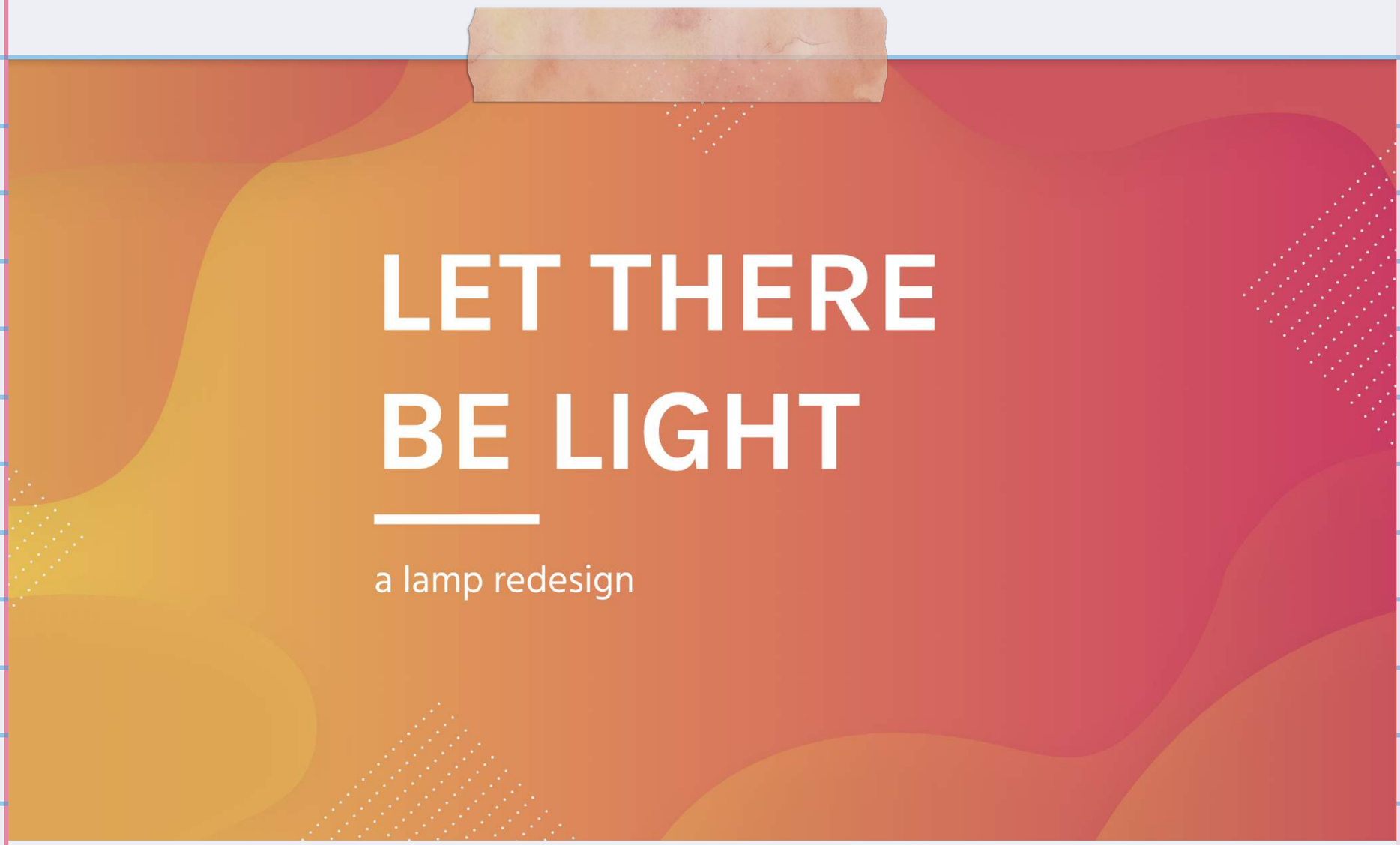


Brightness is set by pressing on the center dome (3 levels).

Rotate the outer dial with the help of 4 evenly spaced ridges to select color.

Choose from white light, any color from red to purple, or a gradient which cycles through every color.

Pitch Slides (1/5)



Pitch Slides (2/5)

THE PROBLEM

THE ITEM
Amazon Puck Lights
Sold in packs of 6 with remotes

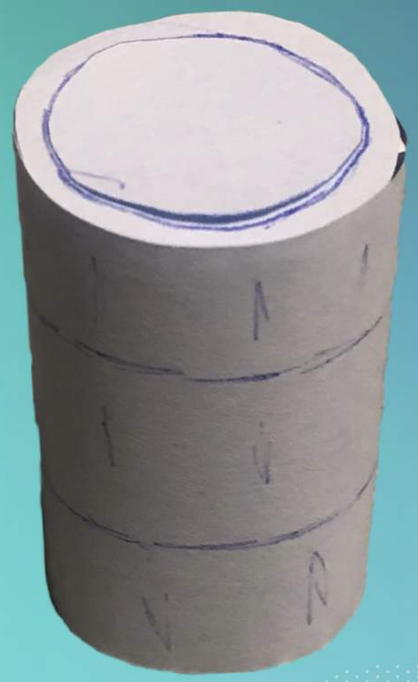
THE ISSUE
Remote is necessary to utilize timer and full color functionality

THE PUCK ITSELF
When pressed, the light only changes from white, red, green, and blue, bad UX

THE OPPORTUNITY
While satisfying to press and use (with a remote), we want to give customers more control from the puck alone

Pitch Slides (3/5)

GOING FROM A CONCEPT...



- KEEP PRESSING FUNCTION
- ADD STACKABLE FEATURE
- OUTER DIAL TO CHANGE COLOR

Pitch Slides (4/5)

TO A REDESIGNED PROTOTYPE.

BRIGHTNESS

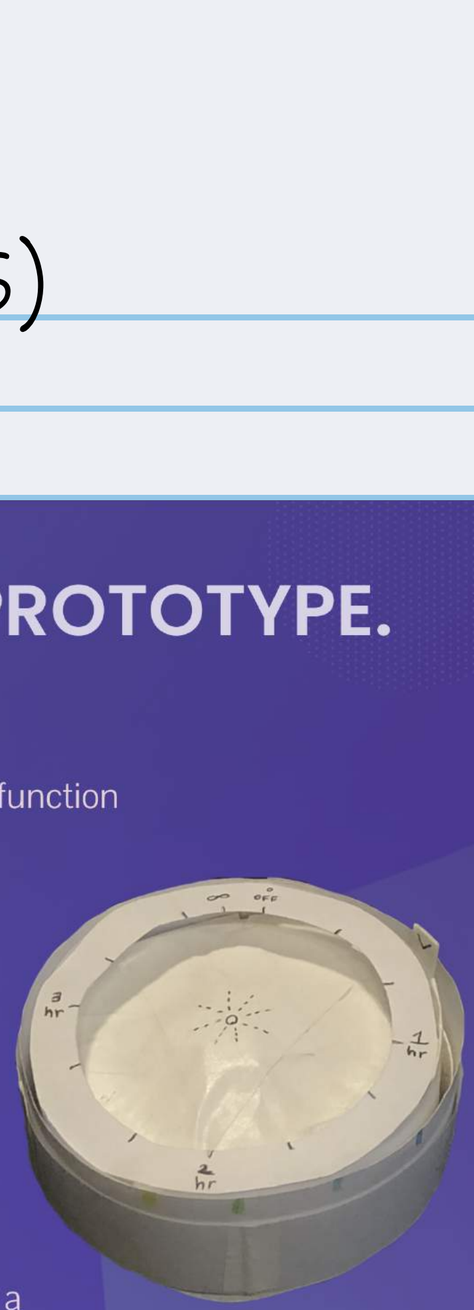
- Inner circle domed to indicate pressing function
- 3 levels of brightness

TIMER

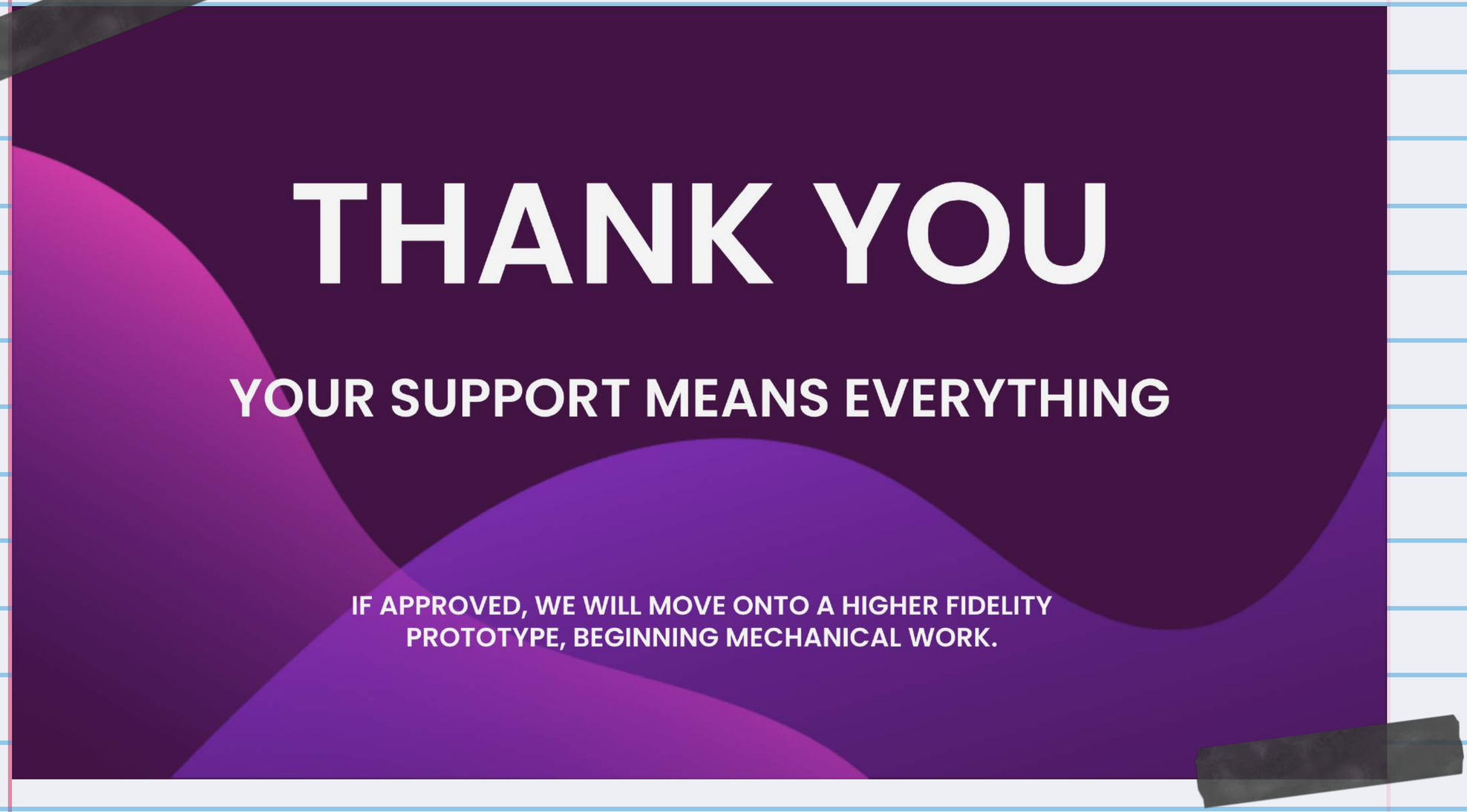
- Placed ring around domed middle
- Controlled by tab that sticks up
- Think: re-imagined kitchen timer

COLOR

- Outside edge has color labels
- Outer ring rotates to select one color or a continuous gradient
- 4 raised notches to indicate rotating motion while maintaining sleek design



Pitch Slides (5/5)



THANK YOU FOR READING!

Want to watch the final pitch?

Click here: https://youtu.be/9Nw9MEp4LQE

Want to see more details about the control redesign prototype?

Click here: https://youtu.be/6wiBkvAMJp4

Want to see what else I've been up to?

Click here: https://www.linkedin.com/in/cydney-vicentina-000236159/