The Acrylic Light Up Storage Box

Need to continue your work but its getting dark and your table is messy? Don’t worry look into this document to see more about this product!

By: Grace Foo

Table of Contents

Persona 2
Empathy Map 3
Problem Statement 4
Initial Idea 4
Research/reference images 5
Sketches 5
Initial sketches and modelling 5
..... 6
Final Sketches and modelling 6
Electronics 10
Final images 11
Final video 14
What to improve on 14

Persona

My persona is Grace Foo, she usually likes to sit on her desk to do read or do work, but her desk is usually disorganized with a bunch of stuff such as stationary. Additionally, when it gets darker during the day its hard for her to continue working at her desk since she either does not want to get up to turn on the light, or it is not dark enough outside to justify turning on the light and using up electricity. Furthermore, she also can't work at her desk at certain hours of the night since she shares her room with a sibling, thus doesn't want to disturb them by turning on the big light when they are asleep.

She is also a big fan of certain shows and or franchises and wants to display pictures and or to decorate her area with more things that remind her of her favourite shows and or franchises, but also does not have much space.

Grace Foo

Age: 18

Job: Student

Bio

Grace is a student who studies or works at her desk, but her desk is often messy or dimly lit. She loves many shows and or franchise and wants to display pictures and or to decorate her area with more things that remind her of her favourite shows and or franchises, but also does not have much space.

Needs

- Something to light up the desk better
- Something to organize the things on my desk easier
- Something to help display logos or pictures

Personal Traits

Patience ▼65%

Flexibility ▼70%

Problem-solving ▼75%

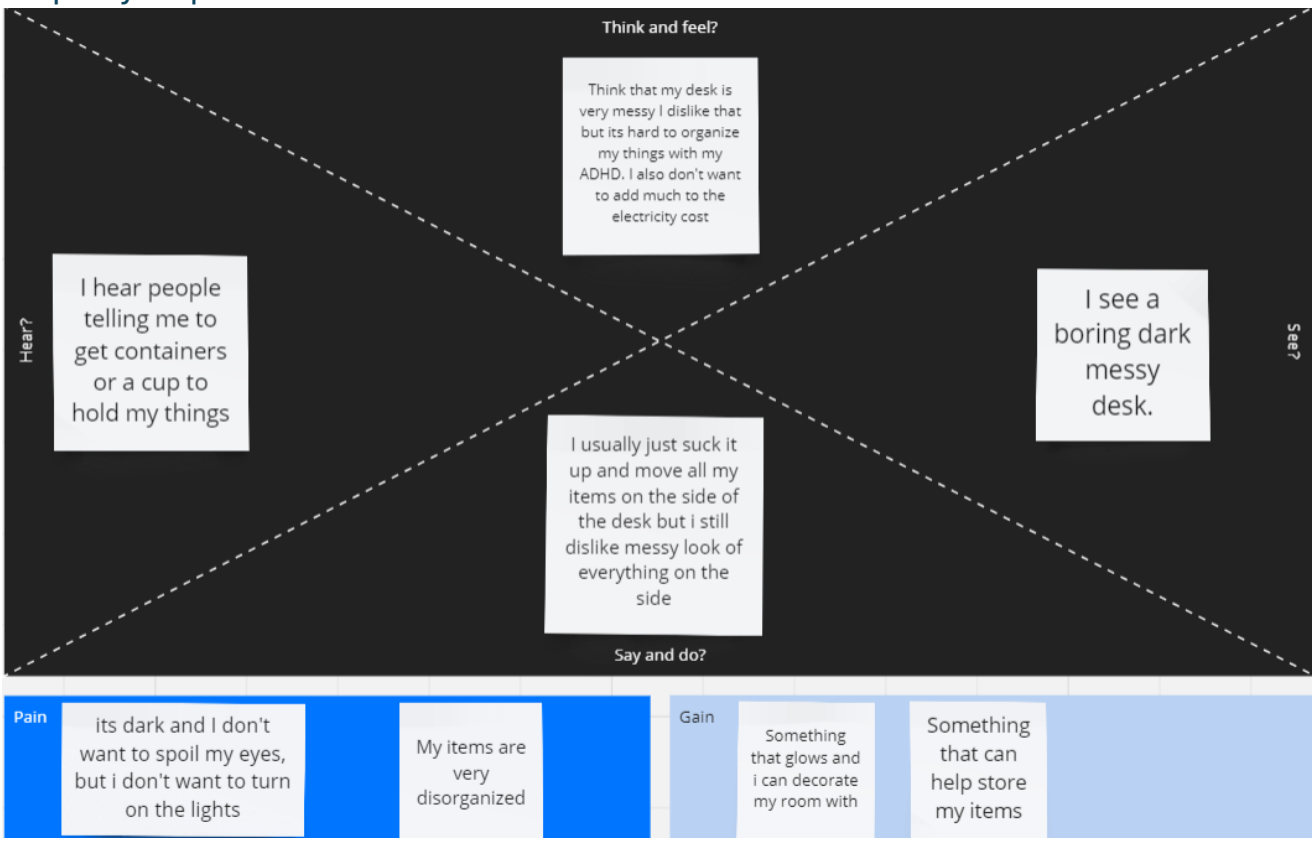
Frustrations

- Desk is messy
- Desk is dimly lit

Free Time

- Plays games
- Watches shows

Empathy Map



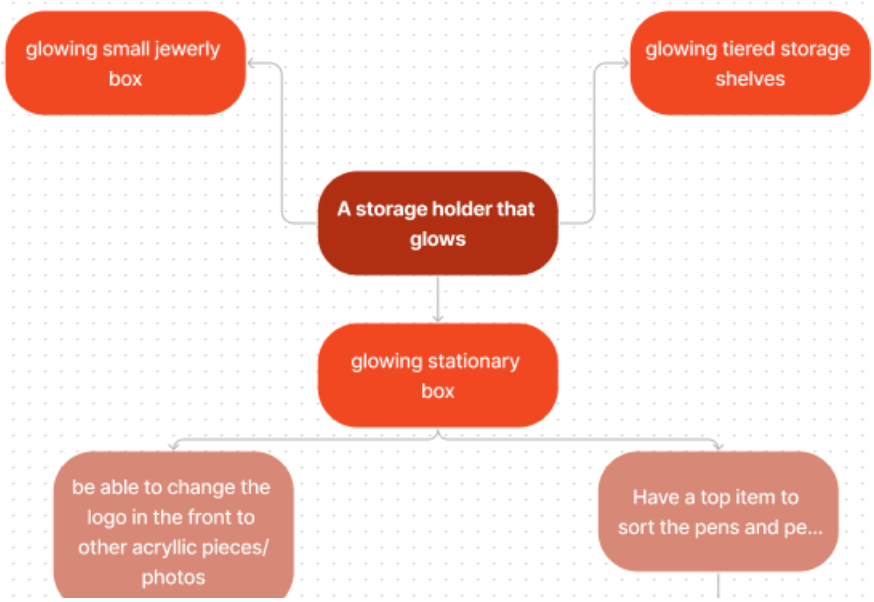
Problem Statement

The issues are:

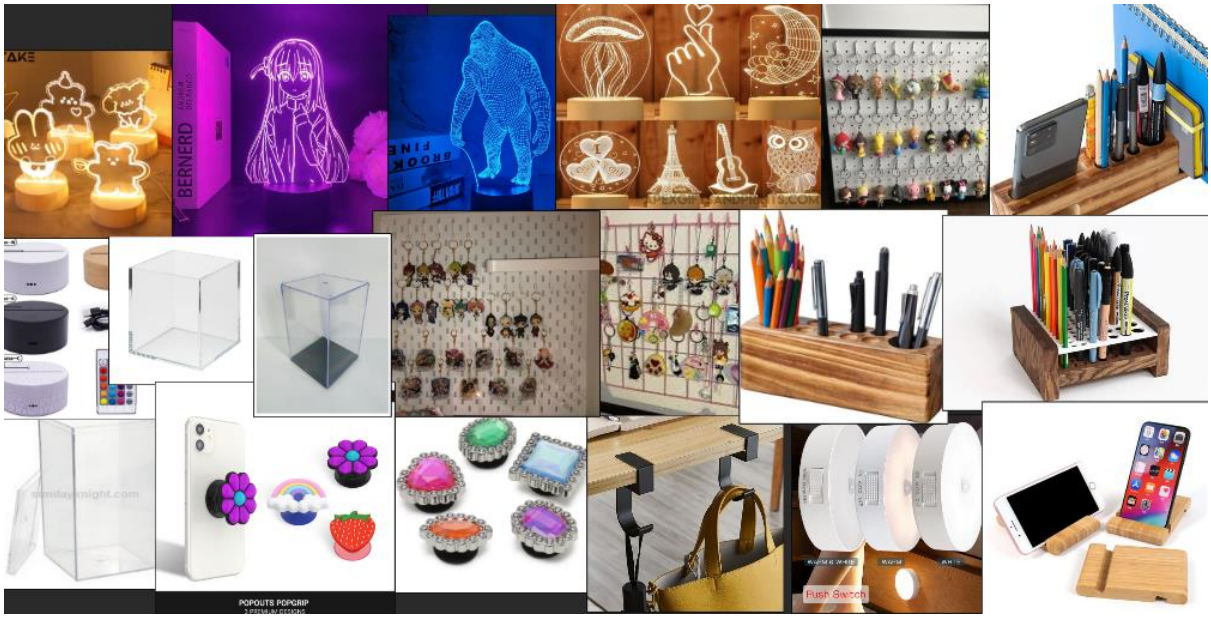
- Desk gets messy especially with stationary and other items
- Sometimes desk gets dark and makes things hard to see or read when dark
- Want to change and display my favourite things while still saving space
- At night, they don't want to turn on the big light but want a bit of light to read or to sleep next to

Initial Idea

I thought of a few ideas at first. I wanted the final product to glow, for visually nice effect but to also to provide more light in an area. I made a mind map of some of my ideas that could storage things nicely and I decided on a stationary box.



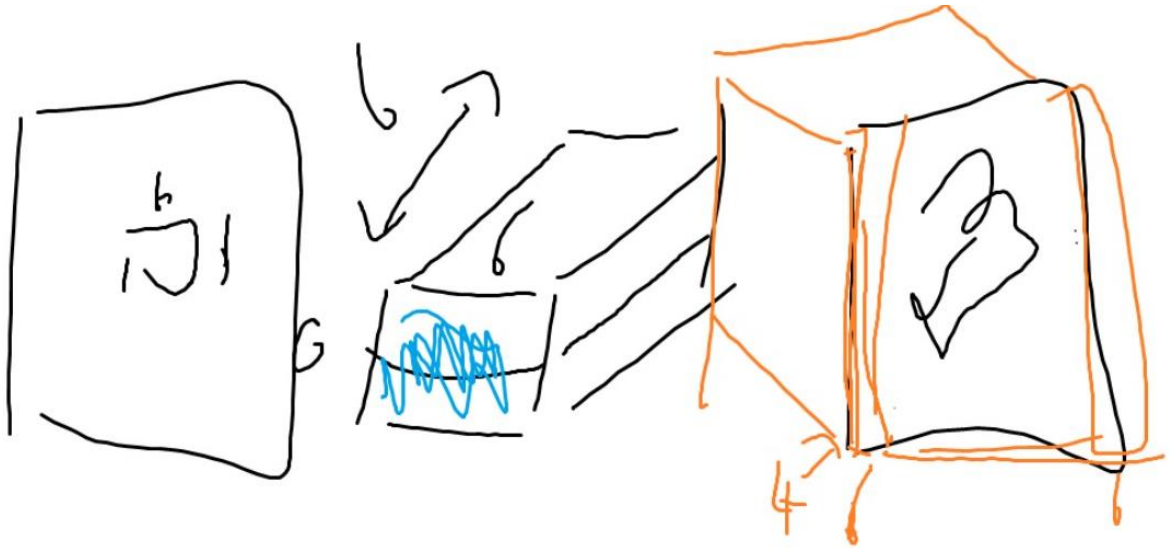
Research/reference images

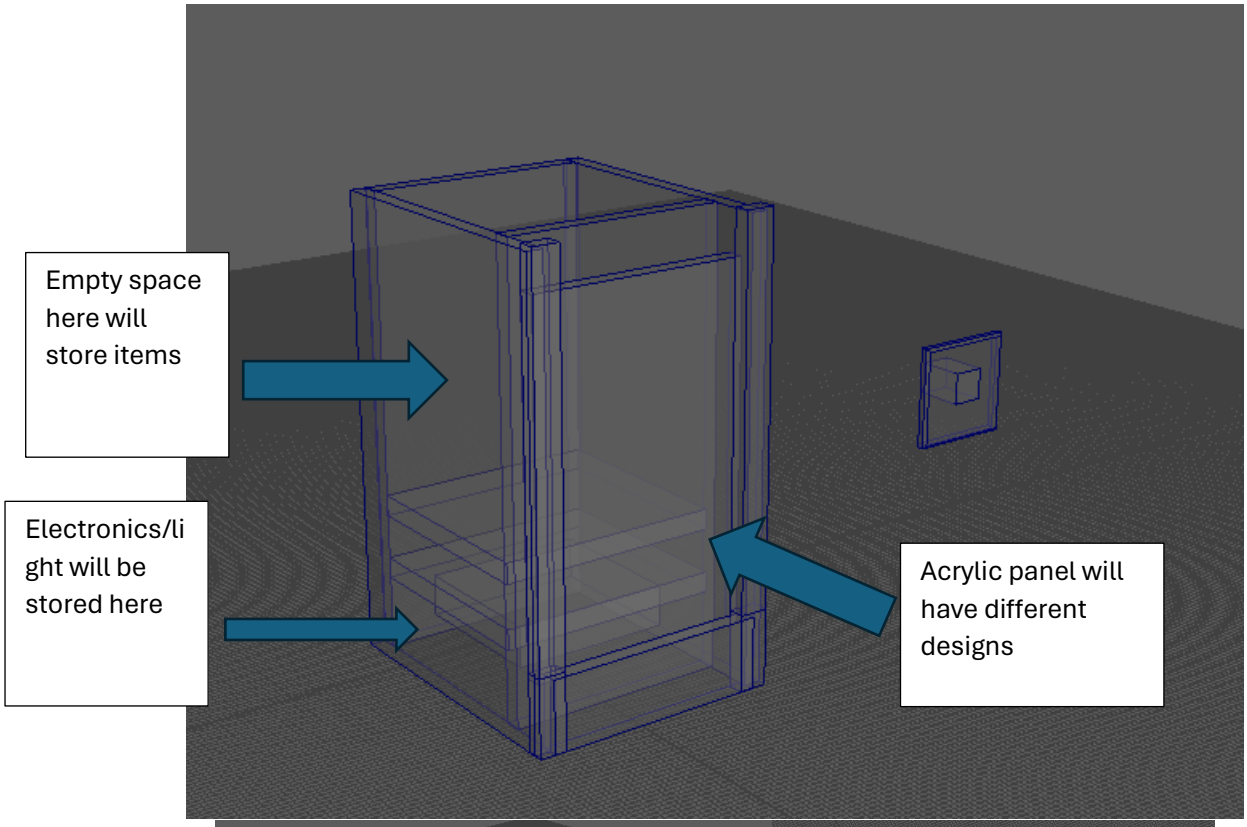


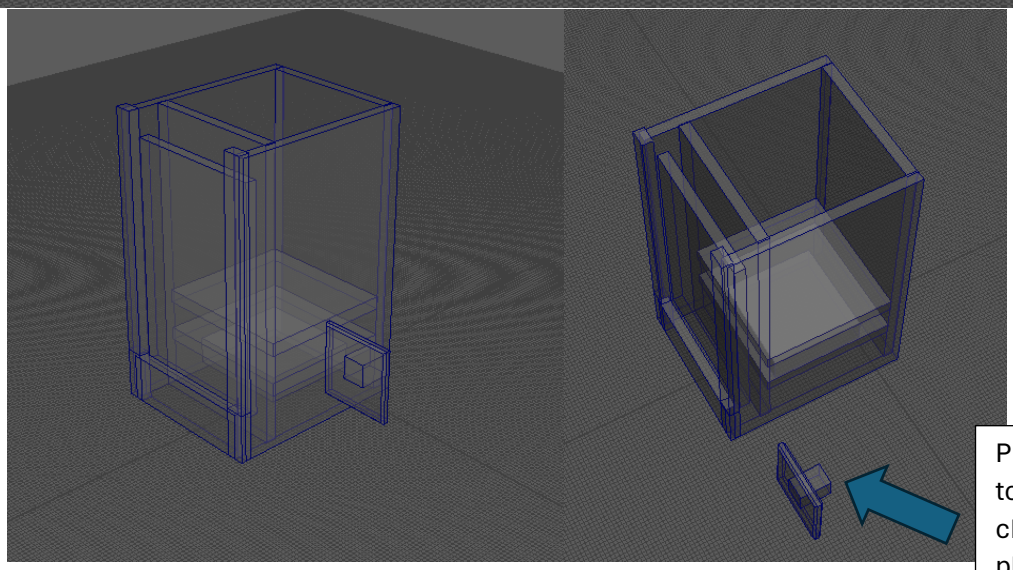
Sketches

Initial sketches and modelling

When I first consulted my lecturer he suggested on how some measurements and things would roughly look like leading to this rough sketch drawn. It shows the box and some measurements, of the plugs and the panel holding the plug and of the box. After consulting him I started to model my idea to make it much clearer and consult him after the first modelling attempt





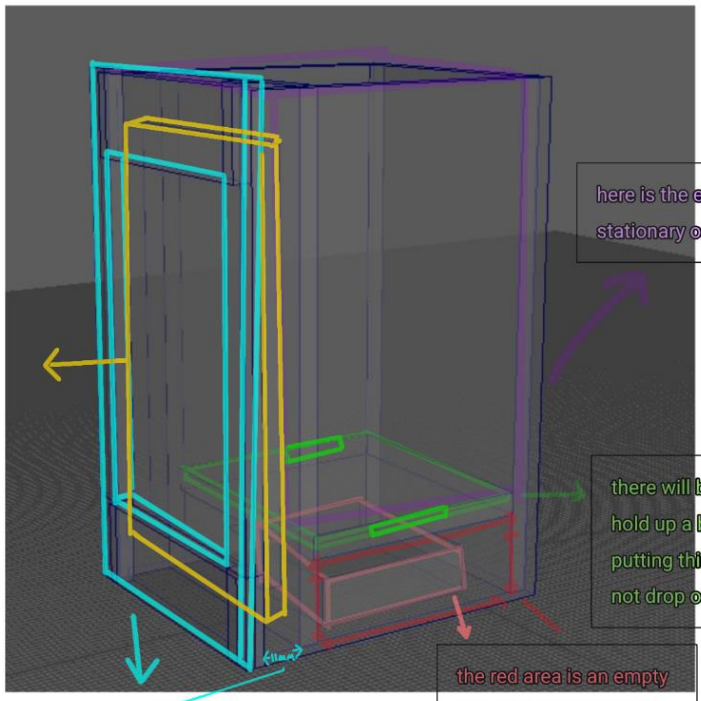


Final Sketches and modelling

After the initial sketches and modelling I modelled and sketched the final product

panel laser design examples

this is a acrylic panel there will be art/ designs lasered on these panels. you can switch the panel designs

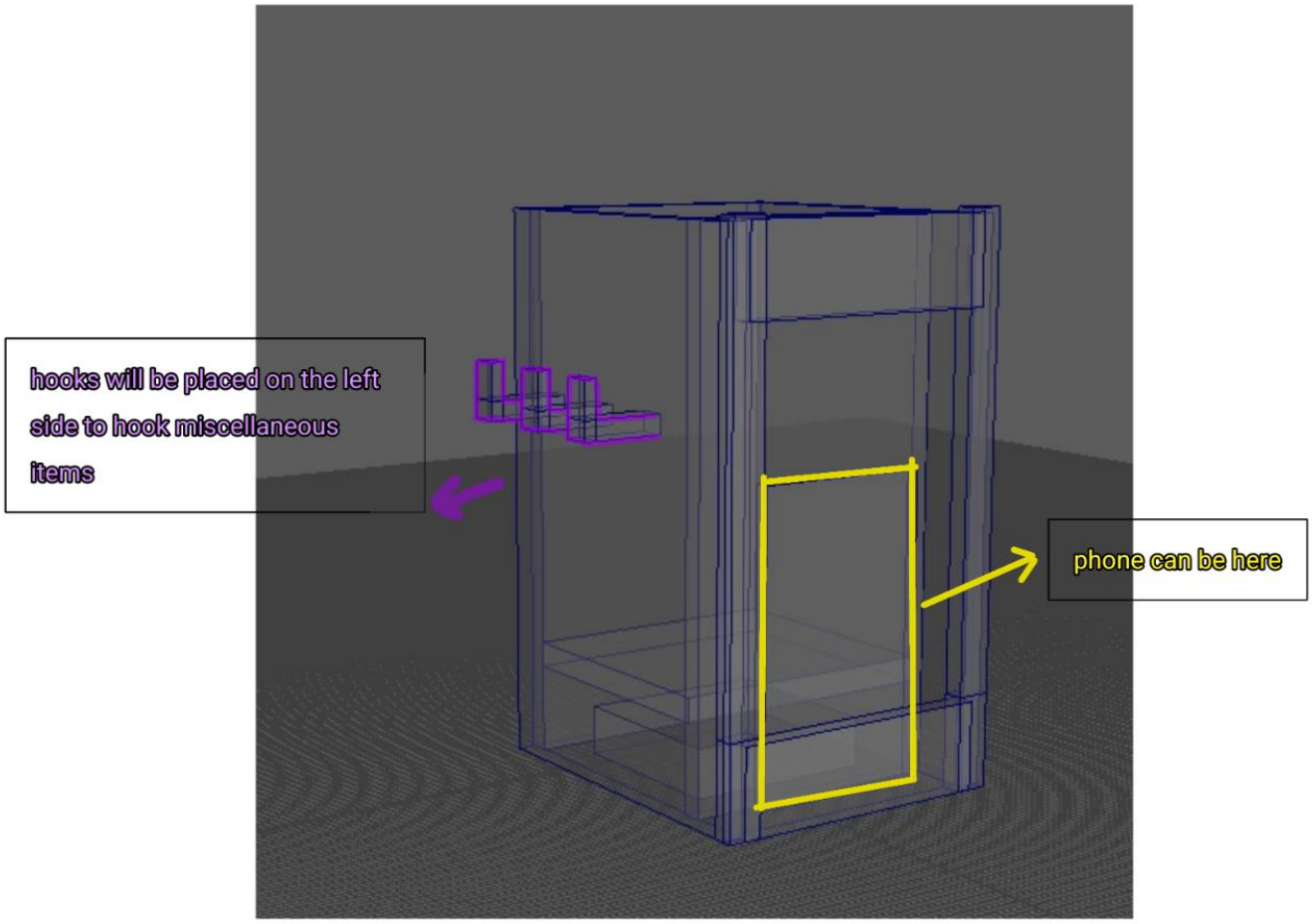


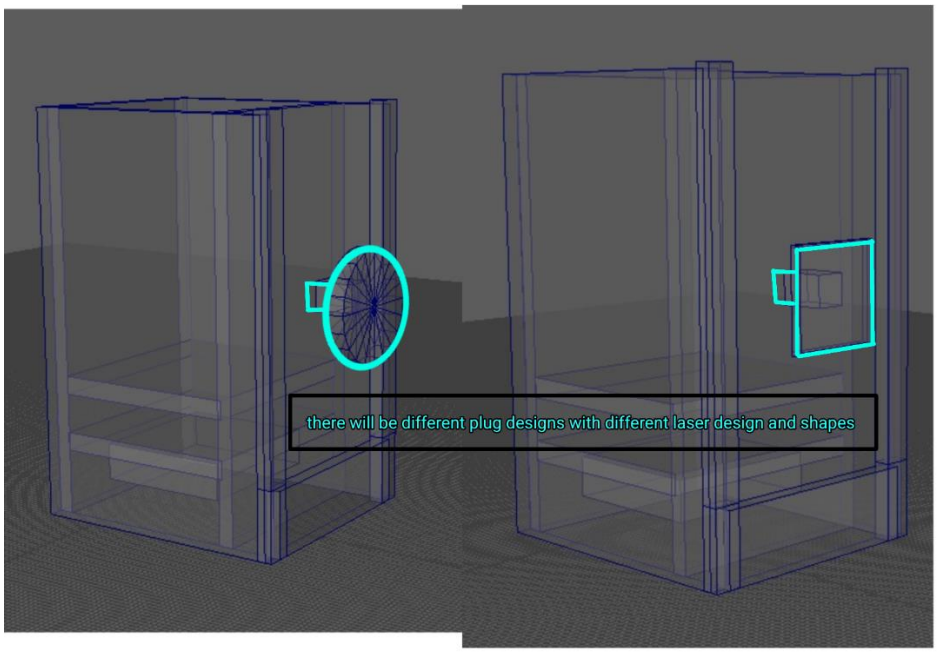
here is the empty space to put stationary or random items

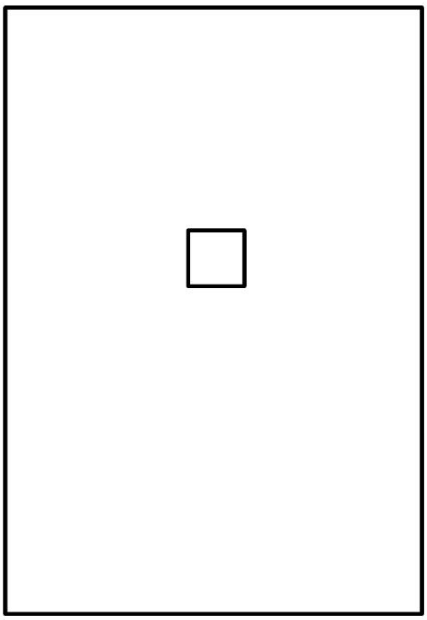
there will be holes on the side panels to hold up a bottom square area, so when putting things in the container, it does not drop on the light

the red area is an empty space to store the light. the pink block is to represent the light bring underneath that red space

the front of the box will have a gap about 11mm to fit phones pictures or acrylic panels. to prevent all these things from falling front there is a frame infront to secure panels or pictures from falling infront

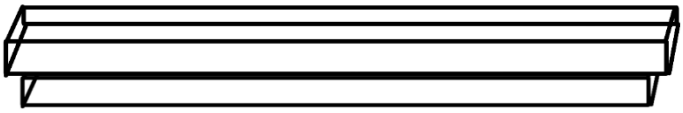

hooks will be placed on the left side to hook miscellaneous items
phone can be here

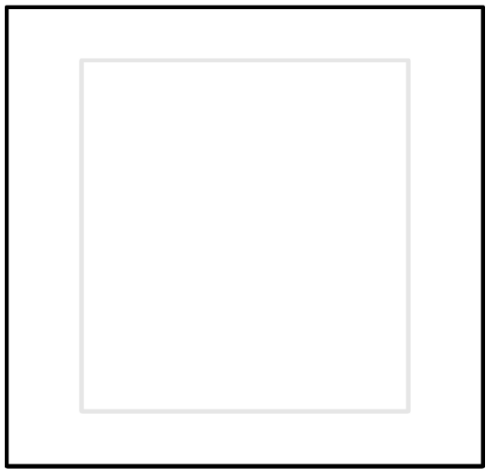




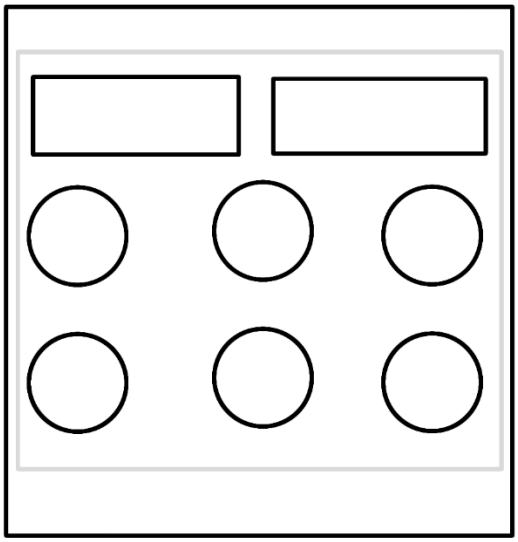
they will be plugged through this acrylic panel placed in the front with a hole to push the plugs

this is the regular lid to cover the box top, it has a layer of acrylic under to prevent the top from slipping off the container



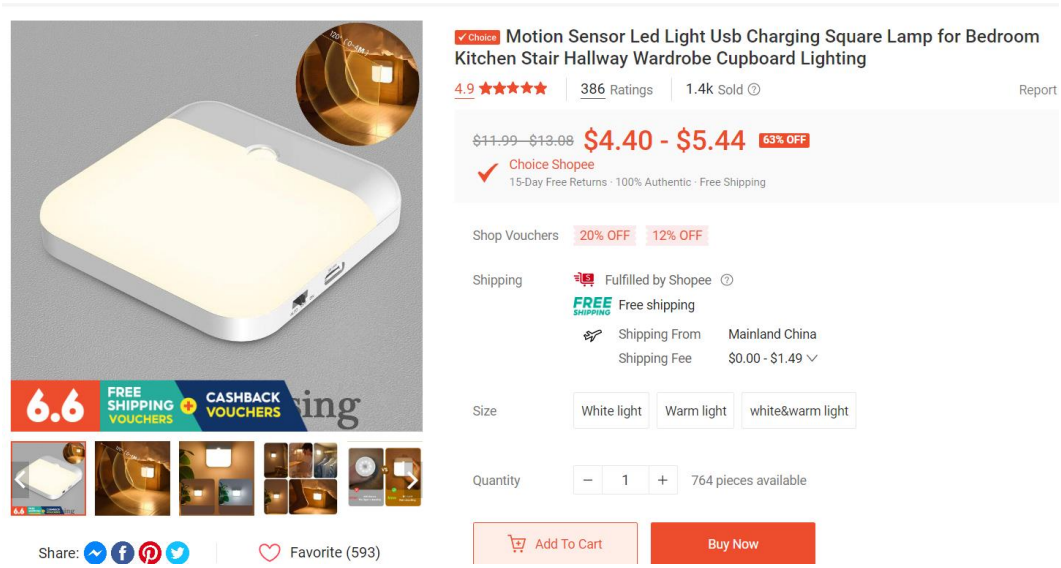


this is one of the lids to pick, it has large rectangular holes for rulers or scissors and holes for the pens and pencils. this is to sort and organise the stationary easier and neater in this container. there is also a bottom acrylic to hold the lid in place

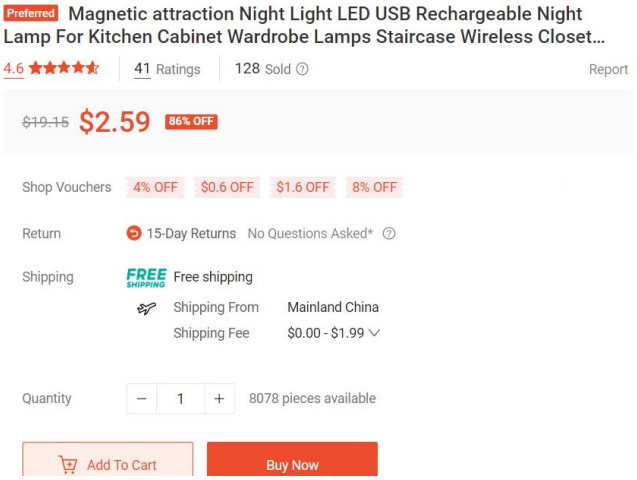


Electronics

Originally I designed my box to accommodate this led light however it did not work thus I had to find a new electronic



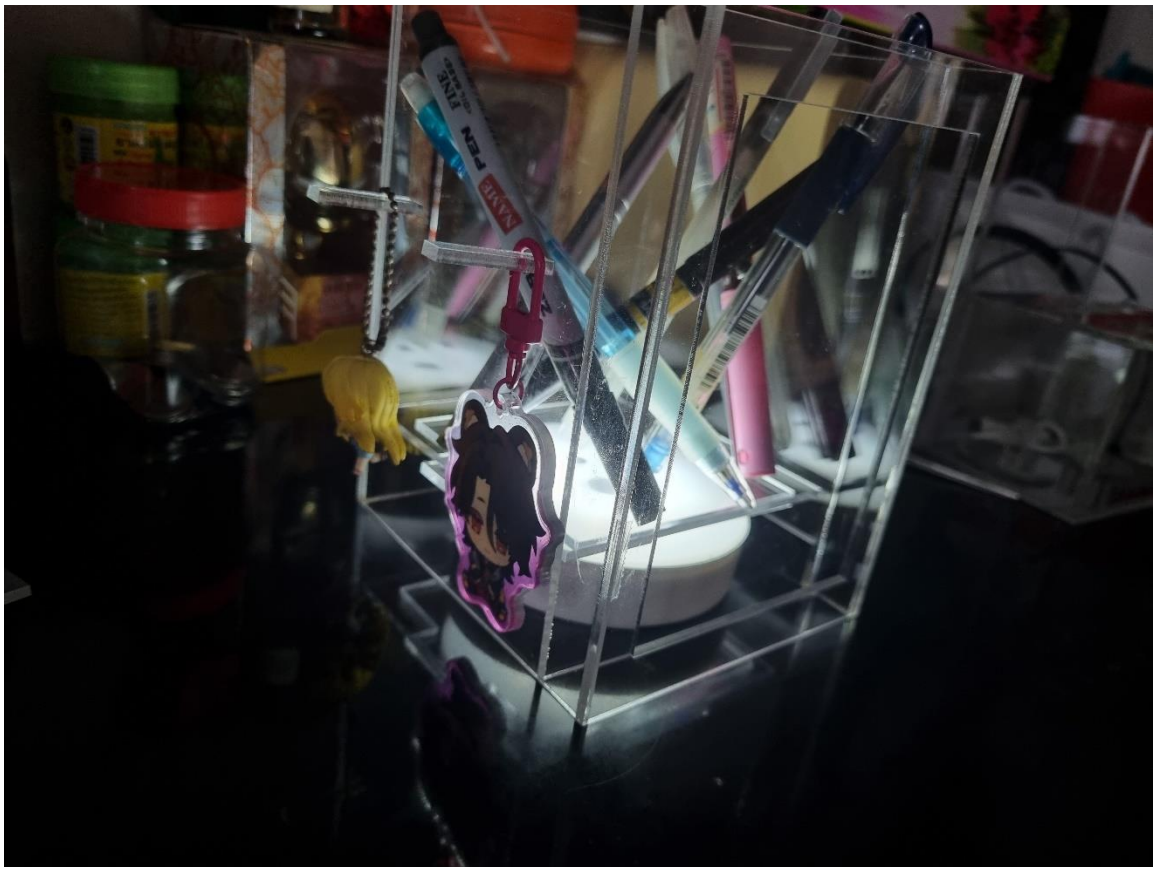
In the end I resulted in purchasing this light, where you press the middle to change the light color and to turn it off an on. To turn the light on, remove the box turn the light on to the favourable color and place the box back on top of the light



Final images

This is the box and its side shelf

(in this image its using the stationary sorter lid, in the other images, the sorter lid is not in use)



Final video

The final promotional video can be seen here

https://ivid2.np.edu.sg/media/Grace+Foo+Acrlic+Light+Up+Storage+Box/1_d2h60cwe

What to improve on

- I would like to use holes/dents to make it easier to put things together to glue without making things crooked
- I should have adjusted the plugs to be shorter but longer as by the due date I could not laser new pieces