

# ANXIETY-REDUCING LAMP

*A portfolio created by Jakob Vincent Geishauser Hald, s234325*



# PREFACE

Lighting profoundly affects our well-being, yet it's often overlooked. This portfolio explores my journey in designing a lamp that addresses the discomfort fluorescent lighting causes, especially for those with anxiety.

Through research, I identified the need for adaptable, ambient lighting to enhance comfort in shared spaces. The final design blends functionality and aesthetics, offering a personalized solution to a common problem.

This work reflects my commitment to creating empathetic, user-centered designs that improve everyday experiences.

## USE OF AI

In my design process, I have used VizCom to communicate my ideas better. I have always made sure, that what I was given was true to my vision.

***A special thanks to Michael, Thomas & Peter for always being ready to help, wherever I have been in my process.***

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# DESIGN BRIEF

It has been found that people with anxiety disorders often find discomfort when put in room with fluorescent lighting.

I seek to create a portable desk lamp that can be taken to the office or study space. There is no general optimal color temperature for people to work in, i therefor want the lamp to be temperature-adjustable.

## MARKET

**What type of product?** - A portable lamp that gives a calming and homely light when in use in order to destress anxious people.

**Who is the end user?** - Young career oriented people with anxiety who get stressed from sitting in rooms lit up by fluorescent lighting.

**Price Category** - 300-600 DKK

**Competitors** - IKEA, GoodThings, ZARA, SACKit, Amazon

## VALUE PROPOSITION

**What does the product do?** - It provides a temperature-adjustable light that focuses on creating comfortable lighting for office spaces.

**What are important features for the end user?** - The lamp should be able to fold together in order to give it a small footprint. This will enable the user to use the light in whatever uncomfortable light they find themselves in.

It should also be able to adjust the color-temperature in order to satisfy the customers favorite working light.

**What environment is the product designed for?** - Indoor office and study environments where fluorescent light is the primary lighting.

## APPEARANCE / AESTHETICS

**Form** - It should be made of a foldable material.

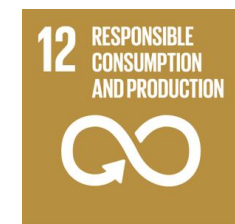
**Materials** - The material should be made from eco-friendly materials that ensure that the product doesn't break. Materials include: paper, recycled aluminum, wood, recycled plastic etc.

**Color** - The color of the end-product should embrace the used materials

## 17 SUSTAINABLE DEVELOPMENT GOALS

**3 Good health and well being** - The lamp will give make the user less anxious in office/study environments.

**12 Responsible consumption and production** - It should be easy to replace parts of the lamp in case they get broken. This will also ensure that the lamp can be disassembled for correct trash recycling. Making the lamp collapsible will also make shipping the product more efficient and therefor eco-friendly



# INVESTIGATING THE PROBLEM

A study was conducted that examined the effect of fluorescent lighting on people that had been diagnosed with anxiety. The study found that **75% of people with anxiety disorders feel uncomfortable, when put in a room with fluorescent lighting**. Only 25% of the control group of non-anxious people felt uncomfortable with fluorescent lighting. (1)

*How do we make people with anxiety feel comfortable under fluorescent lighting?*

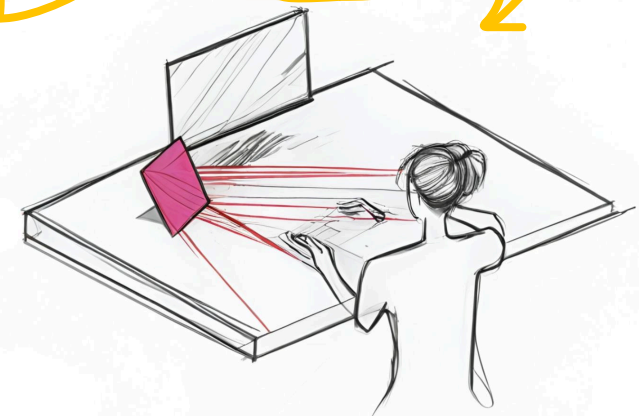
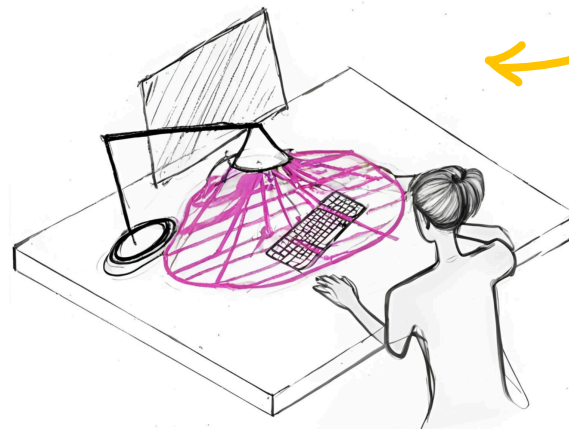
After reading a multiple of studies, i have come to the conclusion that there is no specific color temperature that works best for everybody. Therefore it doesn't make sense to have fluorescent light that lights up big spaces with the same color temperature. **To make the individual worker feel more comfortable within study and office environments, the final lamp has to be temperature-adjustable.** (1) (2) (3)

*What space should the lamp light up?*

Desk lamps typically fall under one of the following categories.

- Directly lighting in your face
- Lighting up the desk
- Giving ambience light

Typical therapy lamps, light directly into your face, but i do not seek to make a therapy lamp. Lamps that light up the desk typically offer light that increases productivity, which is not the problem i am trying to address. The lamp i am going to make, will make the user feel more comfortable within office spaces with fluorescent light, **therefor i seek to make a lamp that gives ambience to a space.**



See final page for sources.

# COMPETITOR ANALYSIS

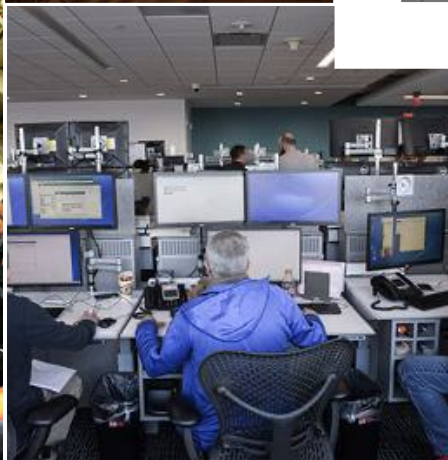
The competitors light are either portable lamps that lights up the desk to increase productivity, or lamps that can't adjust the color temperature..

I seek to create a lamp that is both portable and temperature-adjustable which gives a good ambience in the working space. I see this as an open space in the market.

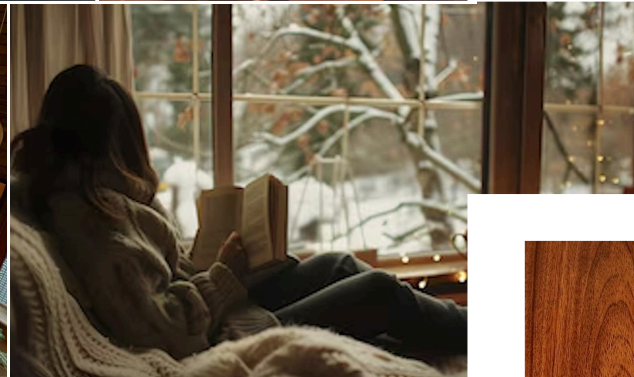
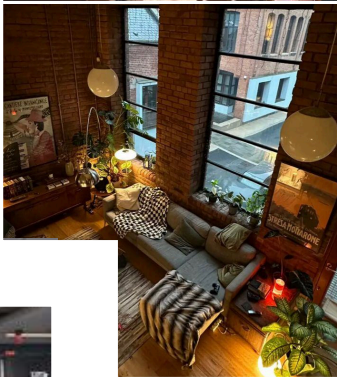


# IMAGEBOARD

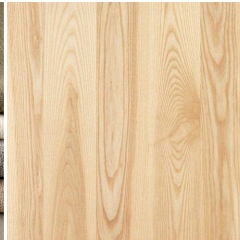
## LIFESTYLE



## MOOD

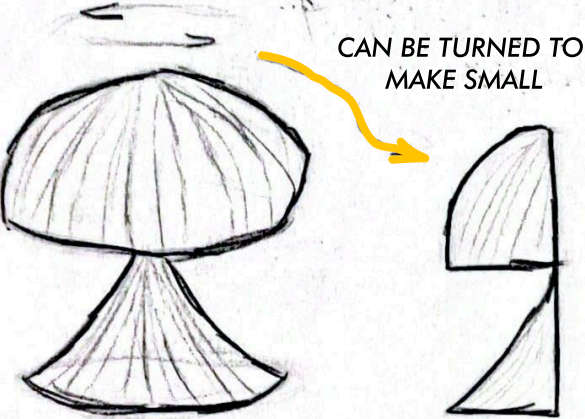


## STYLING

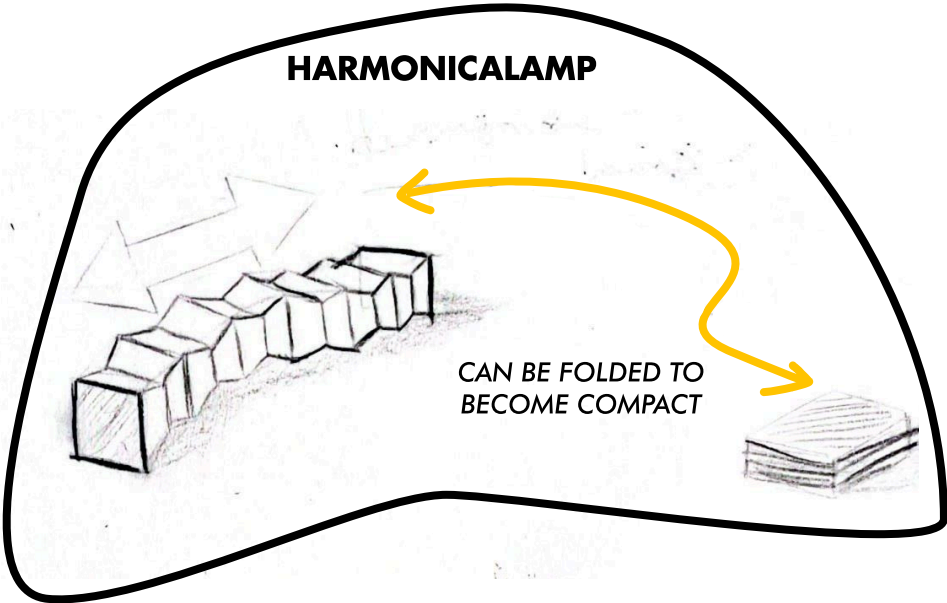


# IDEA GENERATION - SESSION 1

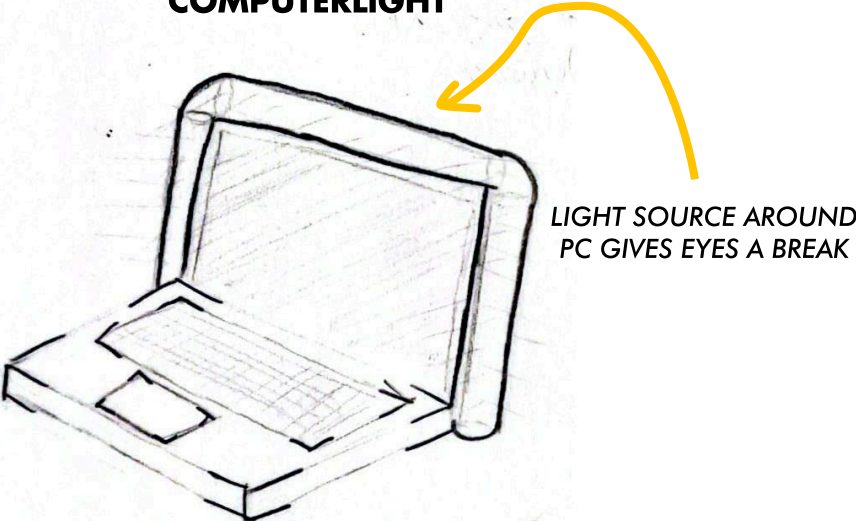
**FOLDABLE PANTHELLA**



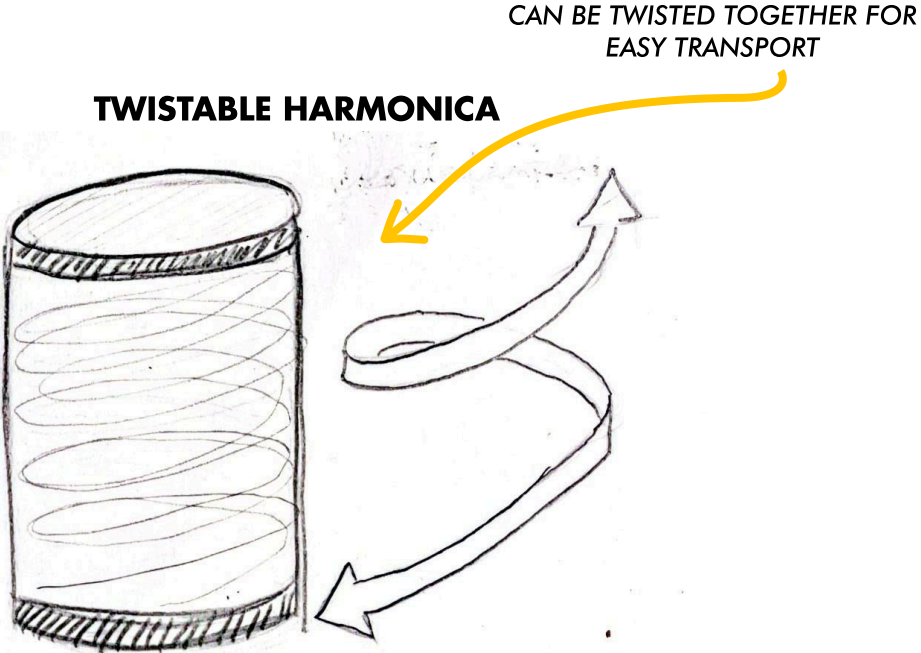
**HARMONICALAMP**



**COMPUTERLIGHT**



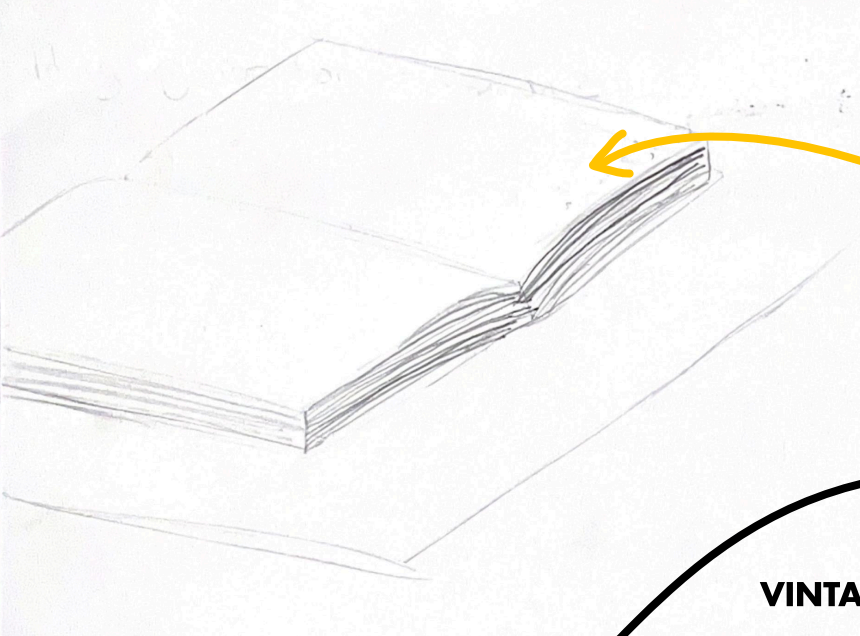
**TWISTABLE HARMONICA**



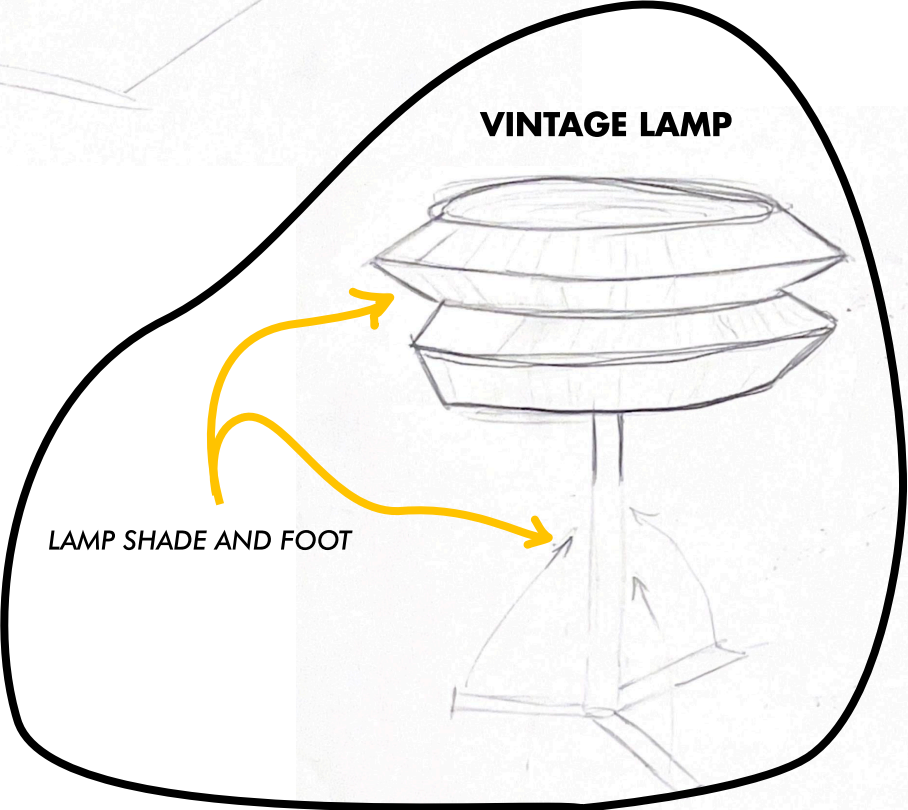
Concepts for further research are circled

# IDEA GENERATION - SESSION 2

## LIGHT EMITTING BOOK



BOOK IS FLIPPED OPEN TO TURN ON A LARGE SOFT LIGHT



## VINTAGE LAMP

LAMP SHADE AND FOOT

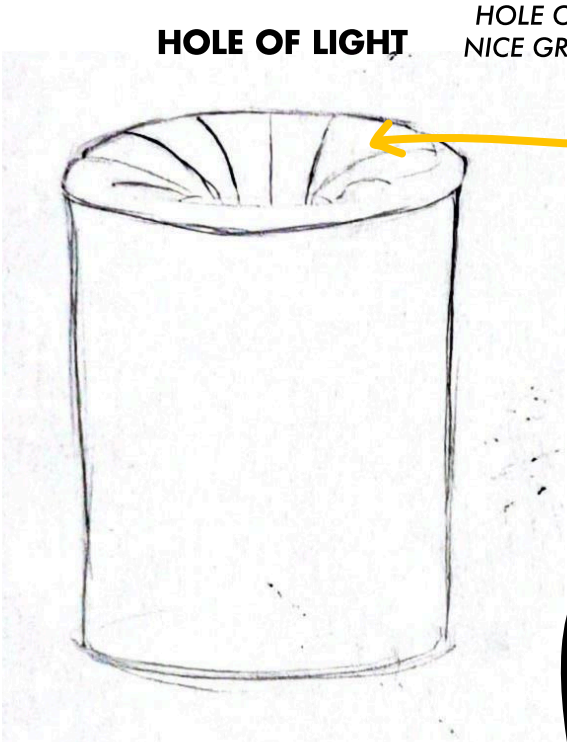
## LIGHT EMITTING WATER BOTTLE



BOTTOM OF WATERBOTTLE IS EMITTING LIGHT

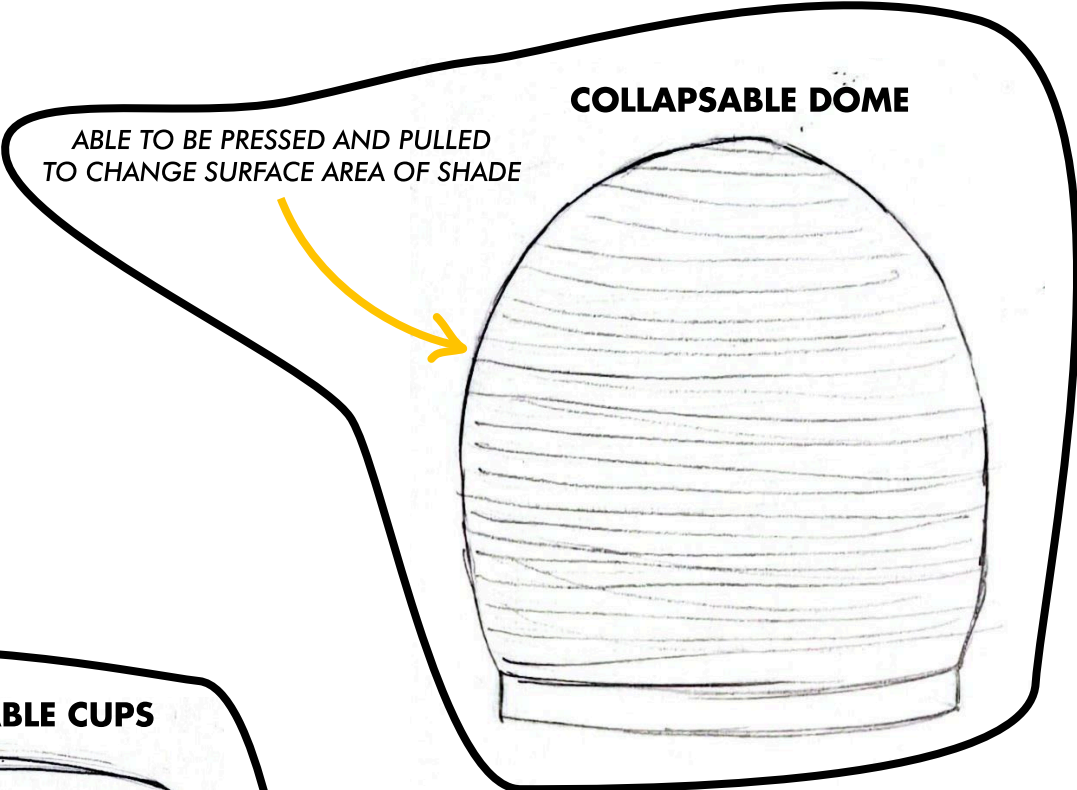
Concepts for futher reseach are circled

# IDEA GENERATION - SESSION 3



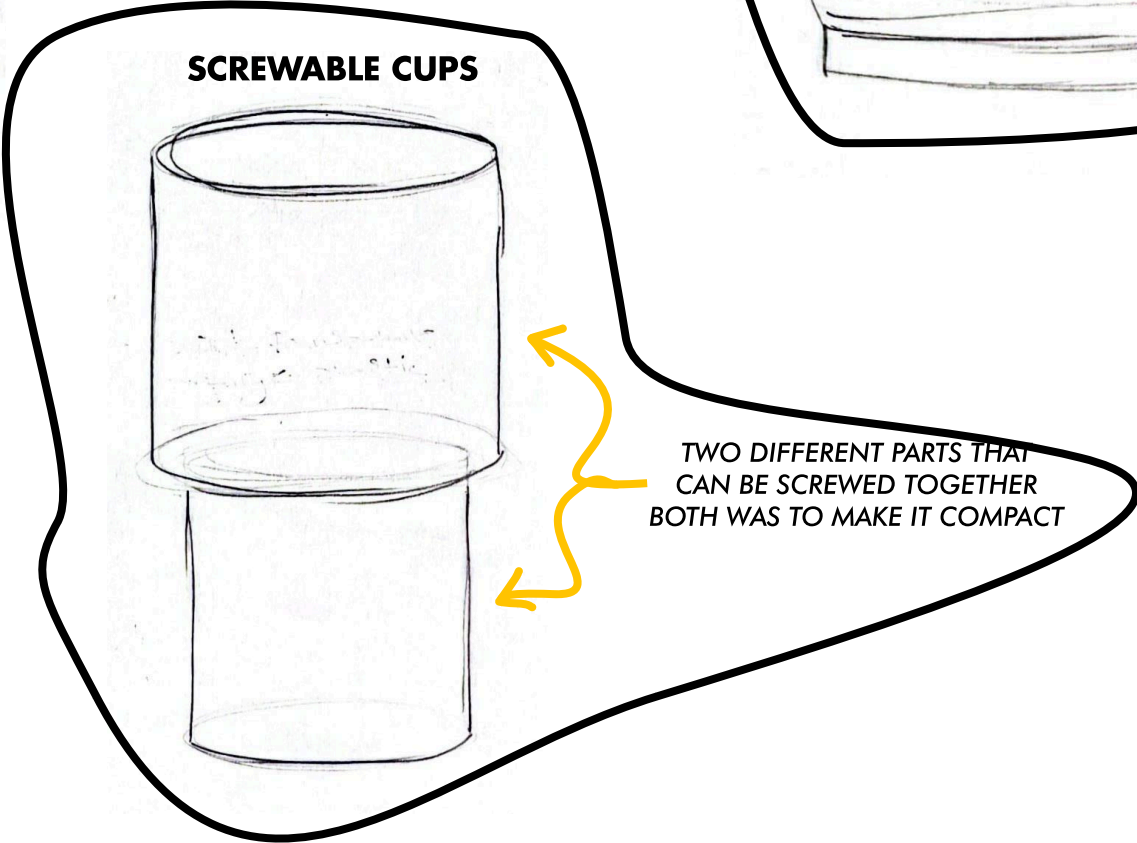
**HOLE OF LIGHT**

HOLE OF LIGHT GIVES A NICE GRADIENT OF LIGHT



**COLLAPSABLE DOME**

ABLE TO BE PRESSED AND PULLED TO CHANGE SURFACE AREA OF SHADE

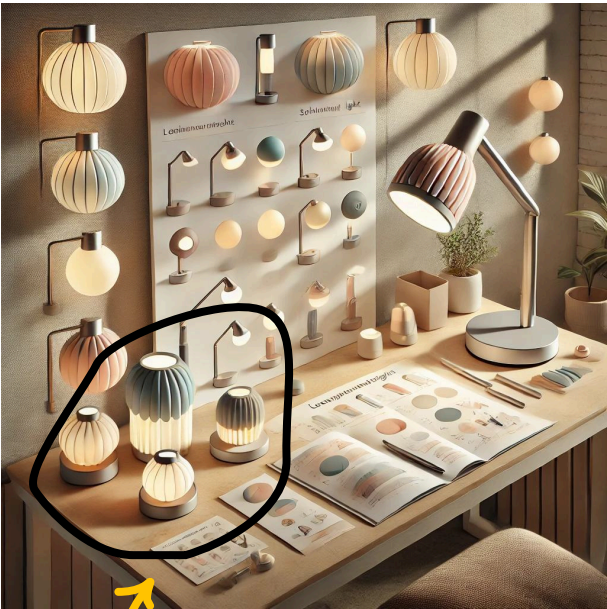


**SCREWABLE CUPS**

TWO DIFFERENT PARTS THAT CAN BE SCREWED TOGETHER BOTH WAS TO MAKE IT COMPACT

Concepts for futher reseach are circled

# USING AI FOR IDEA GENERATION - DALL-E & FIREFLY



*Firefly is also struggling to be creative. But i will definitely be taking some inspiration from the lamp shades of firefly, because they look beautiful.*



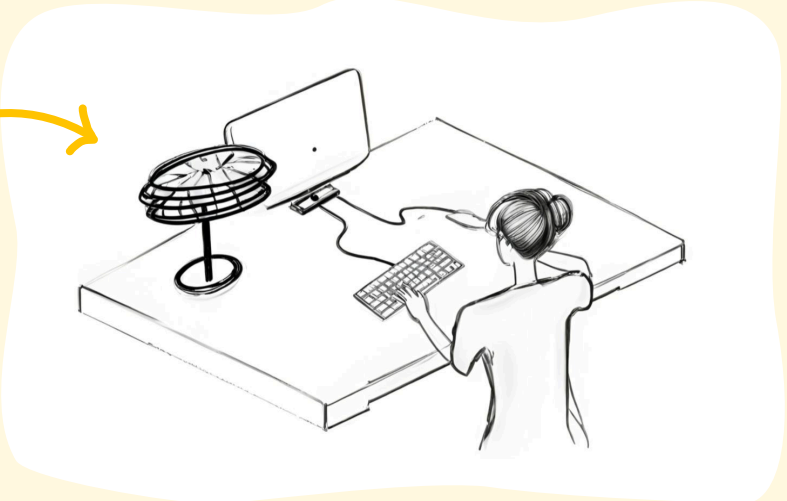
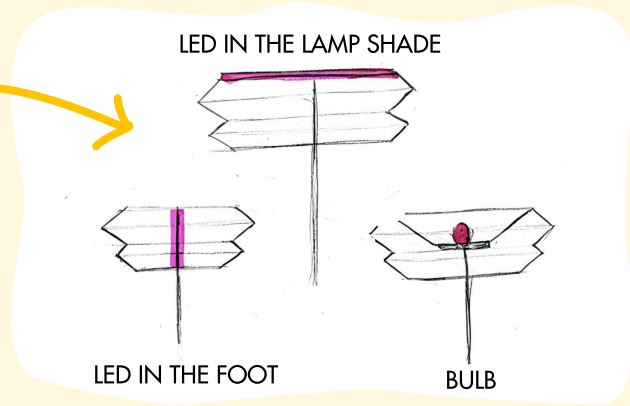
*Similar concepts to collapsible dome!*

*DALL-E isn't very creative*

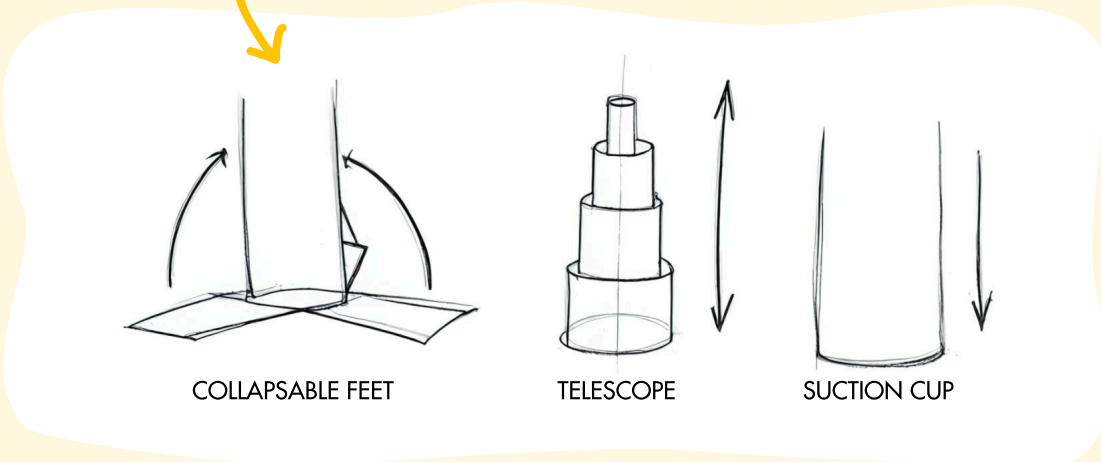
# 1 - VINTAGE LAMP



## PLACES TO PUT LIGHT SOURCE



## WAYS OF MAKING THE LEG FUNCTION



### PROS

Gives a very homely feel in a large area

### CONS

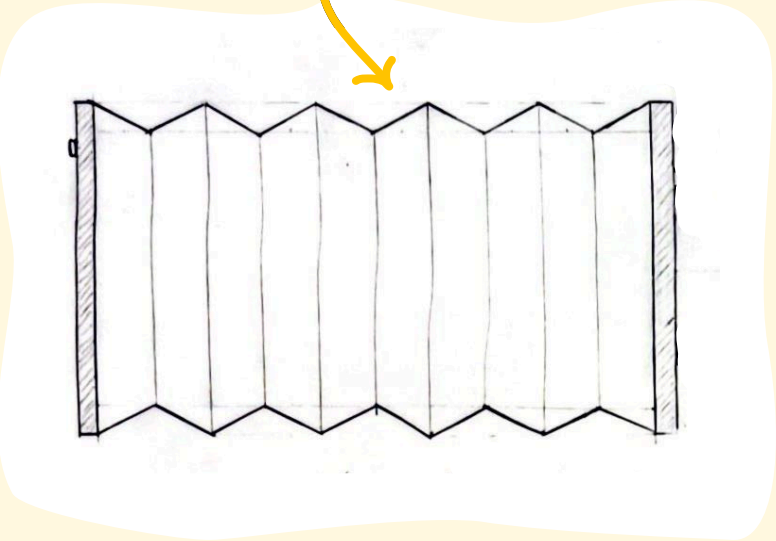
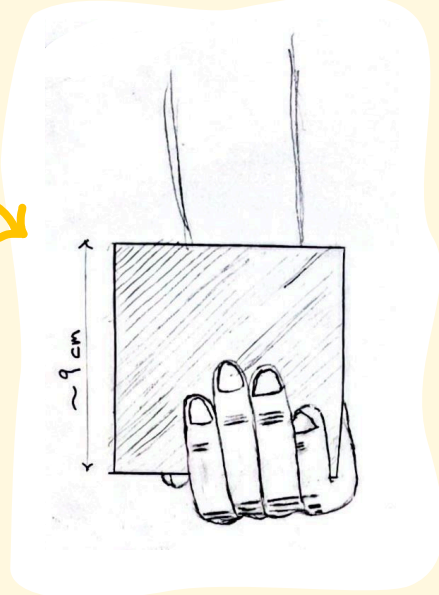
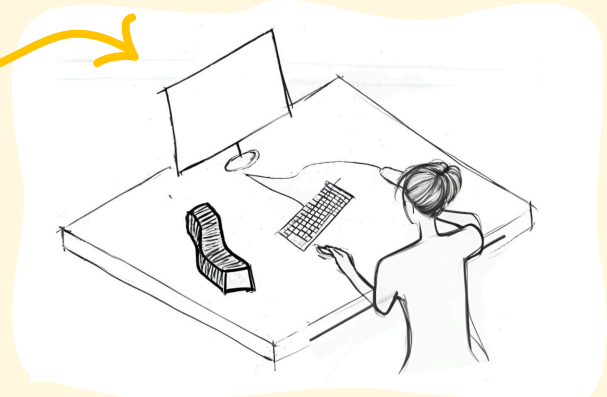
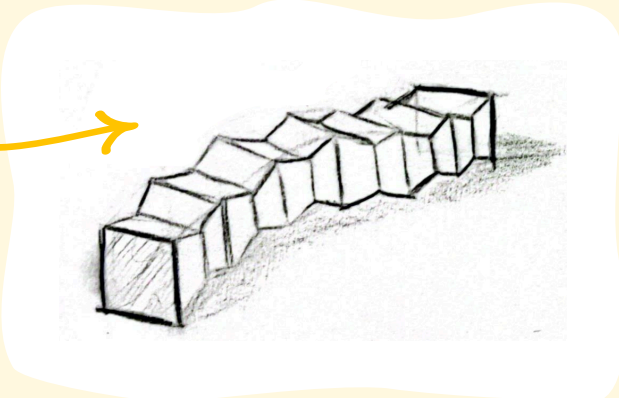
None of the *leg functions* seem stable if it has to to one element

## AREAS TO INVESTIGATE

Is it possible for it to be one part?

How would the design be compactable?

# 2 - HARMONICA

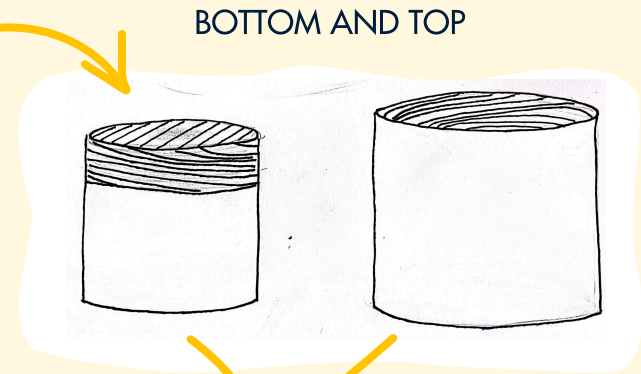
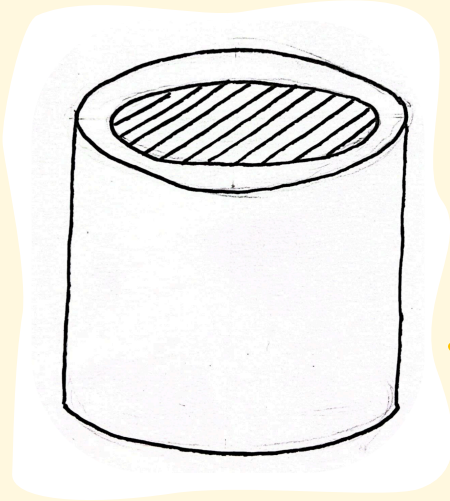


PROS	CONS
Can go from compact to very large	Not much room for electronics

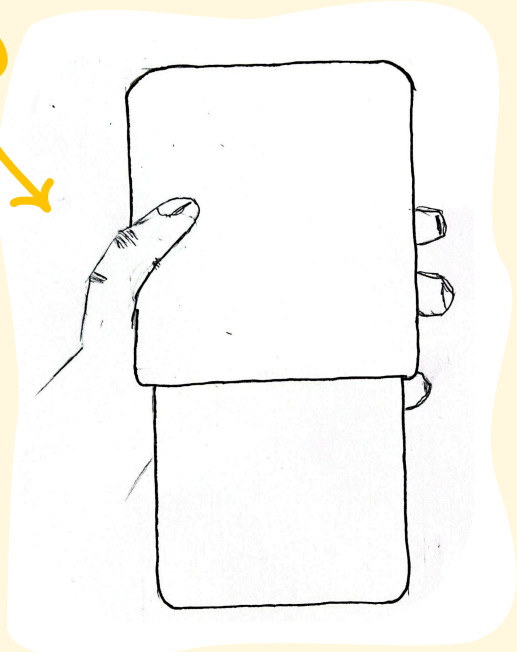
## AREAS TO INVESTIGATE

- Can the folding part be made robust?
- How would the lighting work?

# 3 - SCREWABLE CUP



SCREWS TOGETHER FOR TRANSPORT

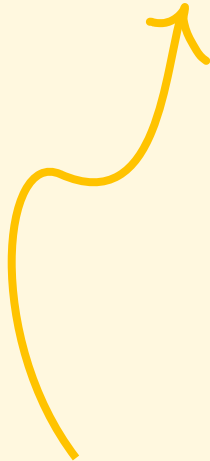


PROS	CONS
Robust	Plastic could be bad for the environments
Semi translucent plastic gives a nice light	
A lot of room for electronics	

## AREAS TO INVESTIGATE

How can the assemble mechanism work?

# 4 - COLLAPSABLE DOME



BATTERY, LED AND OTHER ELECTRONICS

## AREAS TO INVESTIGATE

Can the dome be made robust?

### PROS

Surface area can be greatly increased

Very simple to use

### CONS

May become oversized

# DESIGNING THE COLLAPSIBLE DOME

After careful considerations and looking at the pros and cons of each of these concepts, i have chosen to move forward with the collapsible dome design.

*How to control light temperature and lumen?*



*How should the dome be?*

*How to clamp the lamp shade down, when it is not in use and under transport?*

*How can the lamp be charged?*

*How to turn it on/off?*

*What should the base look like?*

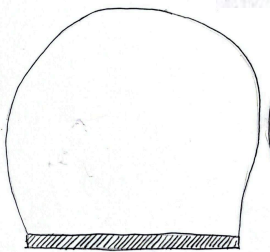
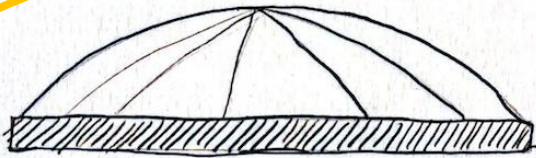
I will start by designing the lamp shade, as i see this as the part of the lamp that will communicate the overall feeling, and the rest should compliment the lamp shade.

# DOME SHAPE ANALYSIS

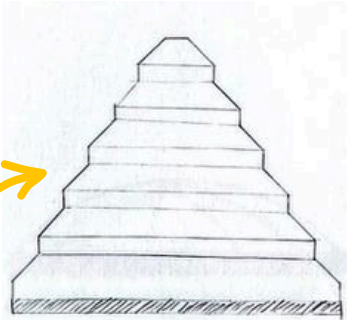
The dome atop the base doesn't necessarily have to follow the shape of the earlier sketched concept. I will now find the preferred shape, and make the rest of the design to fit this dome.

## NON-PAPER SHAPES

Expandable rubber by sticking a stick from under base

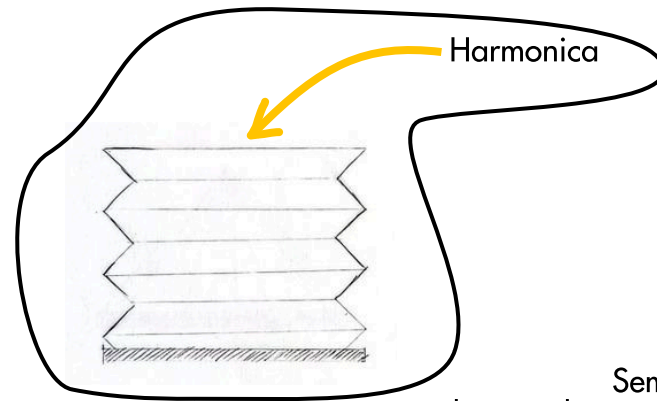


Inflatable balloon

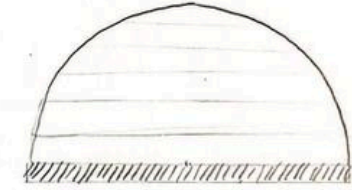


Normann-inspired collapsible funnel

## COLLAPSIBLE PAPER SHAPES

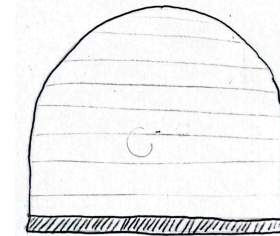


Harmonica

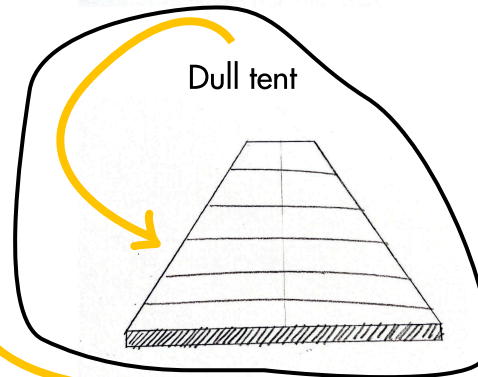
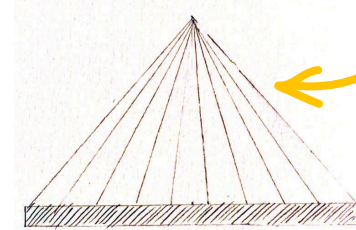


Semi-sphere

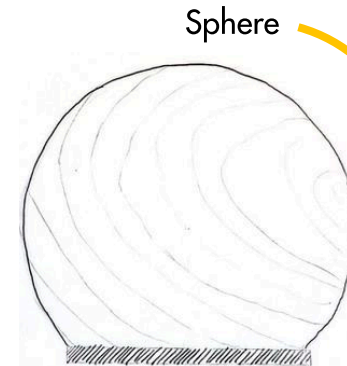
Pointy tent



Elongated semi-sphere



Dull tent

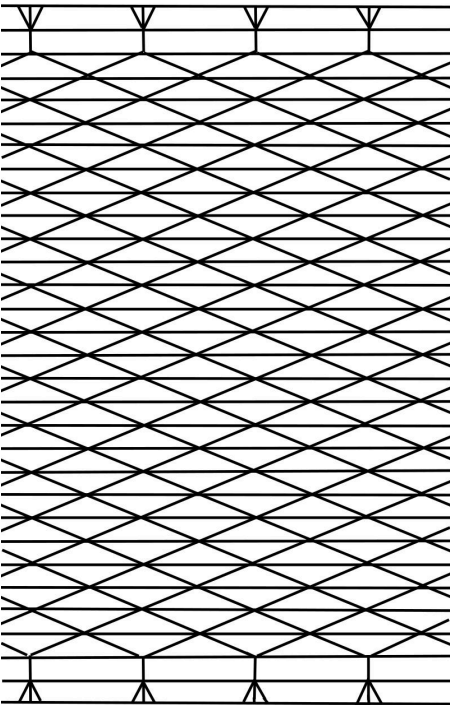
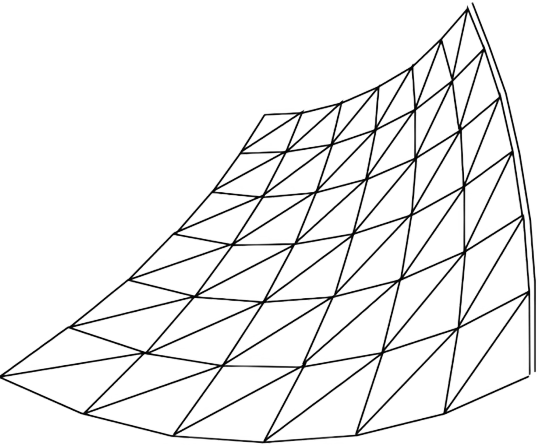


Sphere

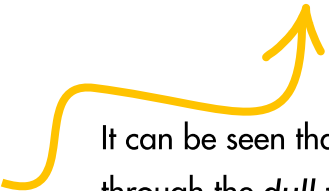
After careful consideration, I have chosen to only continue work on the *collapsible paper shapes*. I believe that paper-like material has the opportunity to feel more calming. The paper shapes above vary in difficulty to make in a robust paper-like material, and anything with a closed top or circular design is incredibly difficult to fold, if it also has to be collapsible. I will therefore start prototyping the *harmonica* and *dull tent* concepts.

# PROTOTYPING THE DOMES

I have found folding patterns for the *harmonica* and *dull tent* designs. I will now prototype the two design. (4) (5)



From doing these prototype, i found that the paper acted as a spring, which meant that it would automatically expand when i compressed the lamp shade. **This means that it is not necessary to make a function for expanding the lamp-shade.**

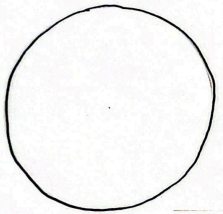


It can be seen that much more light is able to shine through the *dull tent* than the *harmonica* design. Furthermore, the *harmonica* design has more creases, which i believe makes it more prone to breaking. For these reasons, the **preferred pattern is the dull tent**. I will now prototype the bases for this design

# PROTOTYPING THE BASE

In this section, i will try to find the best fitting base for *dull tent shade* design.

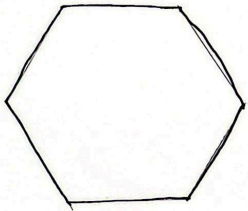
## CIRCULAR



This base gives a very nice feeling, when holding it.



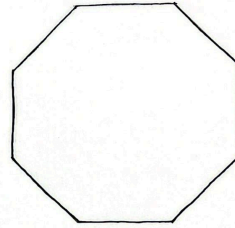
## HEXAGONAL



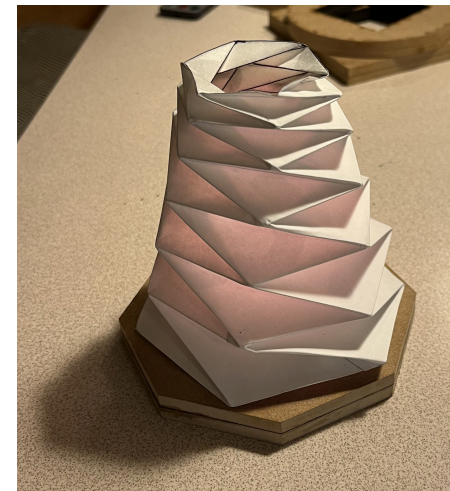
This design looks very satisfying and fits fairly well in the hand.



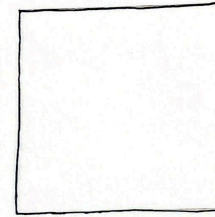
## OCTOGONAL



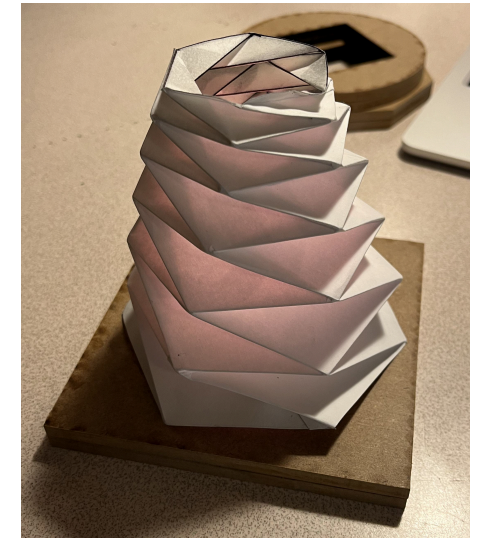
This base gives an unsatisfying feeling, as the base doesn't match with the lamp shade



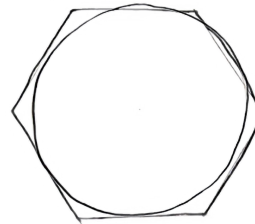
## SQAURE



This base feels bad in the hand and doesn't look good.



## INSCRIBED HEXAGON



This base matches the good feeling in the hand with the satisfying design of the hexagonal base, but it adds a lot of noise to the overall design and distracts from the lamp shade.

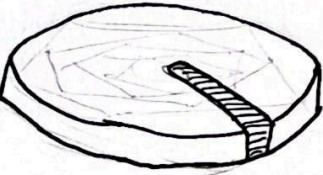


***At this point i started to go further in my design process to find out which base would fit the best. I concluded that i will have to make a 3D-model for both the circular and hexagonal base with the rest of the features, before making my final decision.***

# DESIGNING THE HARNESS

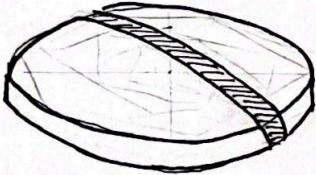
In this section, i will find the best way to keep the lamp shade down under transport.

1



Doesn't offer enough protection if it is thrown in a bag.

2



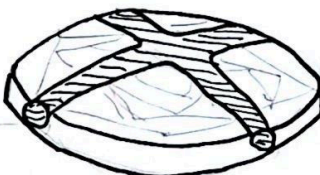
Doesn't offer enough protection if it is thrown in a bag.

3



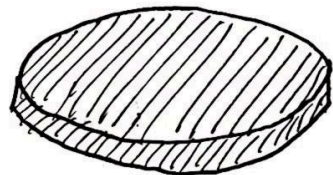
Does offer sufficient protection, and only one of the straps has to be let loose, to activate the lamp shade.

4



Does offer sufficient protection, but two of the straps have to be let loose, to activate the lamp shade.

FULL COVER



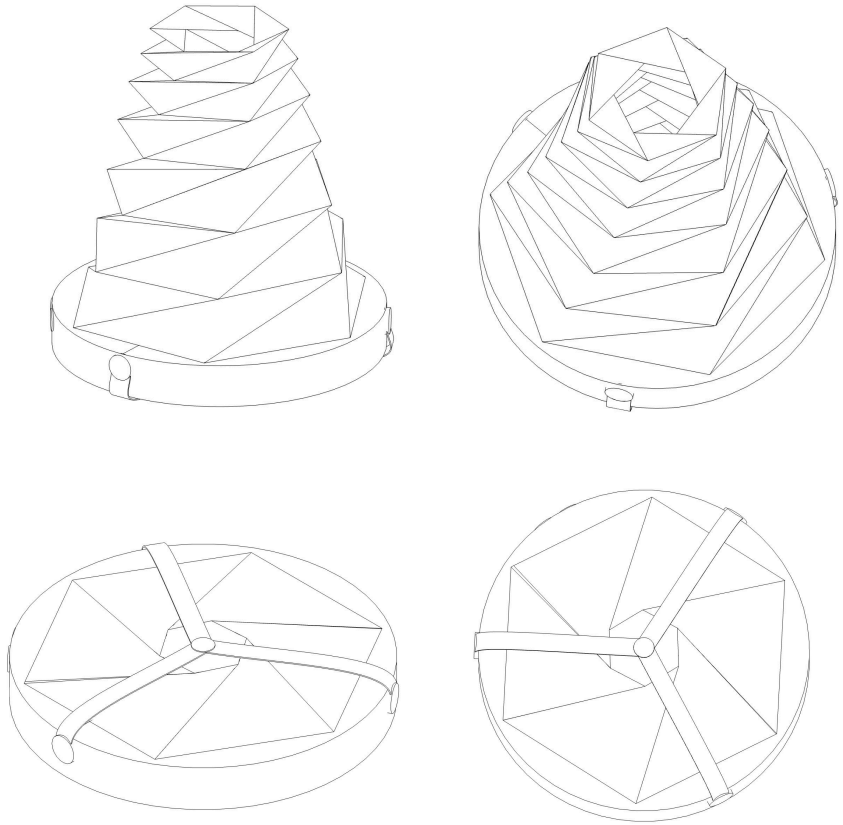
Offers plenty protection, but ads work when wanted to use.



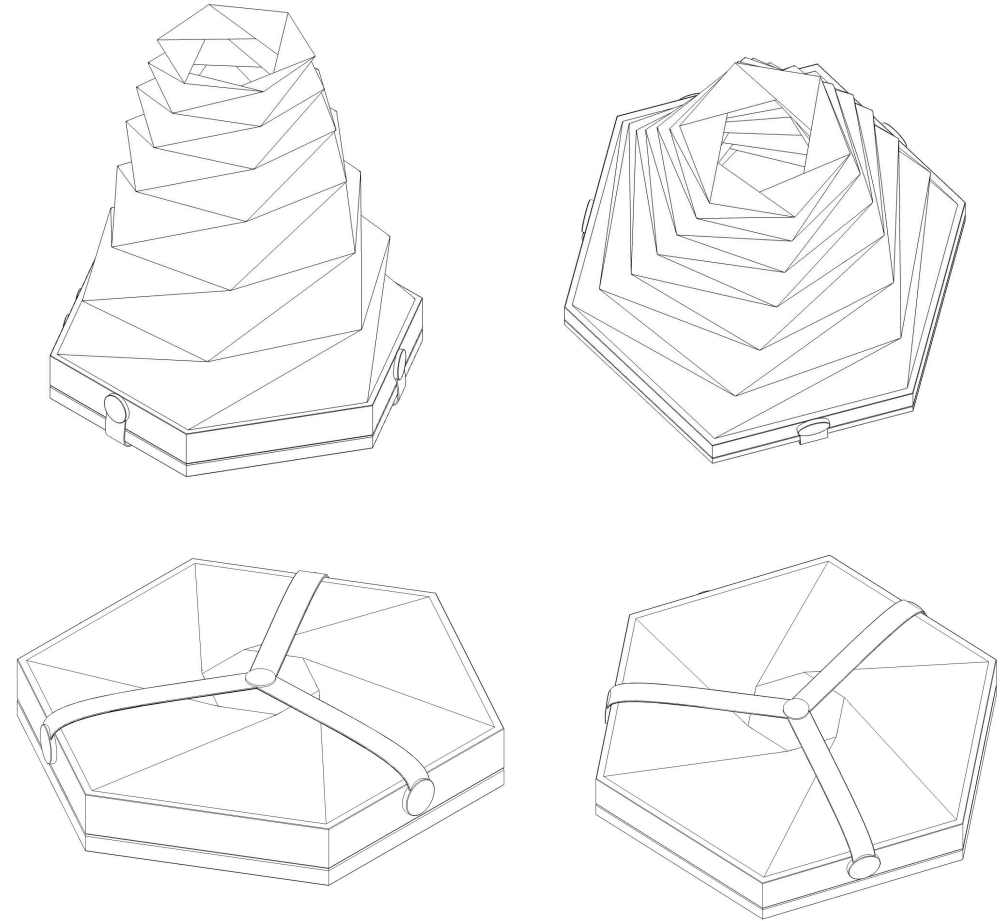
The best way of protecting the lamp, while keeping the use frictionless.

# EARLY 3D-MODEL

I have come to the point, where i want to decide whether i want to create a circular or hexagonal base. Therefore i have created 3D-models of them both.



**I will continue to work on the circular design,** since i see this as the design which gives a more calm and relaxed feeling. It breaks up some of the harsh angles from the lamp shade and harness in a very nice way. My user group would prefer a circular base to a hexagonal base.



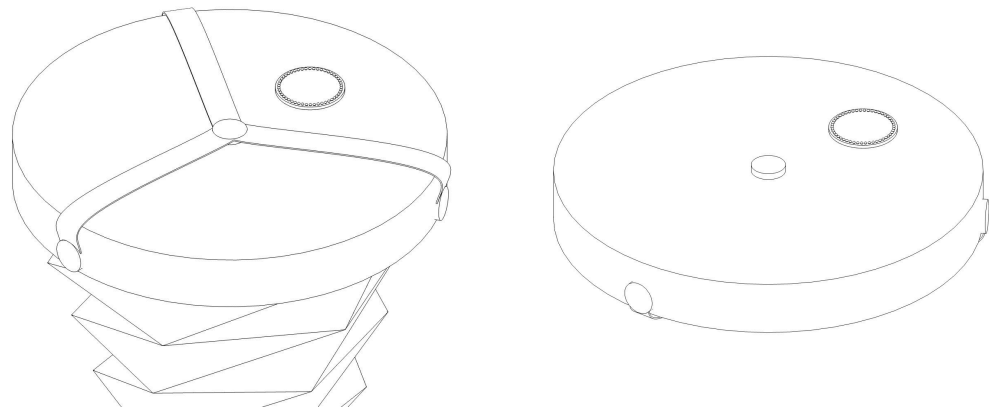
# DESIGNING COLOR TEMPERATURE CHANGE

In this section, i will be researching the various ways in which the user can *change the color temperature*.

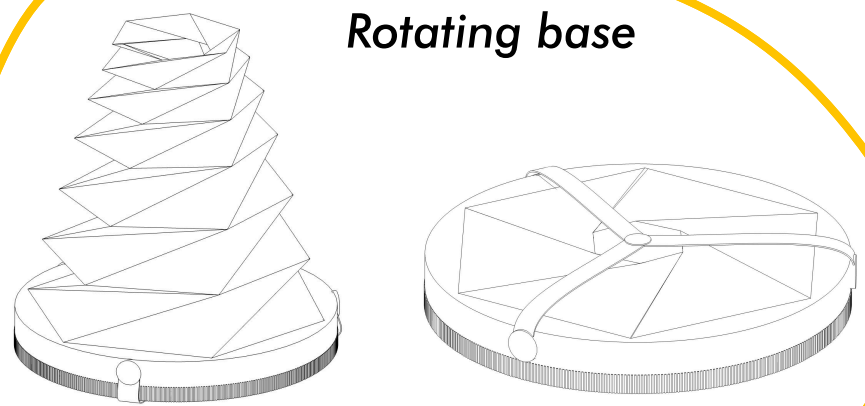
**The user must be able to change the color-temperature in seemingly infinitely small increments.**

**I decided to incorporate ridges on each concept as this would make it clear for the user, that it indeed is an element that can be turned.**

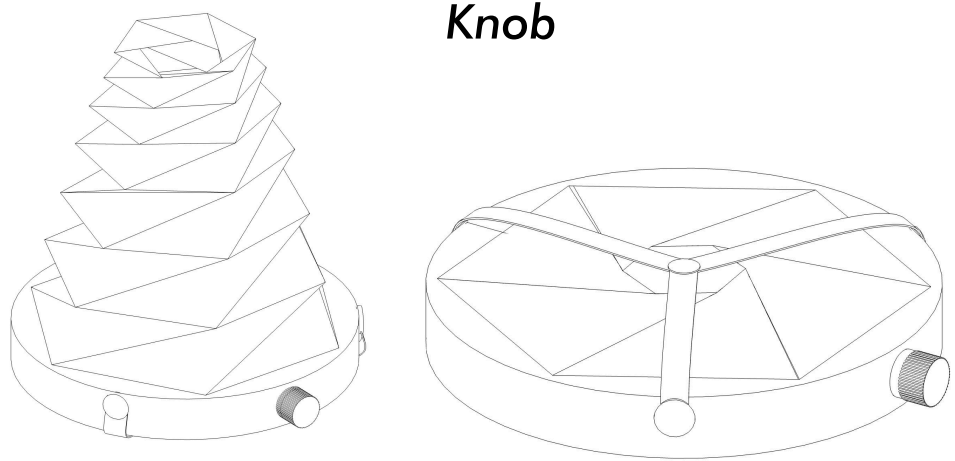
Flat knob



Rotating base



Knob

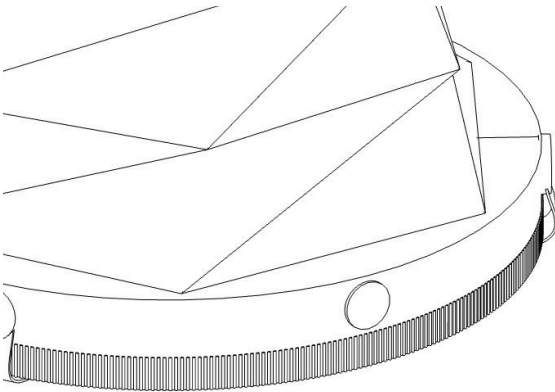


# DESIGNING THE REMAINING BUTTONS

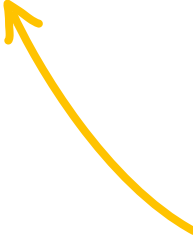
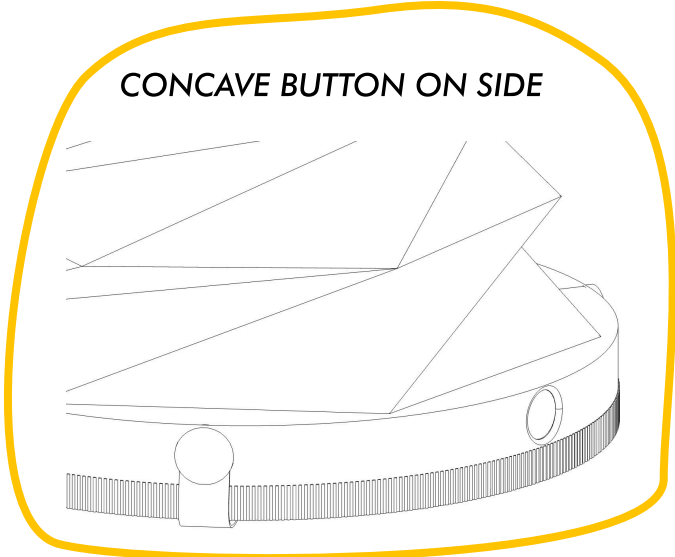
In this section, i will be researching the various ways in which the lamp can turn on/off, and how the user can change the amount of *lumen*, that he light emits.

**To minimize the amount of buttons that the user has to interact with, the on/off should also control the amount of lumen, that the lamp emits.**

CONVEX BUTTON ON SIDE

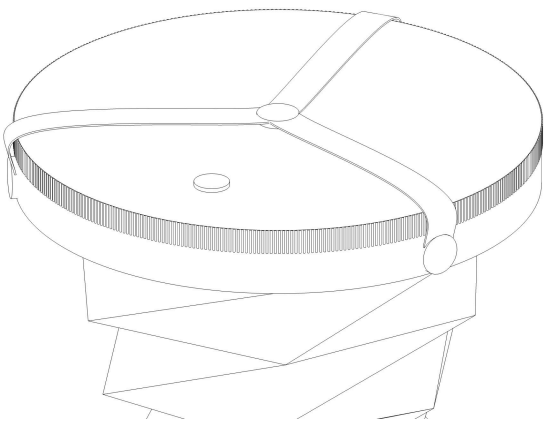


CONCAVE BUTTON ON SIDE

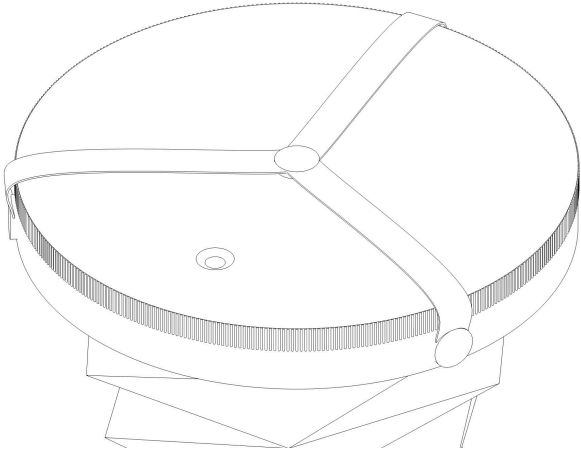


This is also the way, that Verner Pantons' Panthella, Louis Poulsen's NJP and several other lamps change lumen.

CONVEX BUTTON UNDERNEATH



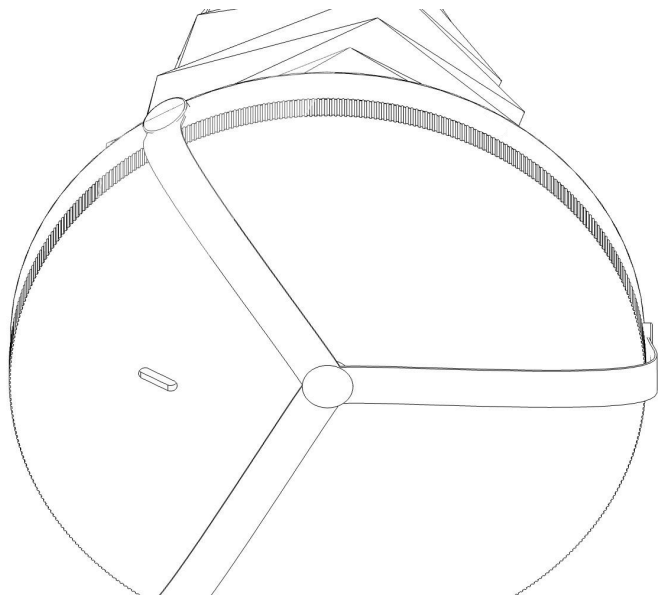
CONCAVE BUTTON UNDERNEATH



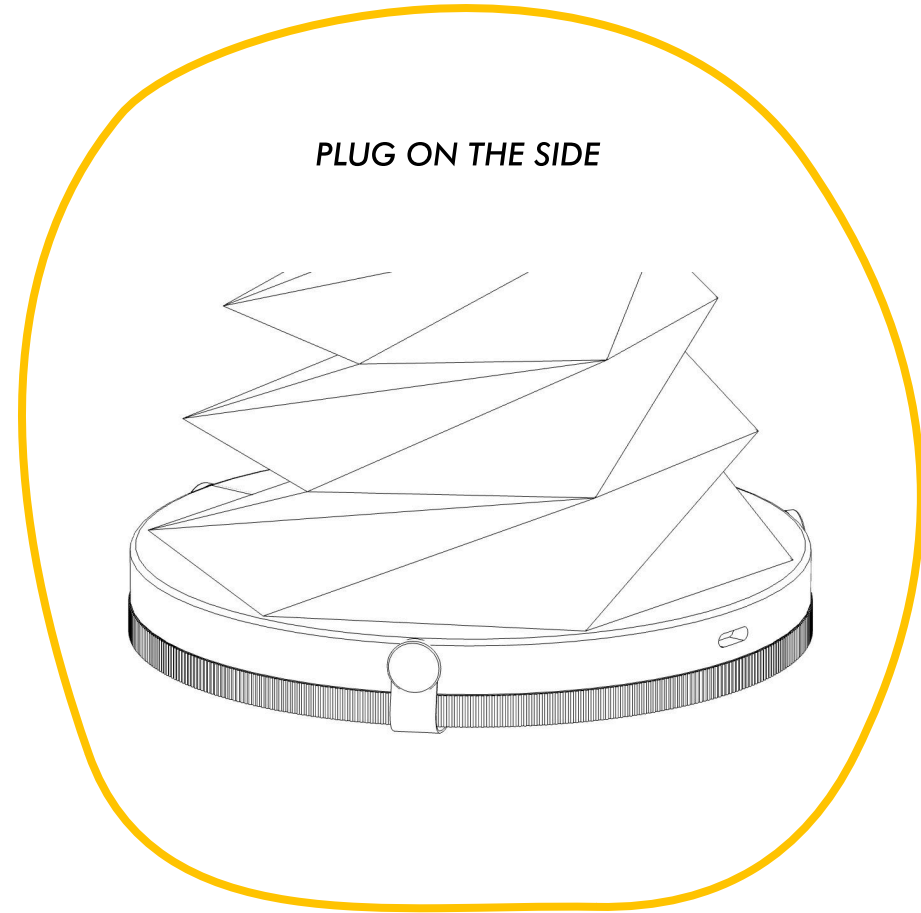
# CHARGING THE LAMP

In this section, i will be finding the best way in which the lamp can be charged. I will exclude using wireless charging, as the technology is not efficient enough yet. I will be using USB-C for charging to follow EU-regulation

**PLUG UNDERNEATH**



**PLUG ON THE SIDE**

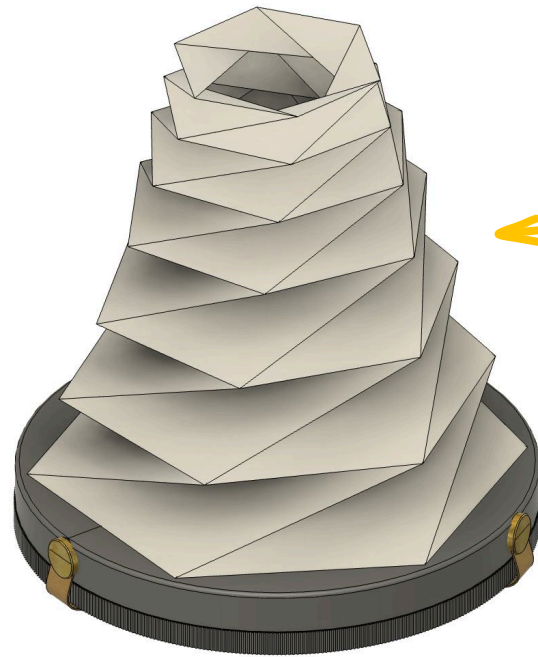


I want the lamp to be functional when it is being charged, therefor the best solution is using a plug on the side.

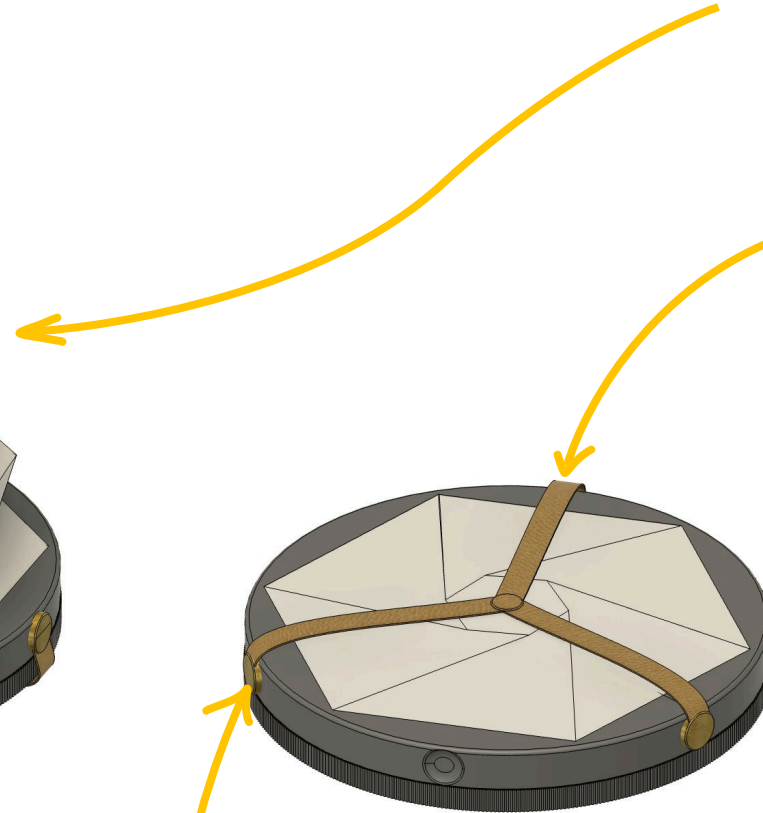
# MATERIALS

In this section, i will be assigning materials to relevant parts of the final product

These prototypes are made of relatively thick paper (120 g/m<sup>2</sup>). I wish for the final material to have many of the same properties, but with a more robust and reliable material. From my earlier competitor analysis, i have found that Tyvek paper skin is the industry standard. It is a robust plastic material that is not single-use, and can offer many years of service (6). **The final lamp shade will be made of Tyvek paper skin.**



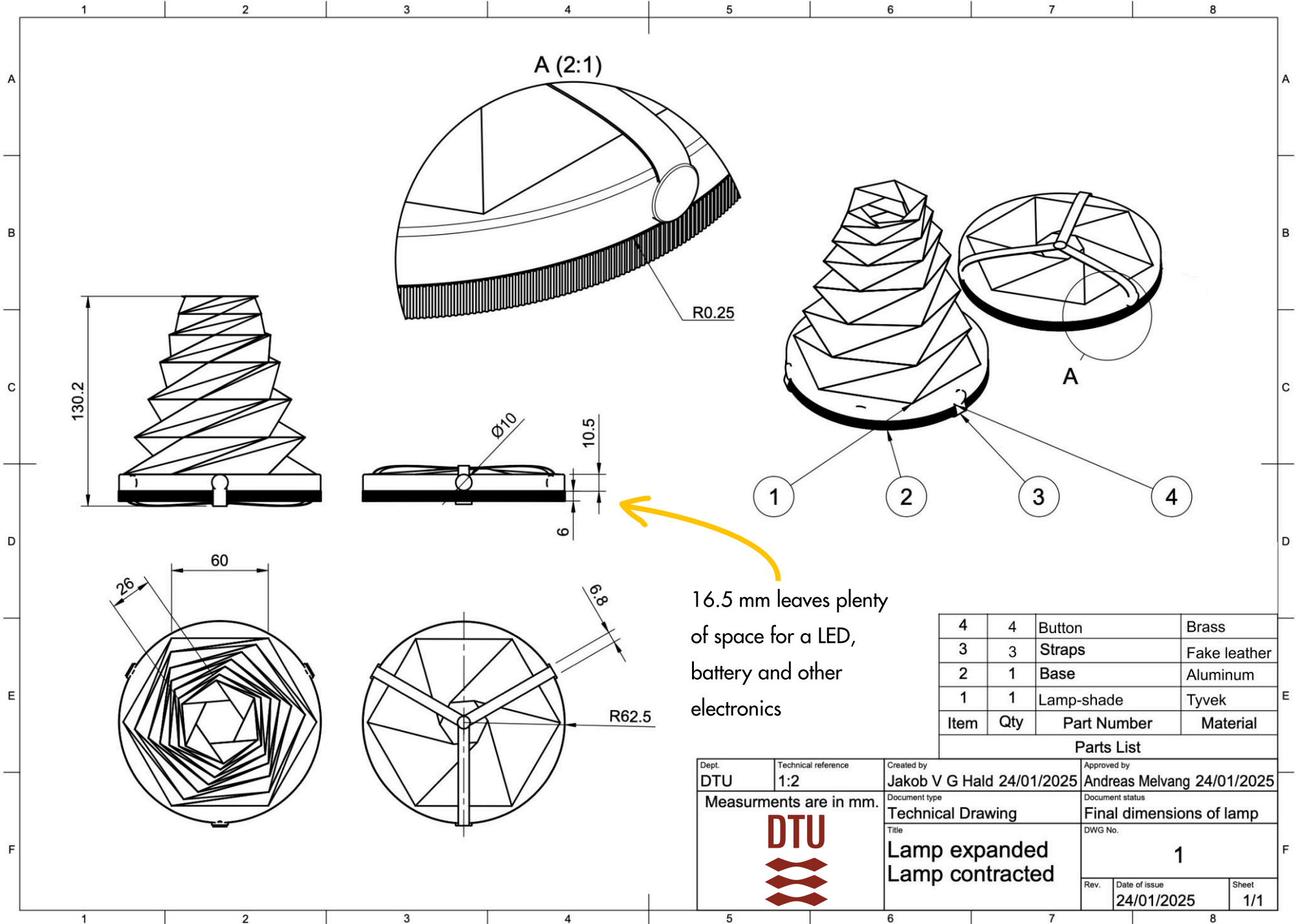
**The base should be made of recycled aluminum with a dark coating.** I considered making it of wood, which would make it very beautiful, but it wouldn't be possible to produce due to moving and intricate parts



**The harness should be made of an eco-friendly alternative to a light-brown leather.** This would make for a beautiful and homely contrast with the white lamp shade. It also fits within the *mood* and *styling* of the image-board. There are plenty of companies creating eco-friendly leather-like materials such as Pinatex, who make leather-like material from pineapple leaf fibres.

The buttons that hold down the harness should be **upcycled brass buttons**

# TECHNICAL DRAWING



# USER-SCENARIO

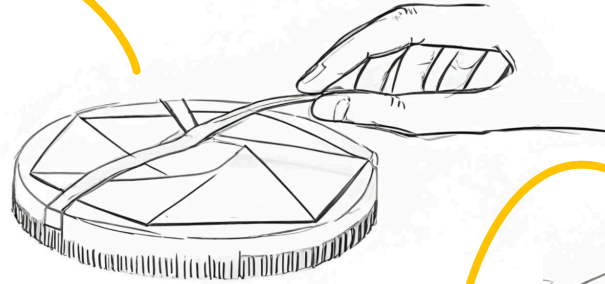


GOING TO WORK

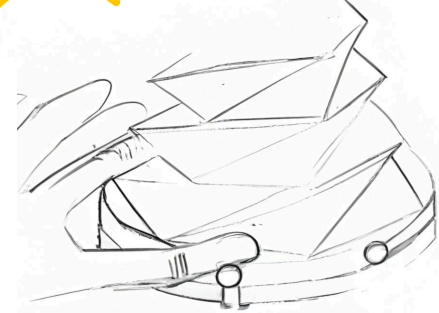


TAKING OUT LAMP FROM BAG

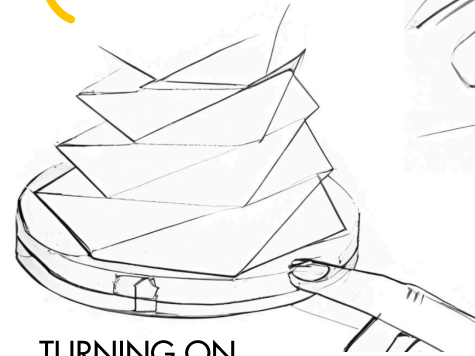
RELEASING HARNESS



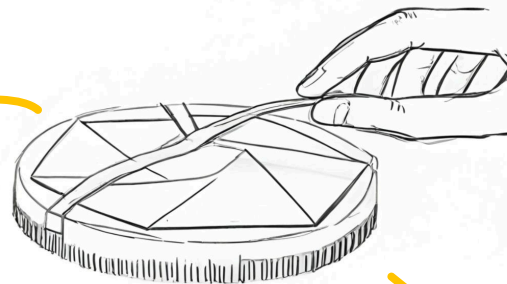
ADJUSTING COLOR TEMPERATURE



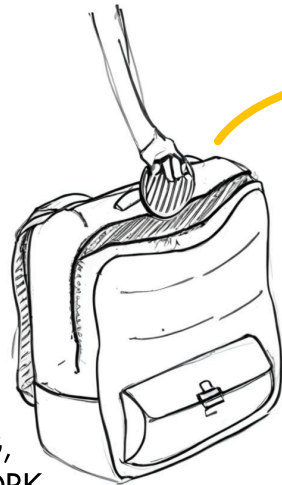
TURNING ON LIGHT



WORKING BY LAMP



FOLDING DOWN LAMP AND CLOSING HARNESS



PUTTING IN BAG, AND LEAVING WORK



CHARGING LAMP IF NECESSARY

MONEYSHOT



# SOURCES

- 1** - Khorshid, R. F., Almadani, S. H., Al Shehri, A. M., Abduljawad, L. M., & Alsaleh, A. M. (2021). The Effect of Fluorescent Light on Anxiety Patients. *Cureus*, 13(2), e13436. <https://www.cureus.com/articles/47765-the-effect-of-fluorescent-light-on-anxiety-patients#!/>
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- 3** - Parasympathetic Tone - an overview | ScienceDirect Topics. (n.d.). *Www.sciencedirect.com*. <https://www.sciencedirect.com/topics/medicine-and-dentistry/parasympathetic-tone>
- 4** - NeoSpica Paper Structures. (2017). DIY Paper Folding Lamp Conical Structure Hexagonal Base [Video]. YouTube. <https://www.youtube.com/watch?v=ZqGMhTcsgal>
- 5** - NeoSpica Paper Structures. (2017). Accordion Paper Folding Octagonal Shape [Video]. YouTube. <https://www.youtube.com/watch?v=f6Dw2jPMisc>
- 6** - Is Tyvek a sustainable material choice? (2016). Preservation Equipment Ltd. <https://www.preservationequipment.com/Blog/Blog-Posts/Is-Tyvek-a-sustainable-material-choice>

***APPENDIX WILL START FROM THE NEXT PAGE***

# OBJECT OF DESIRE WRISTWATCH

I need a wristwatch to know that I am rich enough to spend money on expensive and redundant objects.

Feeling rich will make me feel more at ease, since my future will seem more secure.

The watch will give me the practical ability to tell the time without looking at a phone which aligns with my goals.

I will become a better person when looking less at a phone, since i see a large correlation between my happiness and not looking at my phone.

When i'm in uncomfortable social situations, i flee to looking at my phone, often just looking at the time.

Having an expensive watch will force me to look at the watch when i actually need to know the time, making it weird to look at my phone if i just need to know the time. In short, owning an expensive watch will make me be more present.

By Jakob V. G. Hald



The watch on my wrist will constantly remind me that I have abundant amounts of money. It isn't for showing my wealth to everyone. I would get more enjoyment from the feeling of a limited amount of people knowing that i have money. Owning this watch will make me feel as if i have made it.

The watch will not intimidate people, because it doesn't scream wealth. This watch will me make approachable which is something that i value highly.

The watch will also be a conversation starter for people who are interested in watches, since GLASHÜTTE is a very respected brand.

I believe that everybody has a deep desire to fit within certain boxes set by society. This watch will make me fit within the boxes that i want to fit in.

When the first thing i do after getting out of bed is taking on a 13000 kroner watch, i know i will be living comfortably.

