folio **IDN1002**

10x10x10

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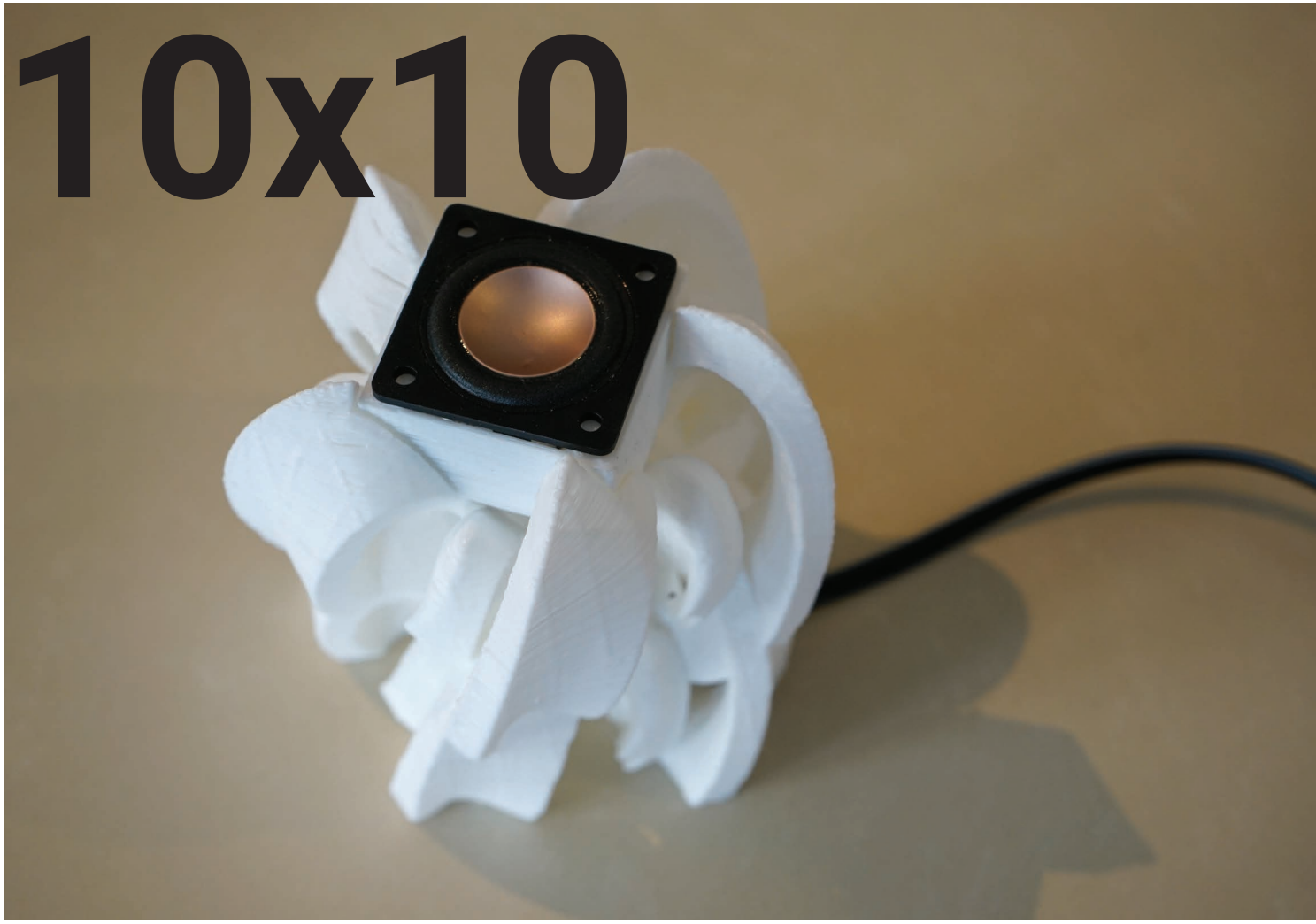
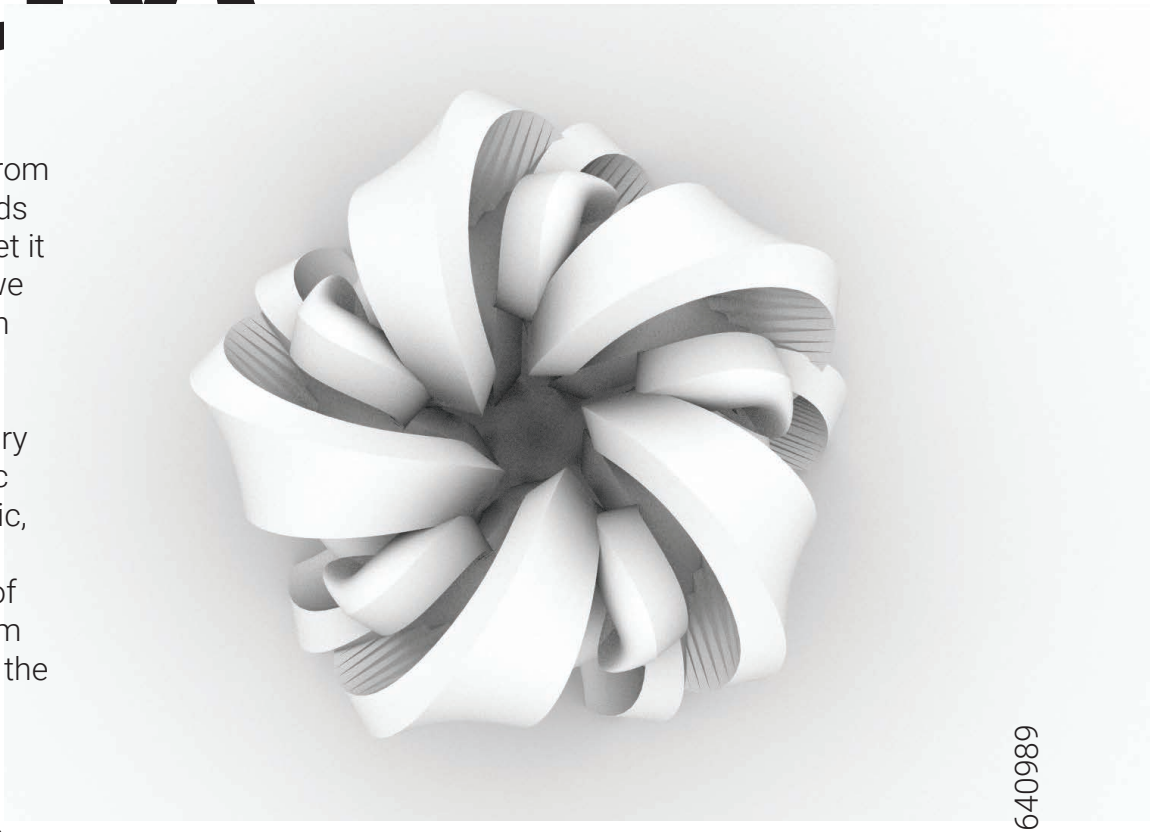


Narrative

We live in the age where you can talk with each other from across the globe, listen to global news, and store sounds on your phones. Sound basically carries information, yet it is ever-changing. Outside of that the very informative we rely on comes from the media, which can and has been controlling the narrative of certain stories.

This speaker represents the very structure, and the every changing nature of information. The fragile and organic form of this speaker looks at how information is organic, but also fragile as it can easily be disturbed. The structure of the speaker is created by the interconnections of these forms to create a structurally interconnected form to show how each of the fragile information can affect the bigger picture.

This speaker looks at the idea of sound as information and how it relates to us and also the state of the world.



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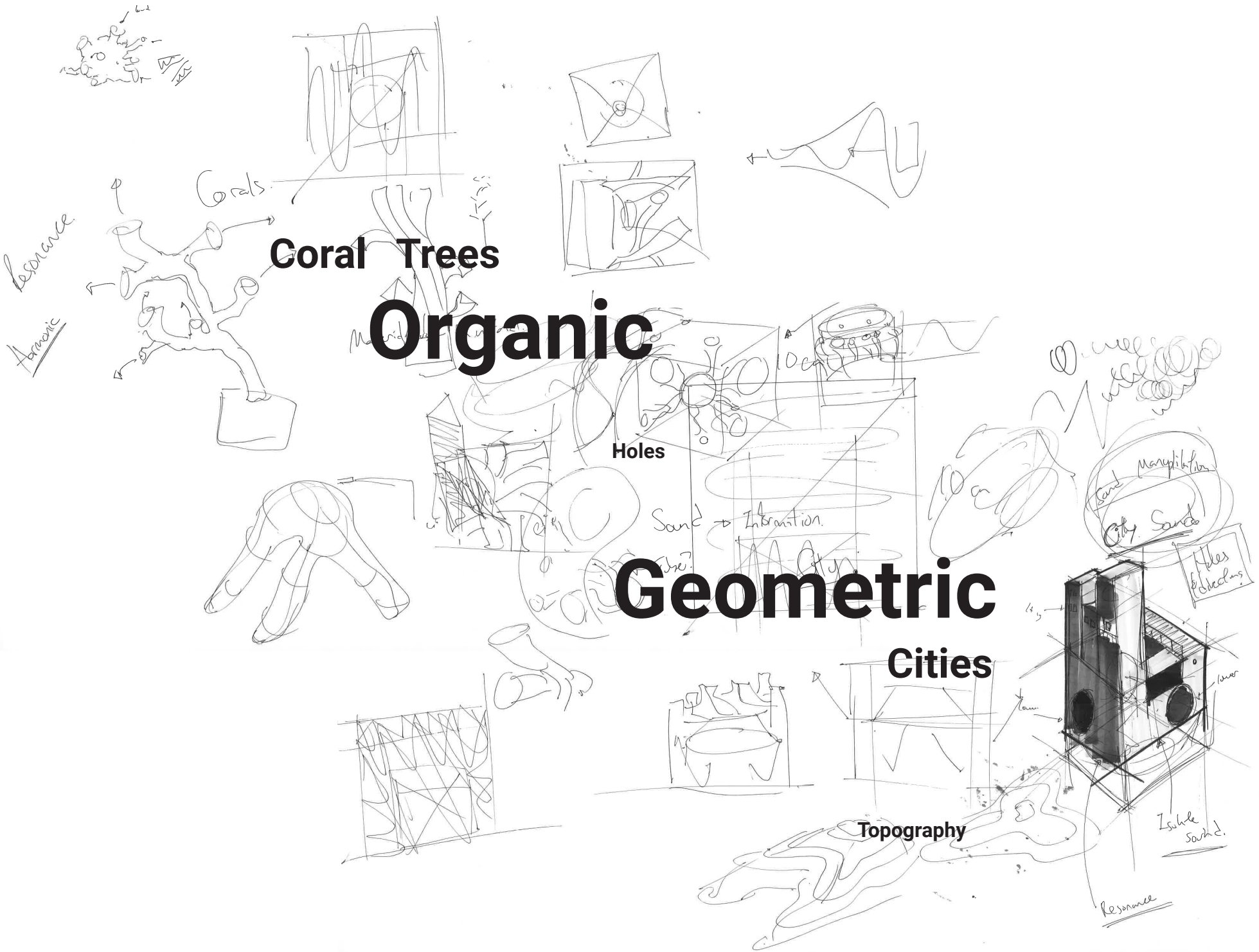
https://www.instructables.com/id/Speaker-Flow-of-Information/

Model

10x10x10



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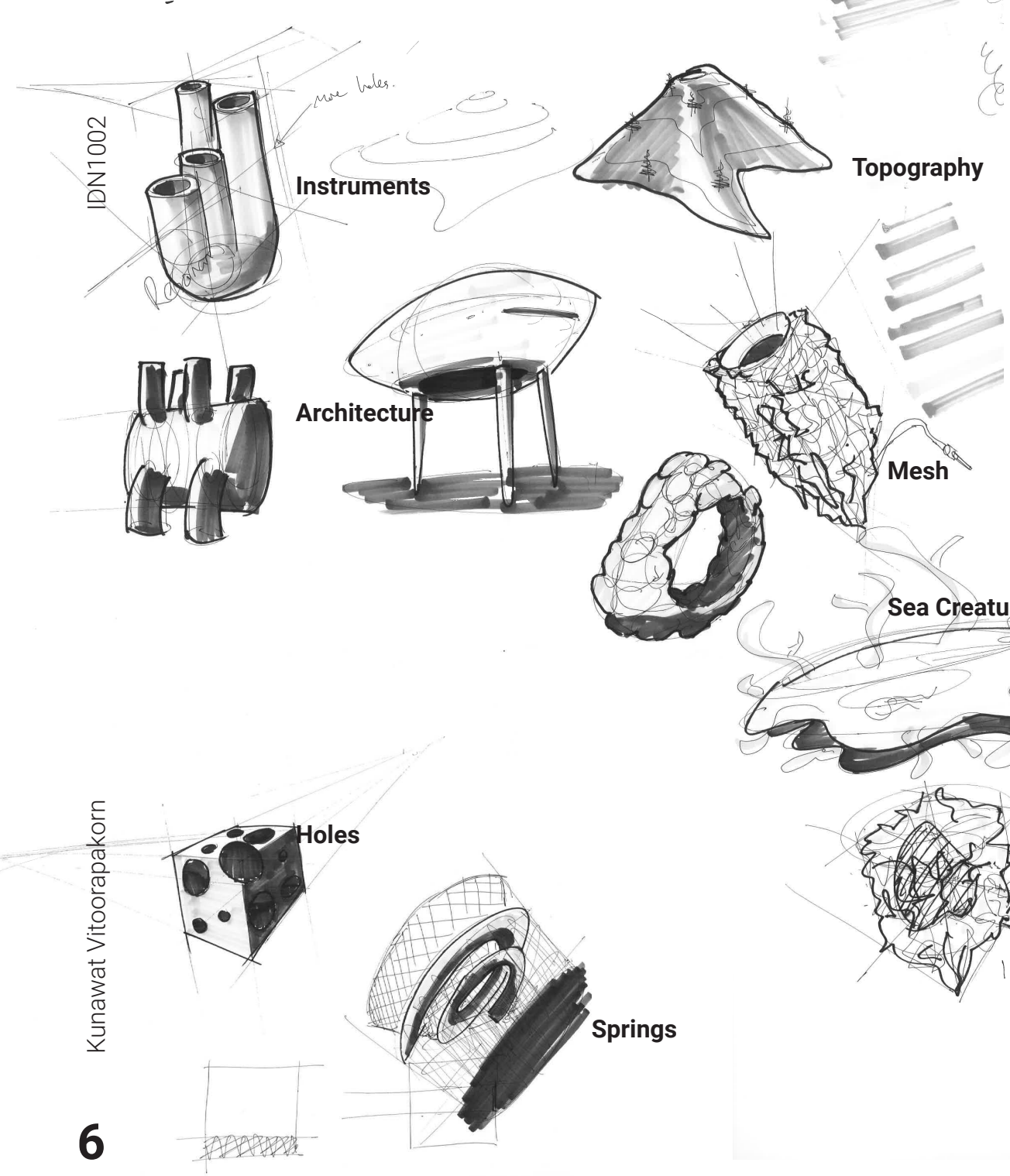
Ideate



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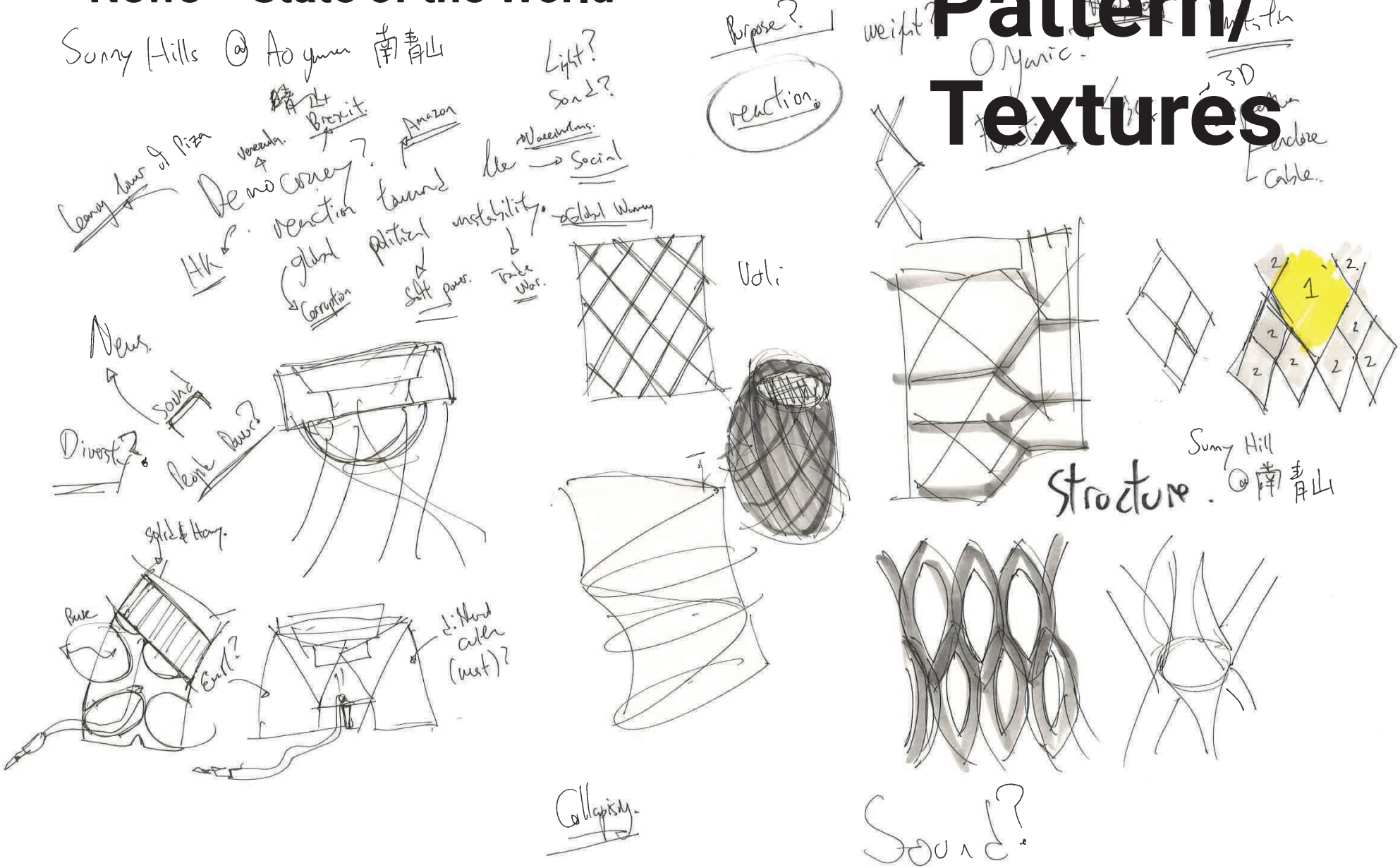
Sounds = Information

Information = News

News = State of the World

Pattern/ Textures



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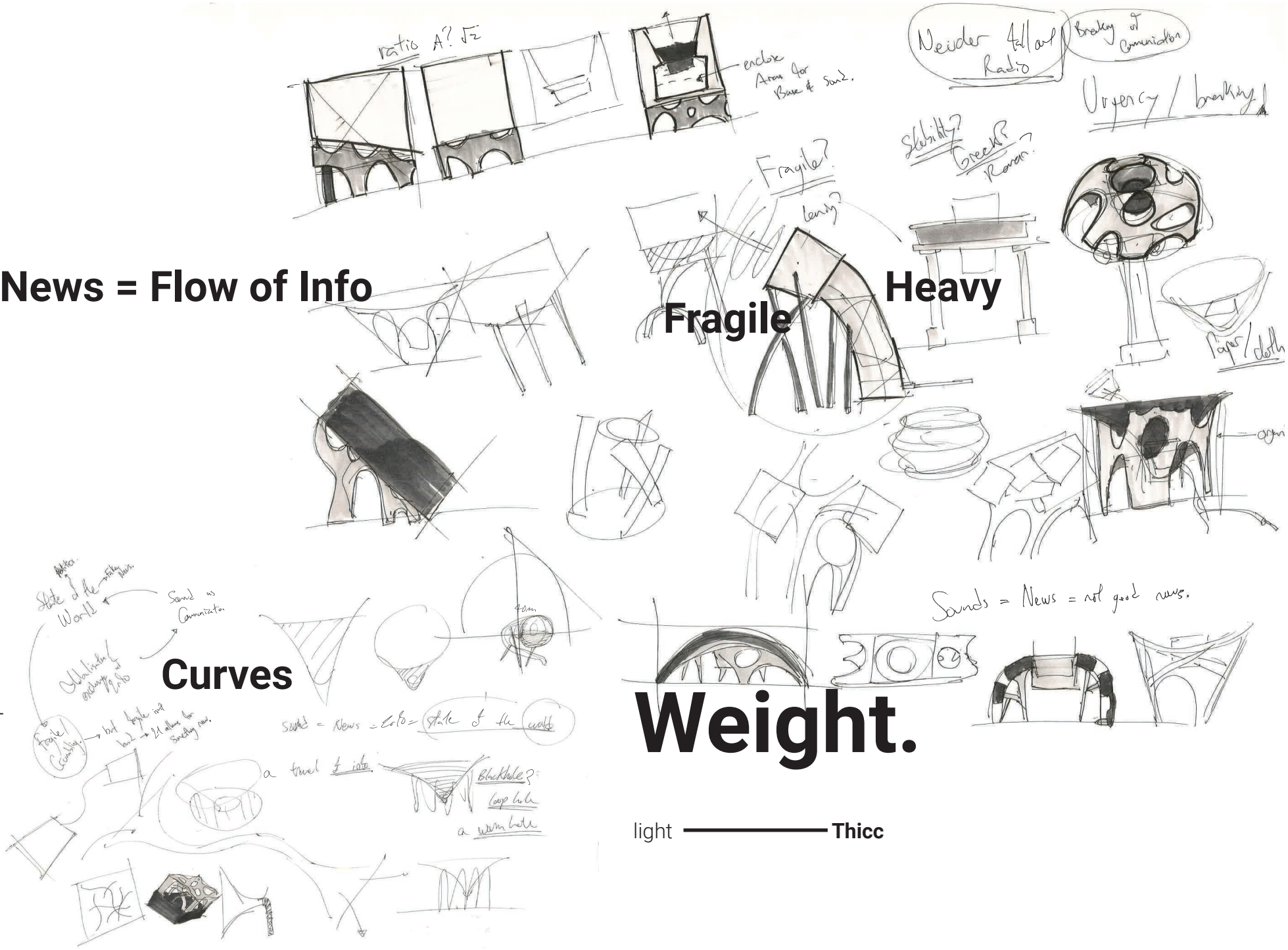


News = Flow of Info

Fragile

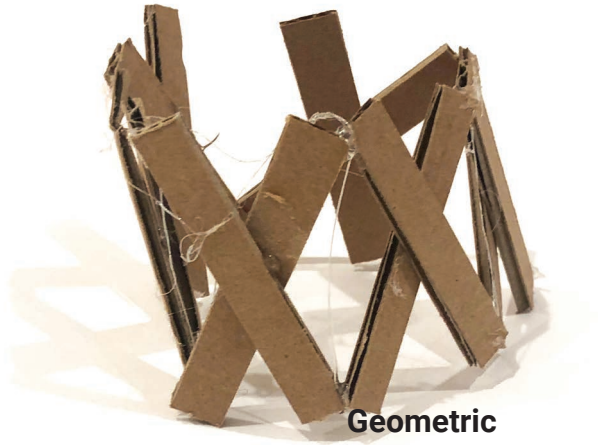
Heavy

Curves

Weight.

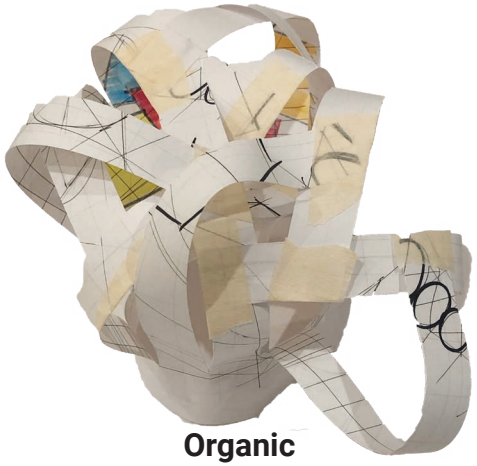
light ——— **Thicc**

Hand-made Model Making



Geometric
cardboard

Mix
hot glue



Organic
paper

It was quite hard to make complex form. Maybe should had used other materials, or already pre-made object and bashing them together.

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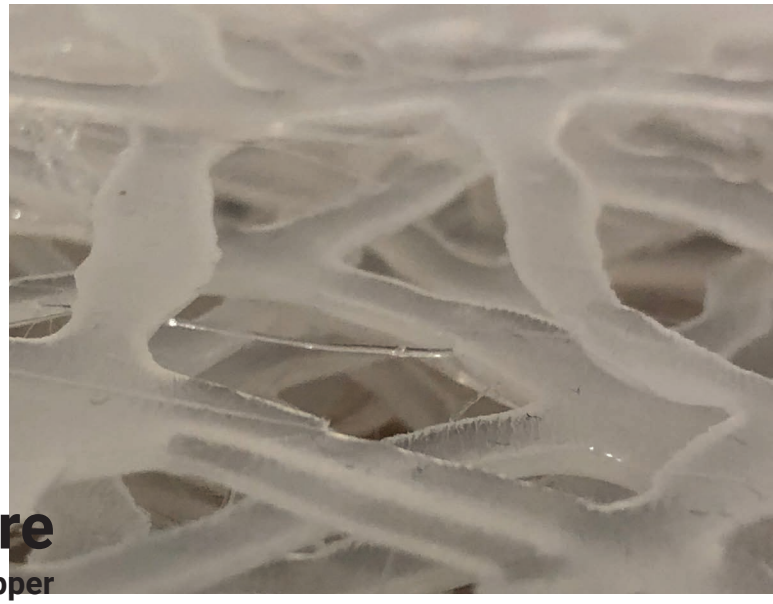
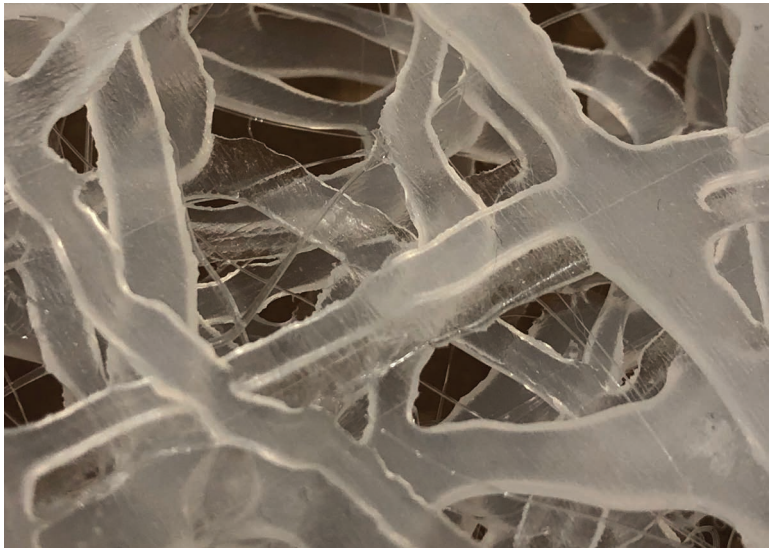
Bringing it together

Weight difference
Organic + Geometric



Texture
mimicking grasshopper



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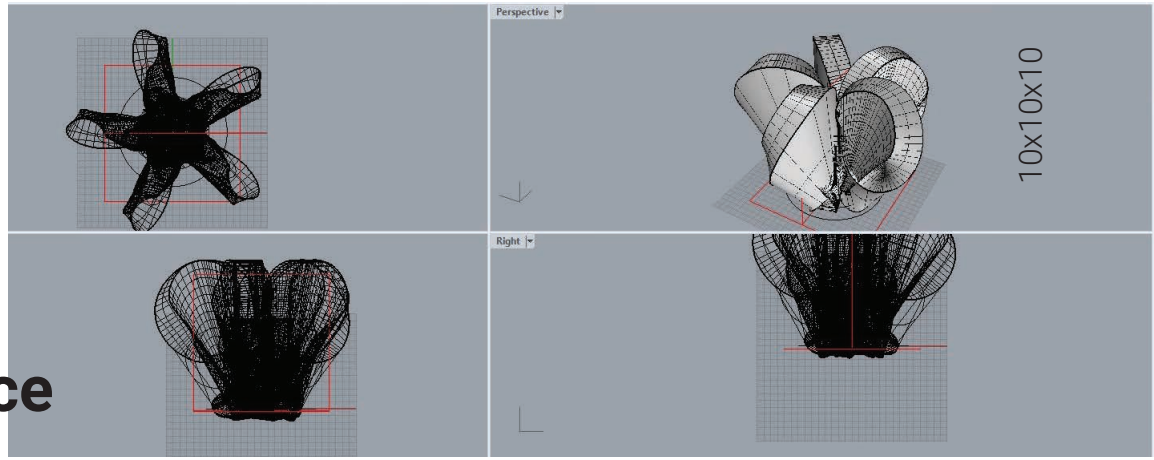
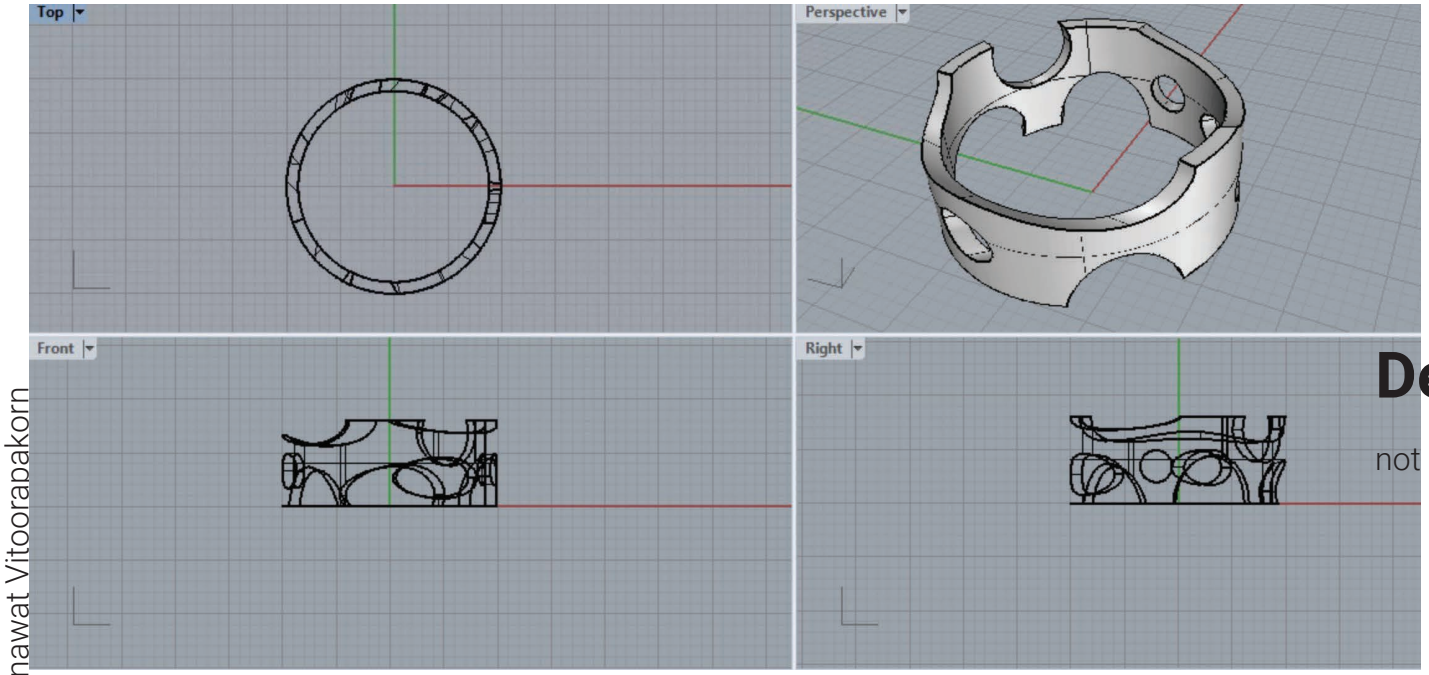
3D Modelling

Helix, Loft, Offset surface

Creates interesting forms





Deduction

not as interesting

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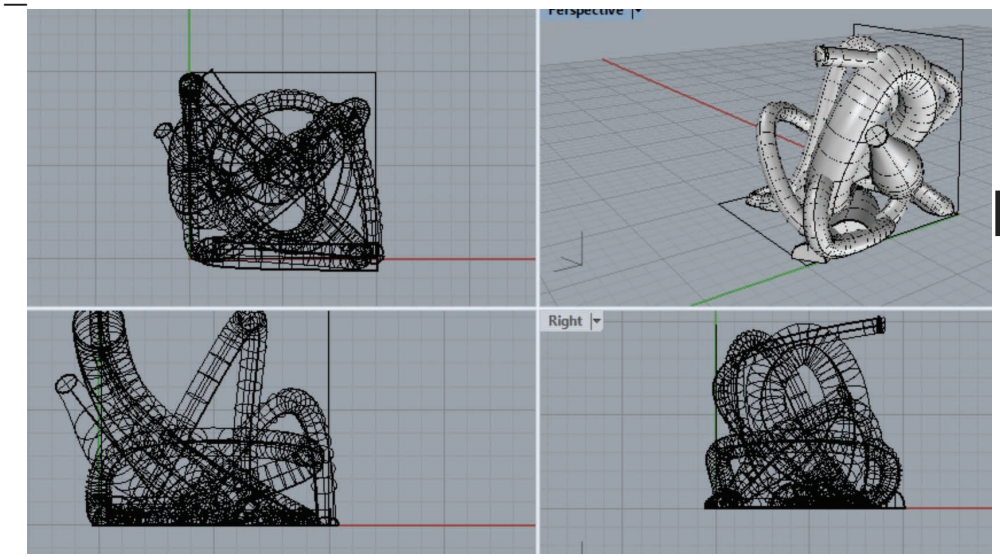
Rhino

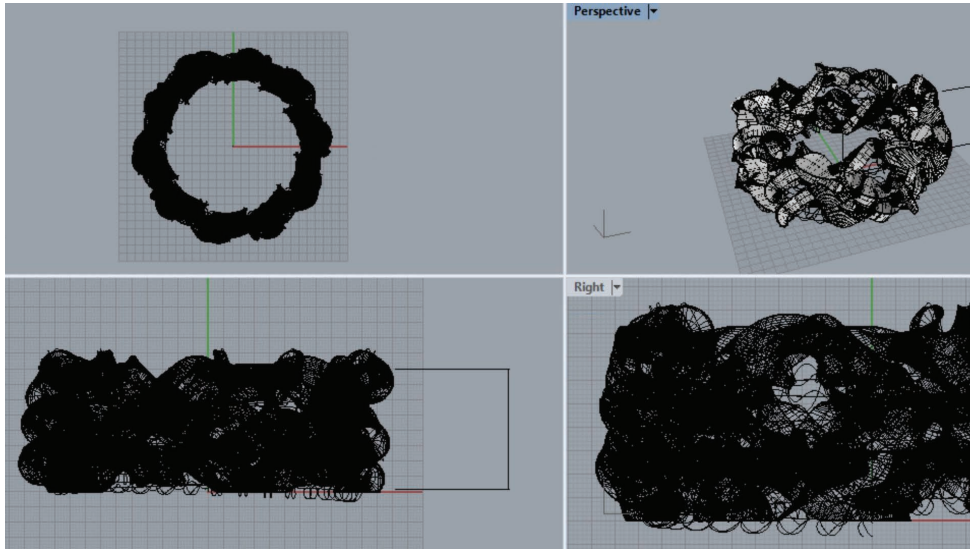


Lines & Tubes

meh

more Helix

Pretty cool



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Rhino

Attempts to recreate the “Grasshopper” complex look

Complex Form

Organic Form

Circular Form

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Putting it all together

circular
complex
organic

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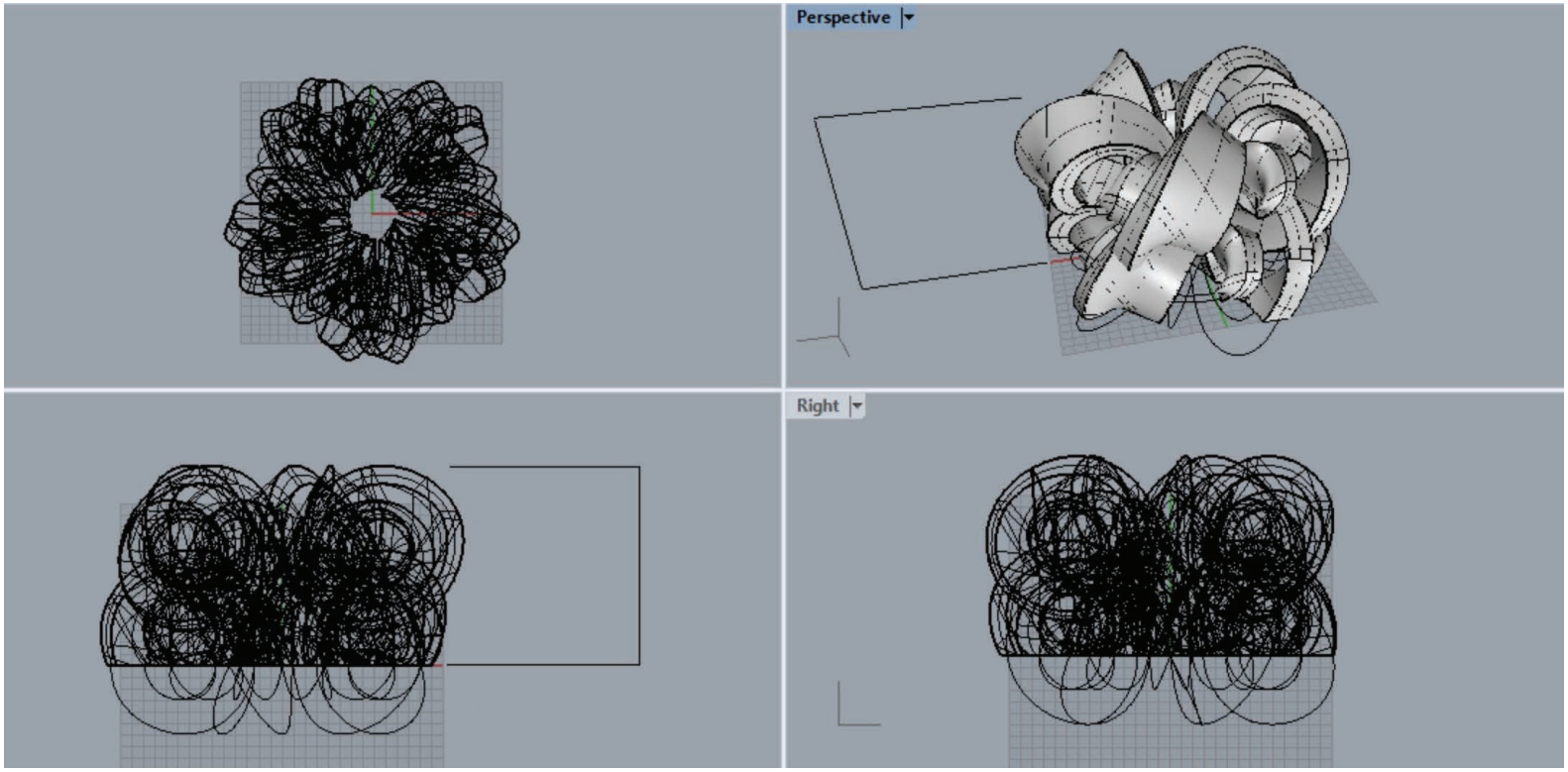
Looks like Magic, a black-hole-ish sucking form. It feels majestic. I likey.

Figuring out how to fit a speaker into the FORM

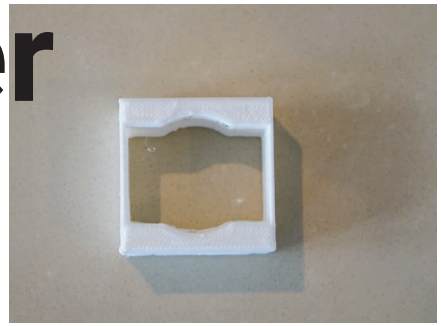
From the Top? I guess I can't always have it they way I want.



From the bottom?

Doesn't have enough space while keeping the structural integrity.

Speaker holder



10x10x10

Speaker slot

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Lesson Learnt

Model

Modelling complex shape that utilize the full 3D space was a challenge in the early stages of hand making the forms. Once I got into the CAD software, it was a lot easier and was able to freely create the forms.

Hand drawing allowed for quick visualization but I struggled in giving it the dimensions when the forms becomes too complex.

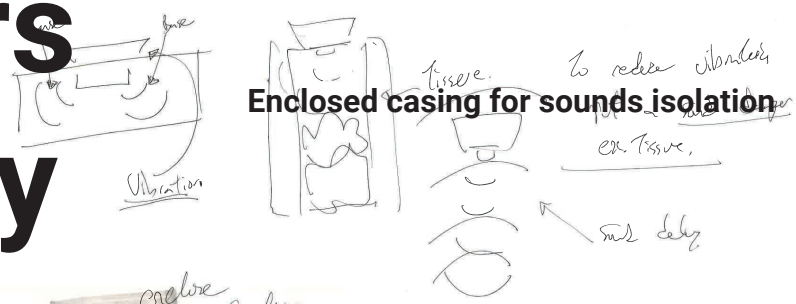
Hand-making the models allowed me to quickly prototype the models, texture, and scale. Yet it was hard to create complex form.

CAD was also difficult. Had to learn Rhino for this project as solidworks doesn't allow me to make the forms I want without struggles. Rhino was a different approach to CAD for me and so I had to re-warp my head around it. I ended up playing Rhino to see what I can do with it. I would love to learn the basic of Rhino after this as it seems to be quite useful to create these kind of forms

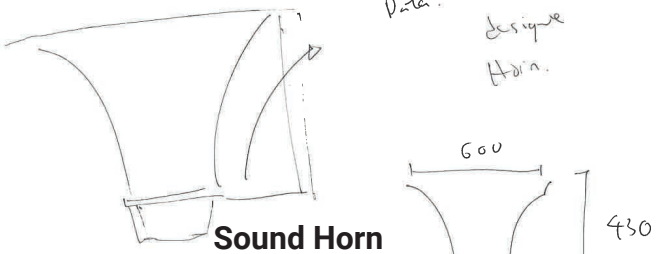
Speaker

10x10x10

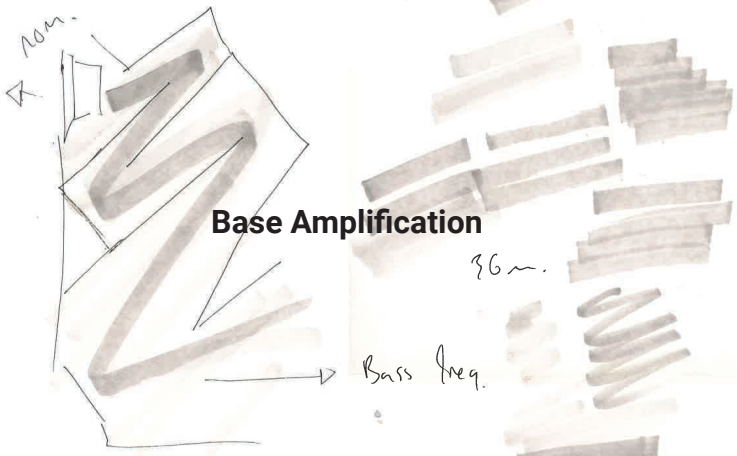
Why are speakers designed the way they are?



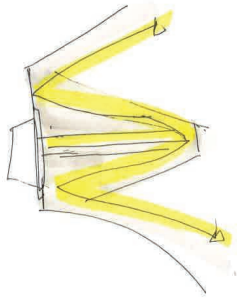
Enclosed casing for sounds isolation



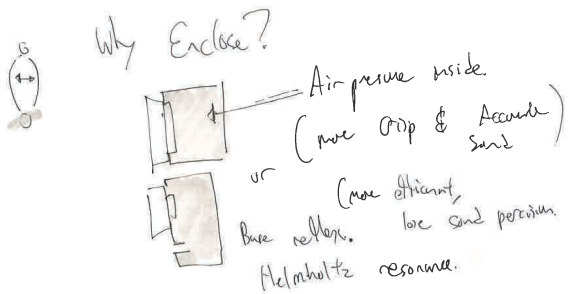
Sound Horn



Base Amplification



Enclosed vs Base Amplification



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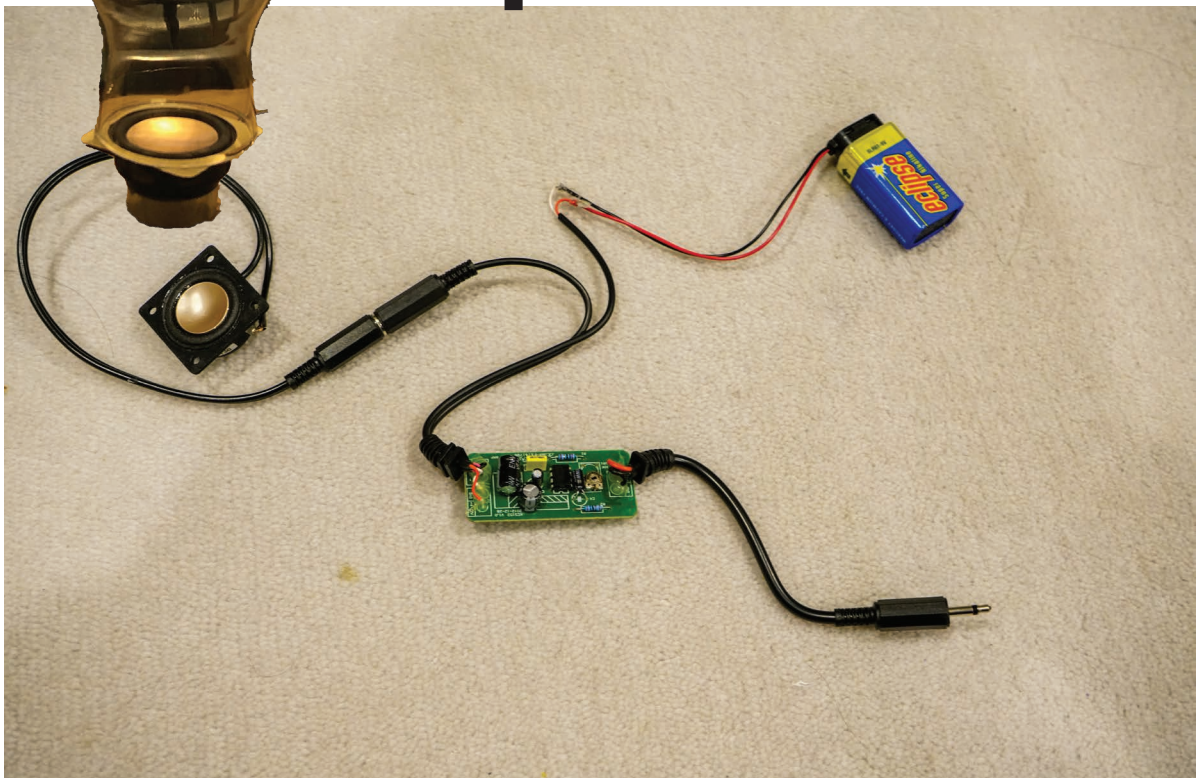
louder? More Bass?

Sounds weird.

how does form & material affect sound?

How to make a speaker?



Metallic? Tingly?

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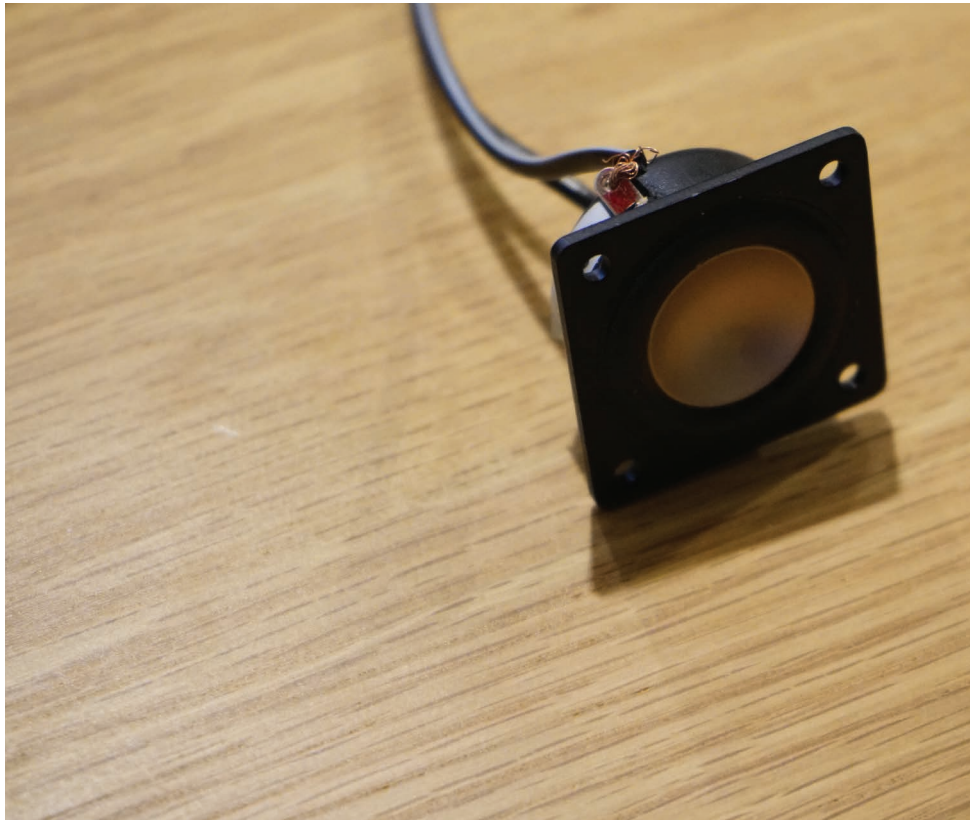
Speaker Driver and 3D model



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Lesson Learnt

Speaker

I was bamboozled by all the components when I went to Jaycar, thinking that it was going to be a quick in and out. I was wrong.

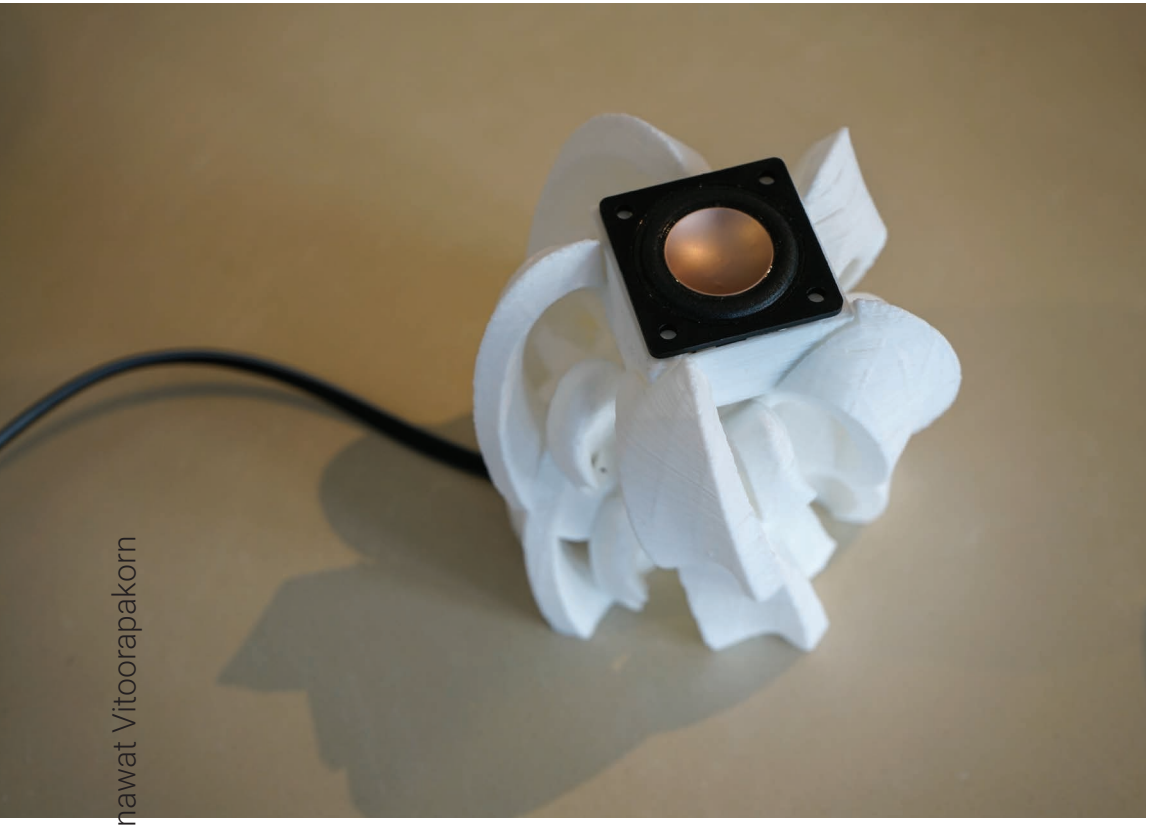
I did some research online, to understand the what is needed for a speaker to work. I needed a driver, to make sound, and an Amp to amplify the input from the aux cord.

I found the components and wiring them quite interesting and thought that it might be cool to have the components being visible. This was one of the narrative I explored: Sound being produced by human made components that works like MAGIC!

Final

10x10x10

Hero



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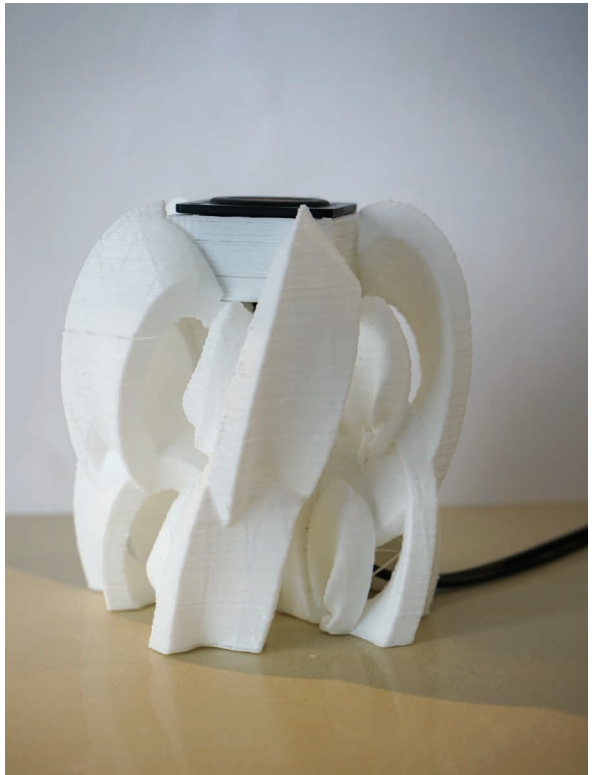
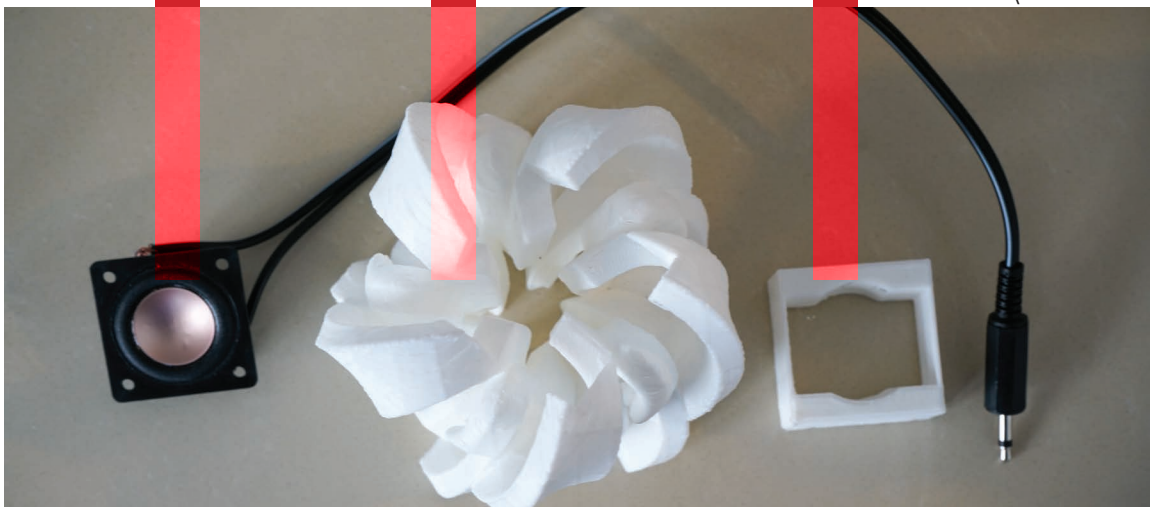
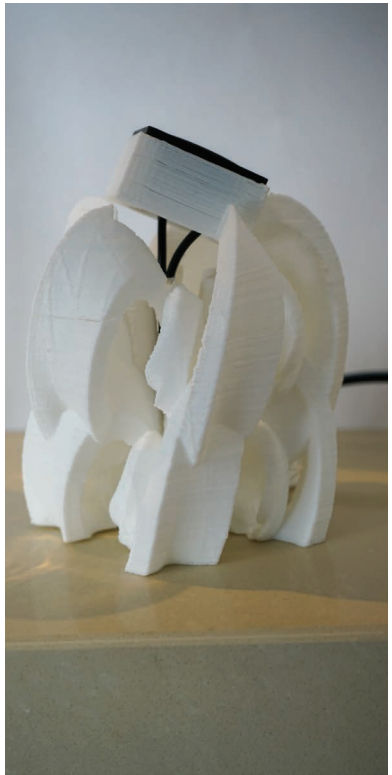
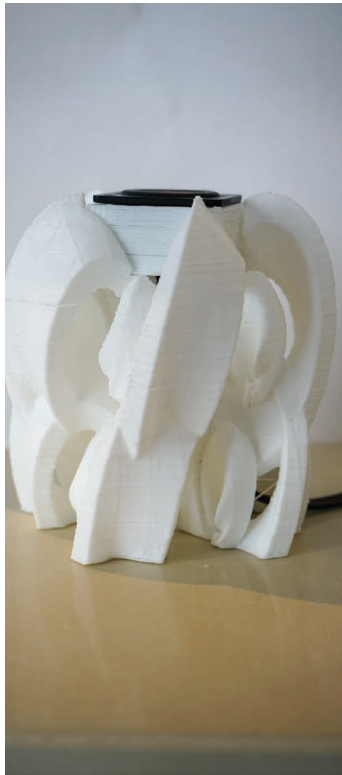
10x10x10



Assembly







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10x10x10

3D Printer

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IDN1002

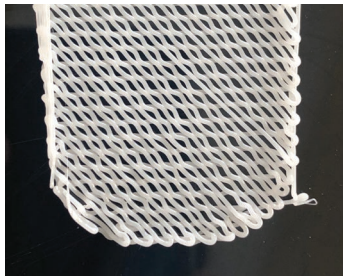
3d Printer

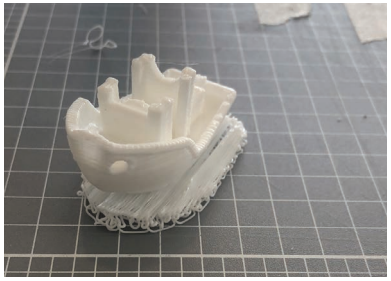
10x10x10

why doesn't it **WORK!**

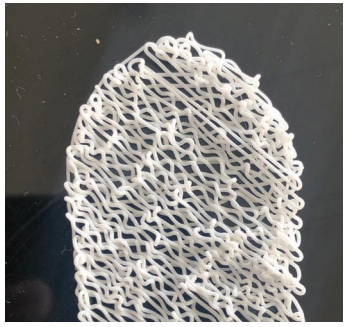
nozzle and heatbreak leakage

Good height Noozle





Failed Benchy



Nozzle too high

wasted filamen from failed print

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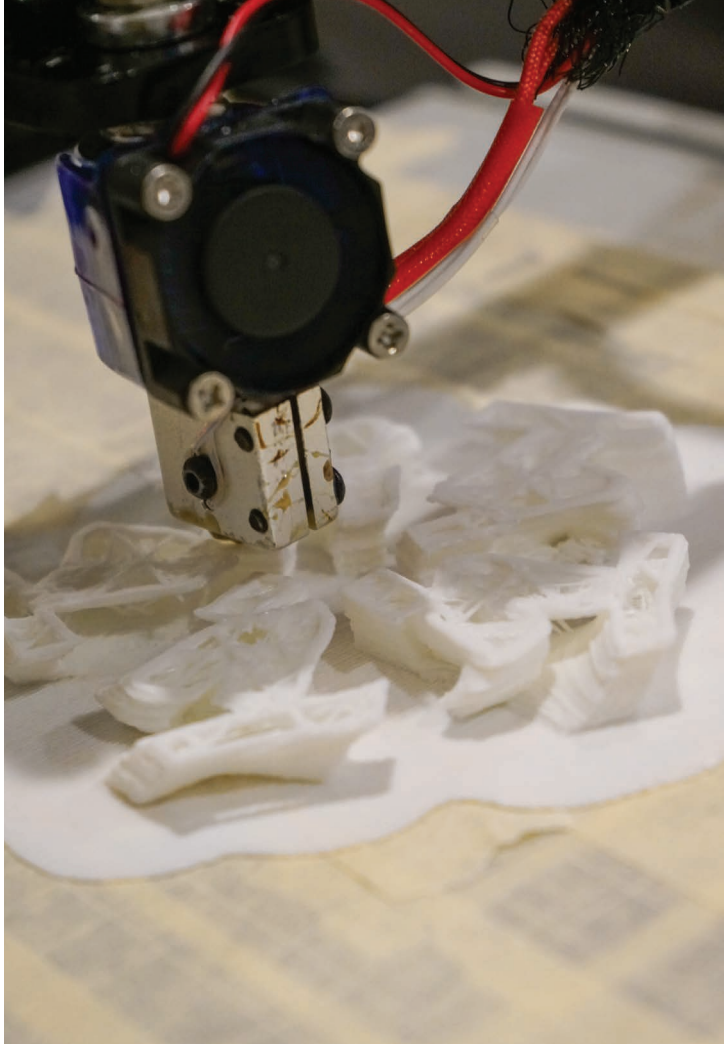
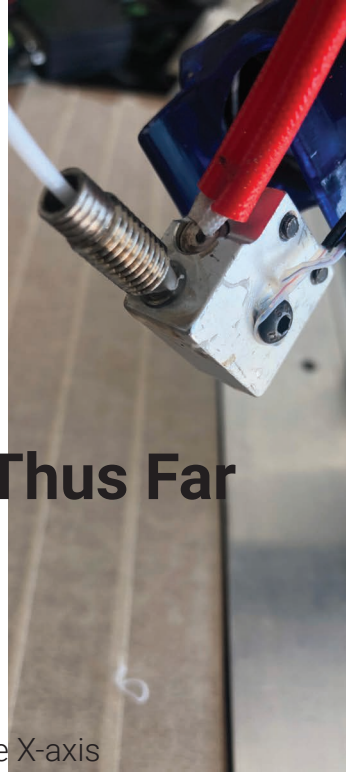
27

PLEASE PRINT, STOP DYING!

Successful print



Failed print
Z-axis messed up



All the Issues Thus Far

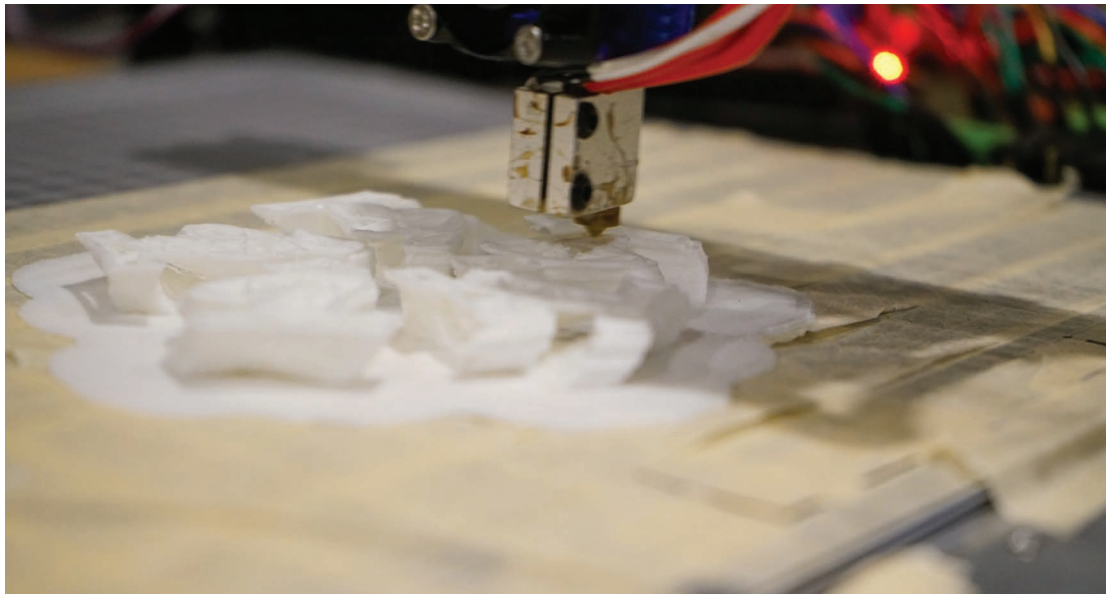
Z-Axis messed up
- driver voltage
- timing belt

X- endstop doesn't work
- manually auto home X-axis

The printer keeps shutting down
- Have no idea why

SD card doesnt read
- Have no idea why

Random reboots
- Have no idea why
- probably something shorting



At least

The printer is kinda working

Oopsie

I am so done
I am so done
I am so done
I am so done
I am so done
I am so done
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I am so done
I am so done
I am so done
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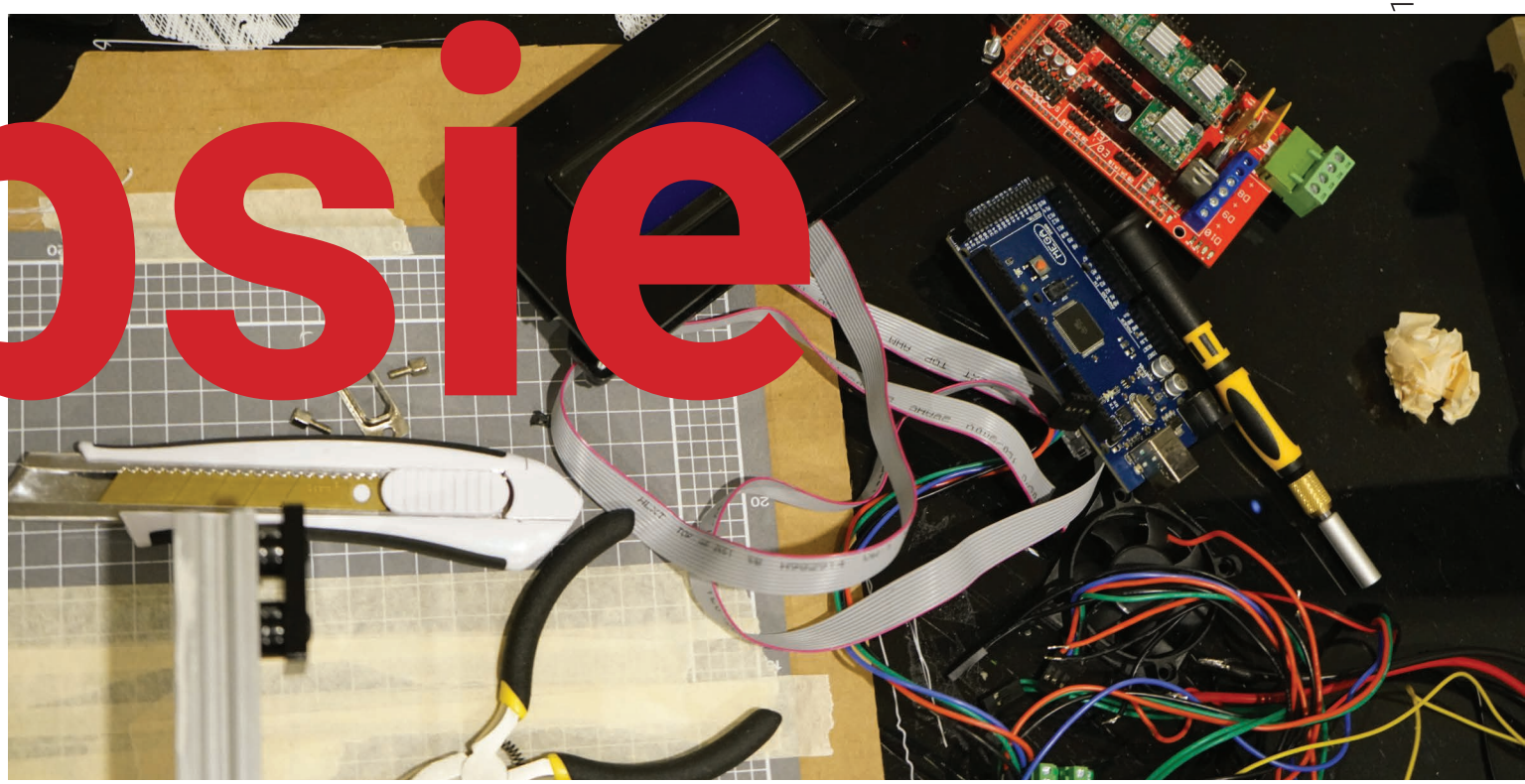
I am so done



10x10x10

Yeah I broke the ramp

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IDN1002

10x10x10

Failed

PRINTS

SPENT MORE TIME FIXING THAN ACTUALLY DESIGNING.

URGHHH

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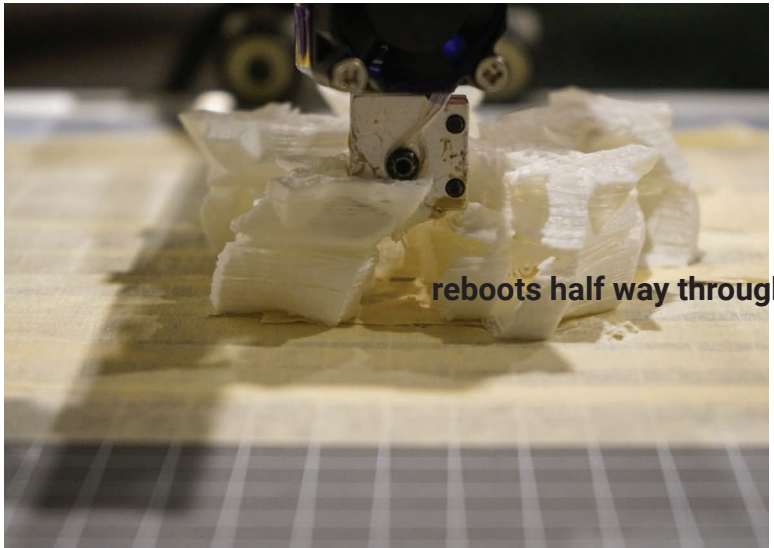

reboots half way through

Don’t even get me started.

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Lesson Learnt

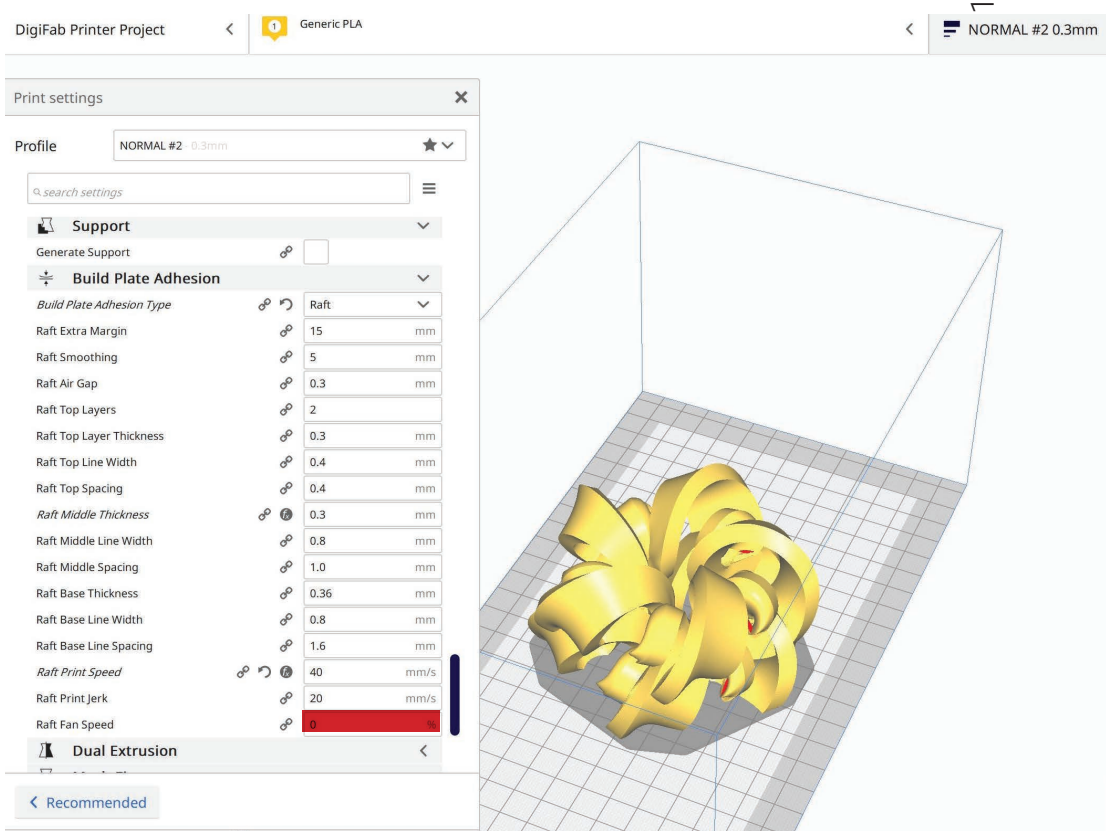
3D printer

Tinkering with the 3D printer and its setting allowed me to understand the printing process from inside out. I ran into countless issues from “Min Temp” to the extruder being overfilled, to shorting the Ramps.

The extruder overfilling was cause when the Raft is being created and the heat-shrink fan isn’t cooling. This was easily fix on the slicer, but took me a few times of fixing to find the root cause.

From re-soldering, checking the voltage, on gcode, to untangling the filaments. It was all learnt from Reddit, online threads, and youtube videos. This took most my time on the project, but allowed me to get valuable insight and experience on how a 3D printer works.

With all the insight i gained, I hope we had more time on the project, as I just found many things I want to experiment with the 3D printer. From shaking the print bed, slicing with intentional jittering during prints, to spaghetti infill.



Notebook

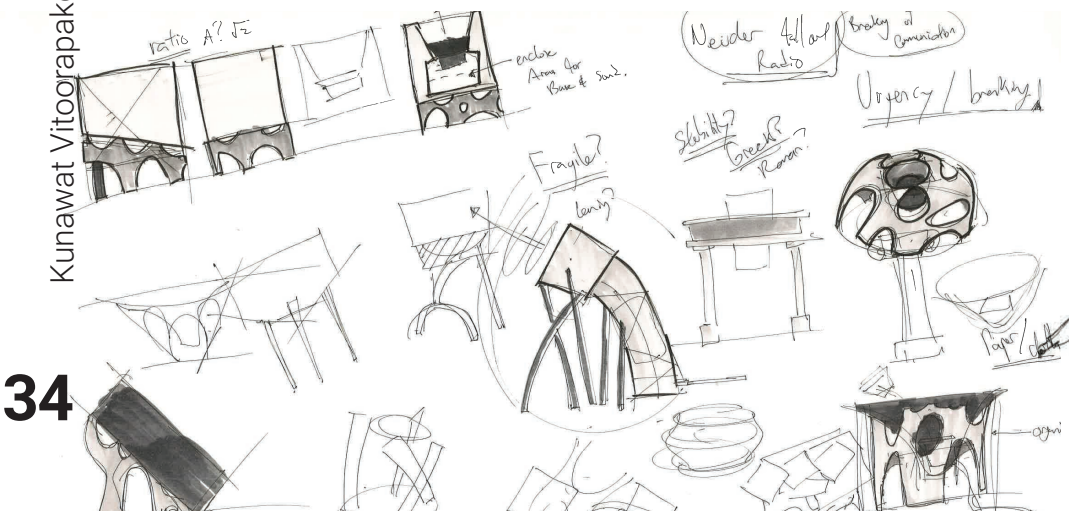
10x10x10

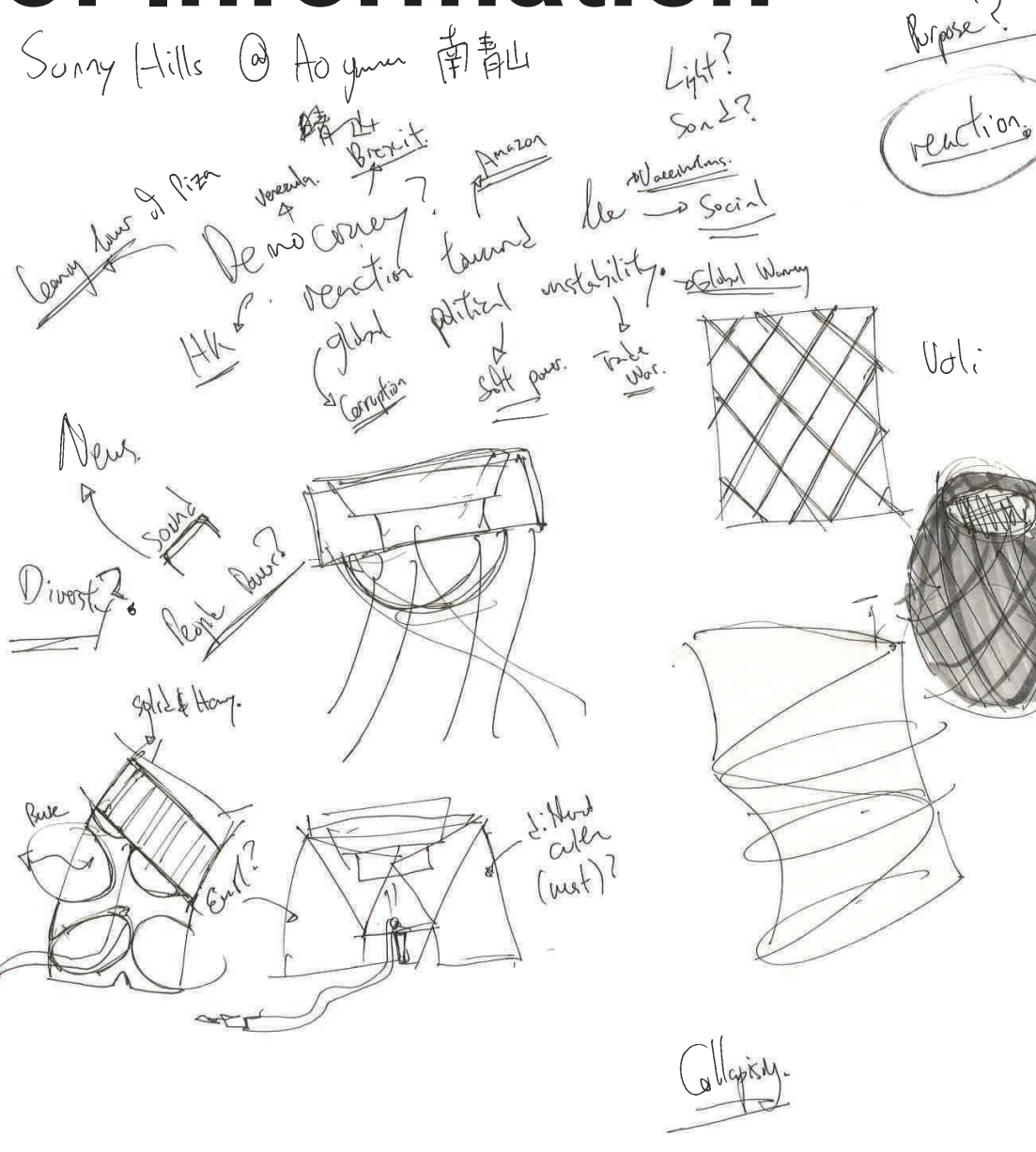
Sound = Flow of Information

As a reaction toward the Hong Kong protest, and the situation of Venezuela, I viewed the narrative of sound as a flow of information.

Interestingly the narrative of each story, and the flow of information is somewhat controlled by the media. Yet not all is controlled, information also comes from our friends and the people we interact with.

Hence it made me think about sound and the flow of information as something quite fragile as it can easily be affected, but when all those information put together, it creates a structure of opinion.





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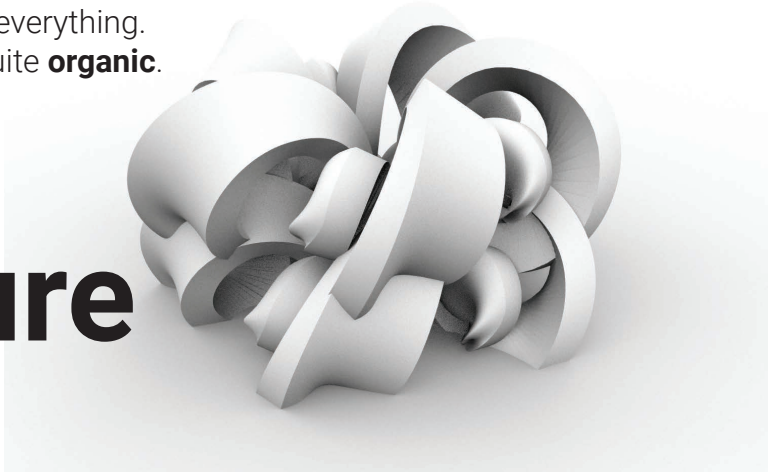
One piece?
This show really well the structure and the interconnectivity of everything. The form here is also quite **organic**.



Fragility and Structure

Fragile parts coming together to create a sound structure was the exploration.

Layering?
It shows the depth and complexity quite well, but lacks the 3D feeling.

Sticks put together?
It shows how the structure is made really well, but feels too geometric.

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Speaker Research

A research on why speaker are designed the way they are

Horns can amplify sounds.

Enclosed creates more accurate sound.

It seems like there are many ways to design a speaker's form to affect the sound. But the most standard are the enclosed design.

These are good to know so that I can consider the affect of the design on the sound.

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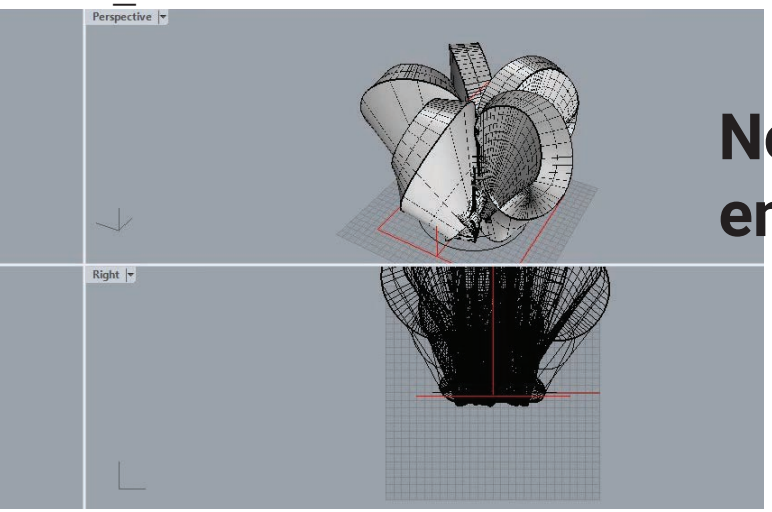
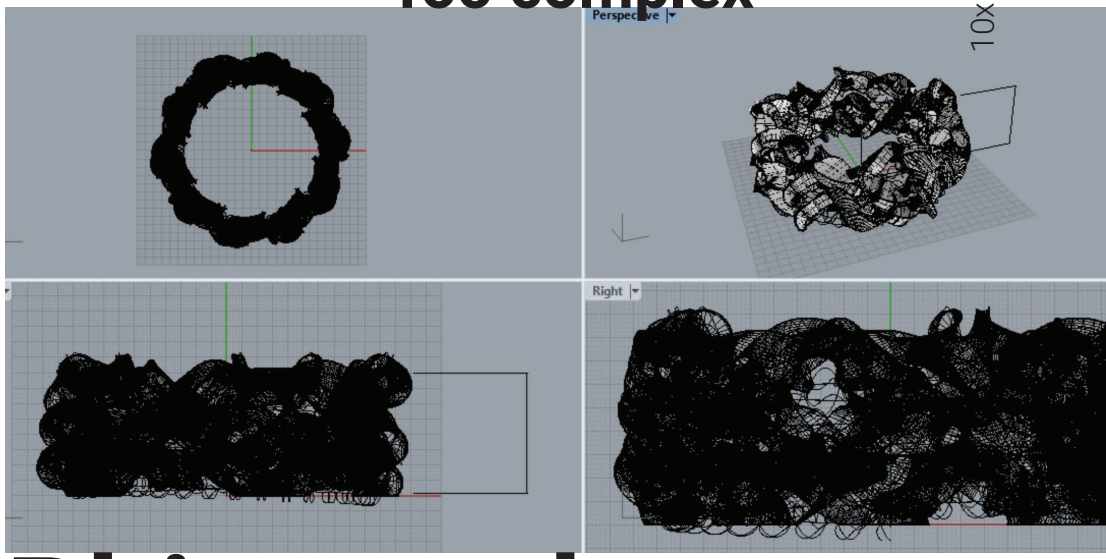


Not complex enough

Too complex



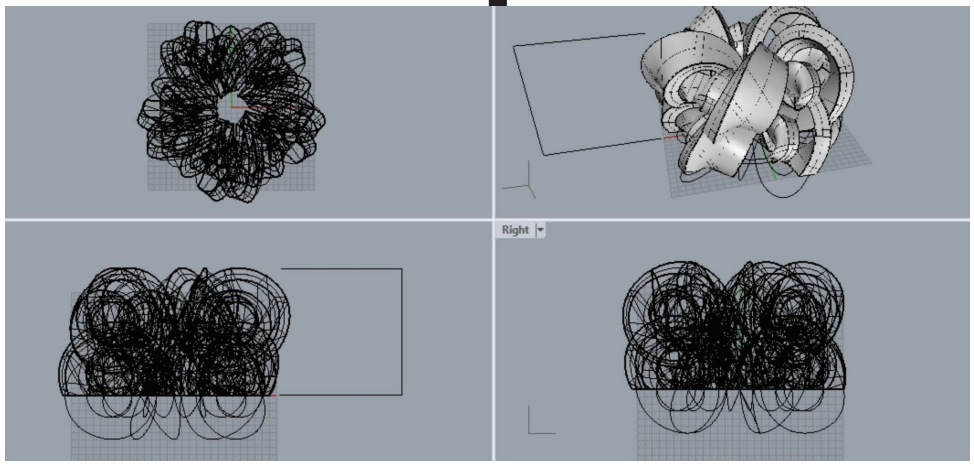
Rhino and Grasshoper

I wanted to use Generative design to make these forms, but I am too new to Rhino to use it.

Tried to recreate the “Grasshoper” look by using helix, loft, and off setting surface. Achieved varied success, but the circular, interconnected, organic form was spot on. Using minimal “human touch” and relied mostly on generated shape got by testing had resulted in many interesting form that feels quite mathematic giving the form a sense of structure.

To be completely honest, the final design was made by accident of playing around the helix tool.

Also struggled way too much o Rhino.

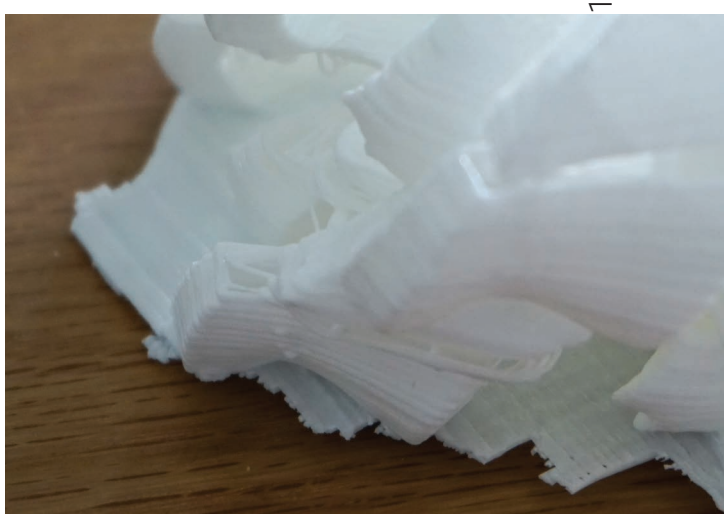


My favorite:

3D Printers

It worked amazing, NOT

The 3D printer did not work cooperatively at all. Ran into too many issues with it. But it also brought in some interesting insight on how to manipulating the print to create certain affect.



Shifted printing board

Could be interesting

Filament Stuck

It just needs to be fix
Nothing interesting!

The long term fix was simple, just change the CURA fan speed for rafting. Oof

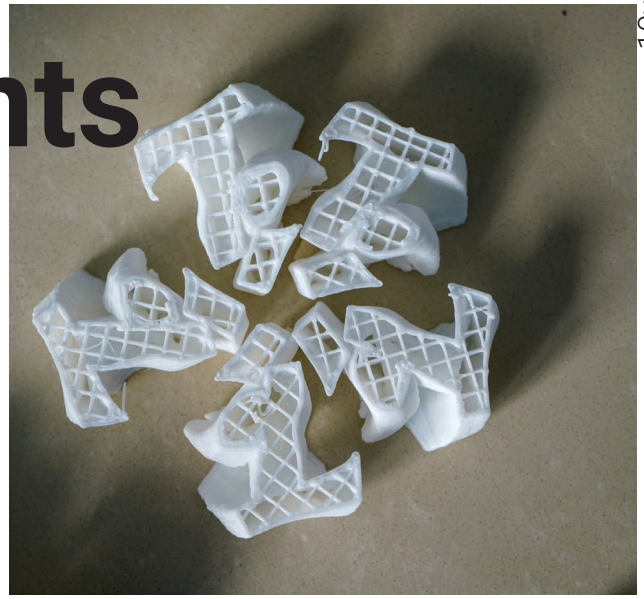
Shifting Height

Different outer layer and more squiggly
Might be fun to try out.

Y Axis issue

The Y Axis issue squished the print from the same gcode.
It is quite funny, but nothing useful

Too many failed prints



Too many failed print due to the 3D printer. Had to fix the 3D printer because only 2 out of 6 of the six hours print finished, and out of the 2 only 1 was actually use-able.

33.33% **success print**

33% success print rate is not reliable considering a print could die anytime within the printing duration.

Had to fix and troubleshoot the printer to make sure it can actually print.

Fixing and trouble shooting the 3D printer despite taking over most the time from the speaker, lead me to understand more of the printer and how to manipulate it to create interesting prints.