Ideate and Design

2.23.21

Key Features

Primary functionality

1.
Its stable

2.
Does Not use up much room

3.
Its able to clamp on and off

4.
Fits everything that needs to be on there

Key features

1.
Name:Desk
Knowing:Needs to fit what i want it to fit,Needs to stay stable and not move
Unknown:Style material

2.
Name:Clamp
Knowing:It needs to stay clamped, won't damage anything
Unknown:what material or how its gonna look or even be able to clamp

3.
Name:tubing
Knowing:it can move around, Be able to be flexible doesn't get in the way, can hold weight
Unknown: what material, how long and wide the tubes are gonna be, how to make it more flexible

Prototype Design

Prototype Goal:

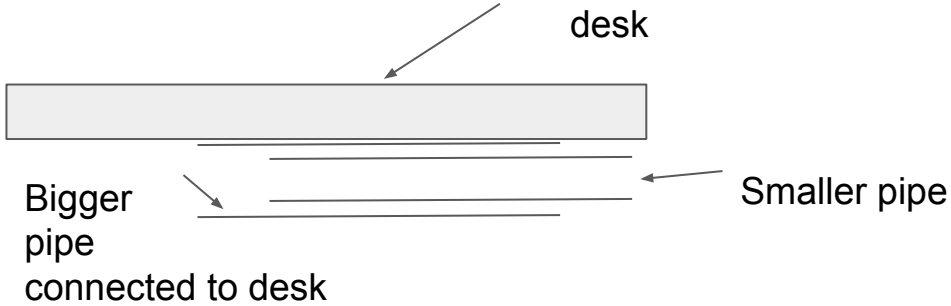
- Test rotating mechanics

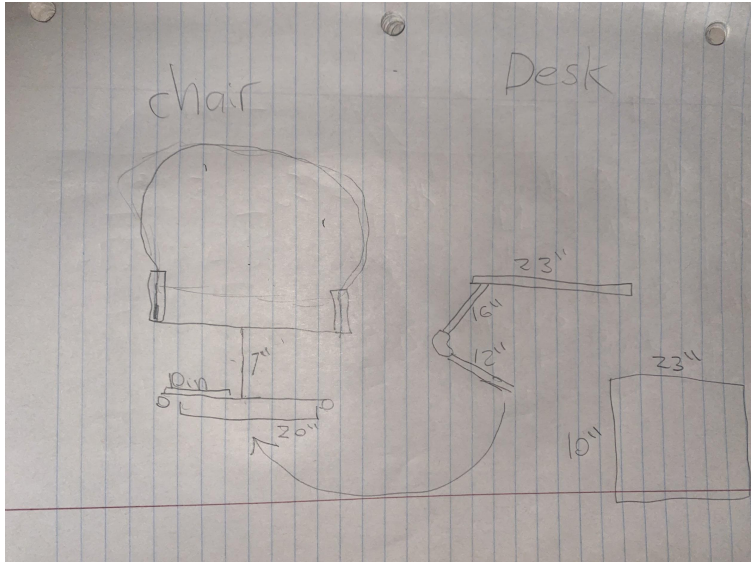
Approach:

- Overlapping a pipe with a slightly bigger pipe

Materials:

- I have copper pipes that i can test it on





Build, Test, Evaluate Prototype

3.17.21

Prototype Build

Approach:

- I made big tubes and smaller tubes that fit inside the big tubes so they can rotate and extend

Something I liked:

- They are very flexible and can move around a lot

Something I will not do again:

- For my prototype I made it out of cardboard so I will probably not make it out of that since it won't really hold weight.

Prototype Test

Test objective:

- For it to be flexible and move around

Test method:

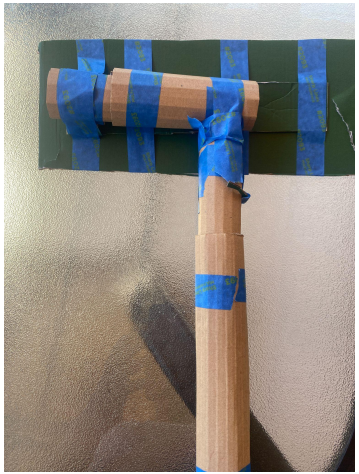
- Played with it moved it to fit any possible length

Test criteria for success:

- It moves nicely very flexible

Evidence: (see video)

- **Couldn't figure out how to add video**



Phase 1 Prototype Evaluation

Aspects of my prototype that I like:

- It moves i nicely didn't really give me problems and doesn't take up too much space

Aspects of my prototype that I did not like:

- It can slide of the tube because there's nothing holding it in place

Improvements for the next iteration

- I will add some things that lock on the tube after a certain amount of length it exceded

Rough Draft

4.20.21

Rough Draft Design

Rough Draft Build

Approach:

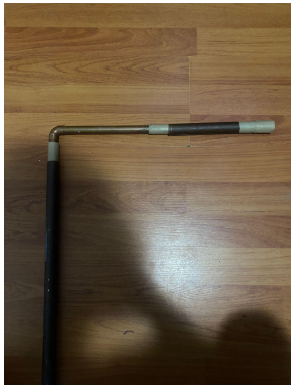
- So i used copper pipes and for the smaller pipes i added tape with the same size as big pipes to have the be stable I also use a curve pipe thing to have the curve it

Something I liked:

- Its stable doesn't take much space either it moves great

Something I will not do again:

- The bottom tube a little too long so i'm going to cut that also since it's not as tight as the cardboard since it wasn't the same weight i got to make something that would keep it in place other than that it's pretty good



Rough Draft Test

Test objective:

- To test the rotation

Test method:

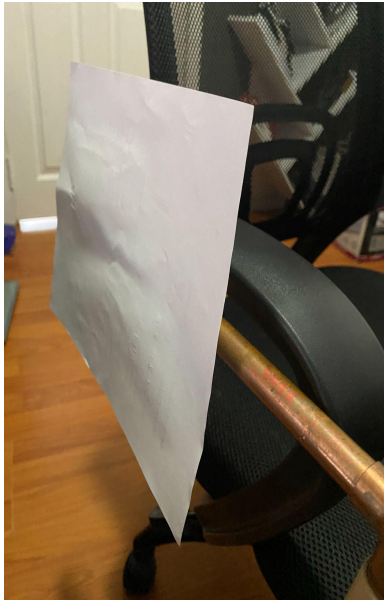
- Putting it next to my chair

Test criteria for success:

- Adding table thing to see if it worked

Evidence:

-



Rough Draft Evaluation

Aspects of my prototype that I like:

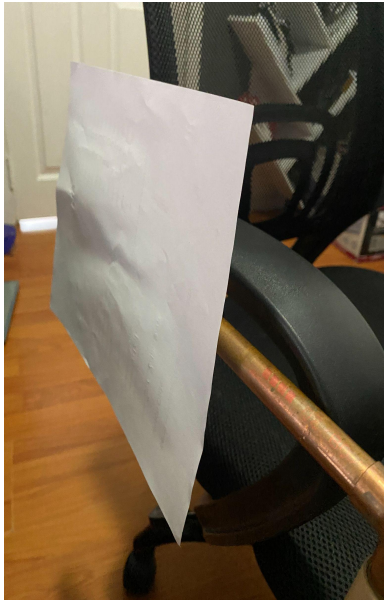
- It rotates good

Aspects of my prototype that I did not like:

- Made it a little more complicated then it should have been

Improvements for the next iteration

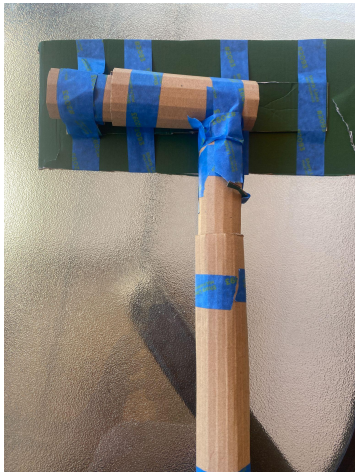
- I can remove the bottom pole



Final Draft Documentation

Design

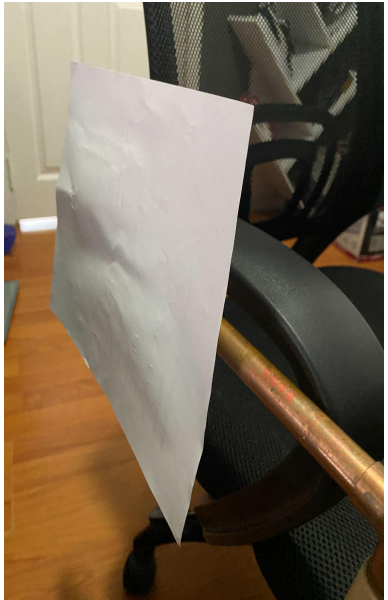
- My design pretty much stayed the same as my prototype
- The mimilmism
- My design didnt really change the most i did was just add small things like ann extra
- pipe
    - My key feature was the rotating mechanism

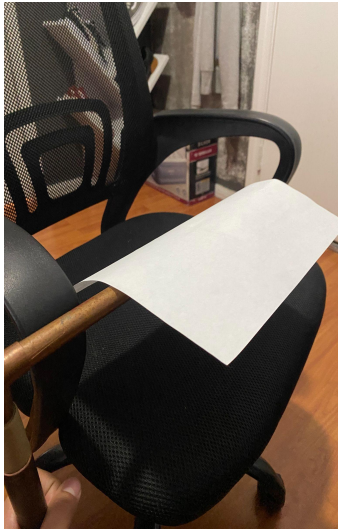


build

I build like an attachable desk thing

- The step were finding the best mechanism and make it not that big
- Everything went well worked easier than i thought
- Probably the measurements I messed up a little made something longer than the should have been
- How this worked basically first try





testing

- If it could hold up wood
- If it was able to use wood than it worked
- These pictures show how the pipes didn't move even when using wood

evaluation

- It works i just need wider wood and i can start using it
- Everything again i find this useful and i'm glad i made it
- Nothing i wouldn't change anything
- All my primary and secondary functionalities work