

Material Study Lab

# Drowned in Progress

*photo document*



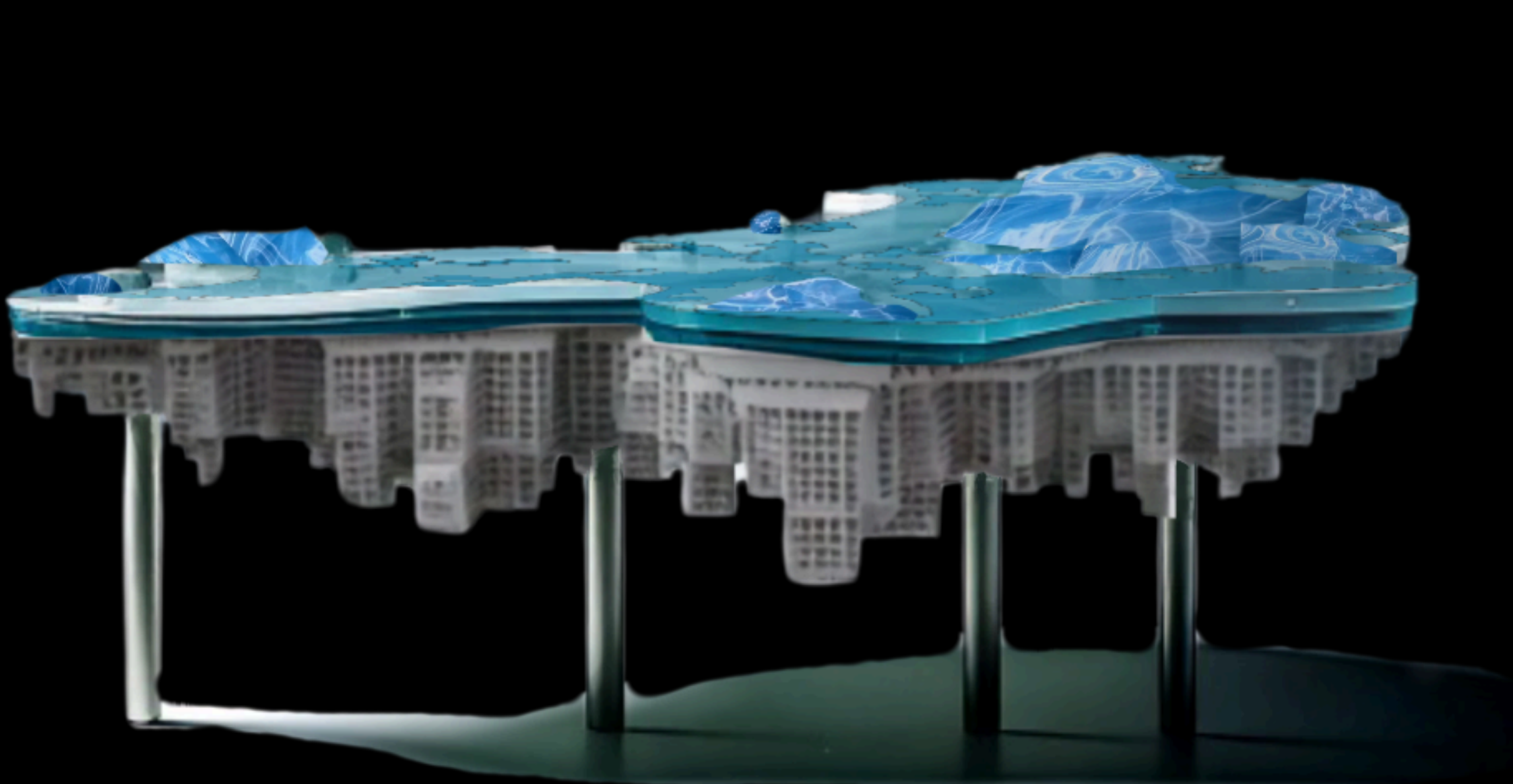
Kajal Ravi



# concept

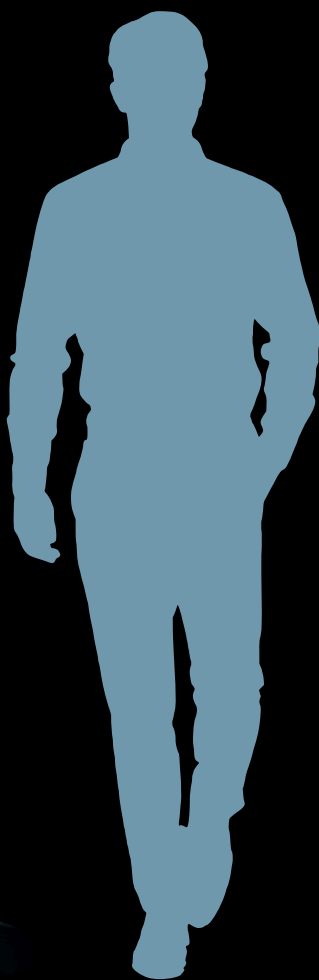
At first, I wanted to capture the beauty of the ocean, but I soon realized it's not the same anymore. The interactive surface draws people in with the illusion of gentle waves, only to reveal a harsh truth—what feels like water is actually plastic.

The upside-down Mumbai skyline symbolises a city that is rising yet sinking—growing in infrastructure while losing its natural essence. What once flowed freely is now weighed down by waste, showing that progress built on neglect is transient.



## dimensions

width: 20 inches  
length: 29 inches  
height: 25 inches

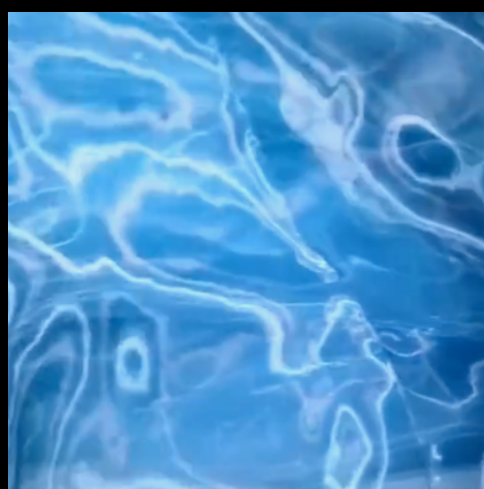


*the model is in  
the scale ration  
of:  
model : installation  
1 : 6*

# materials used

FOR THE MODEL

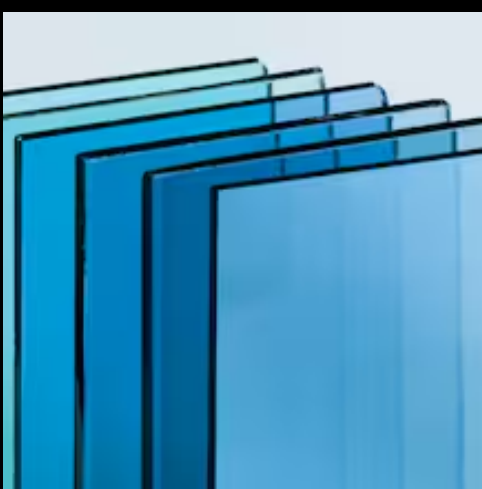
## installation



**liquid organza**  
(Table Surface)  
Creates a dynamic water-like effect.



**plastic waste**  
(Underneath)  
Hidden pollution beneath the surface that shapes the interaction.



**aqua-blue tinted glass**  
(Layering)  
Represents ocean depth and elevation



**ashcrete**  
(Building Structures)  
an eco-friendly concrete alternative made from industrial waste



## model (substitutue)



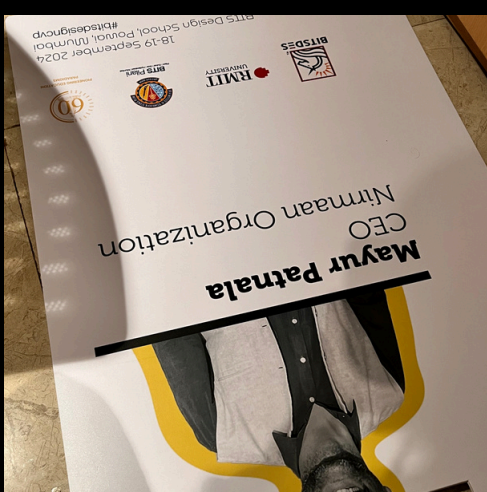
**nylon mesh**  
pencil pouch



**left over  
gelatin paper**



**acrylic with  
blue gelatin paper**

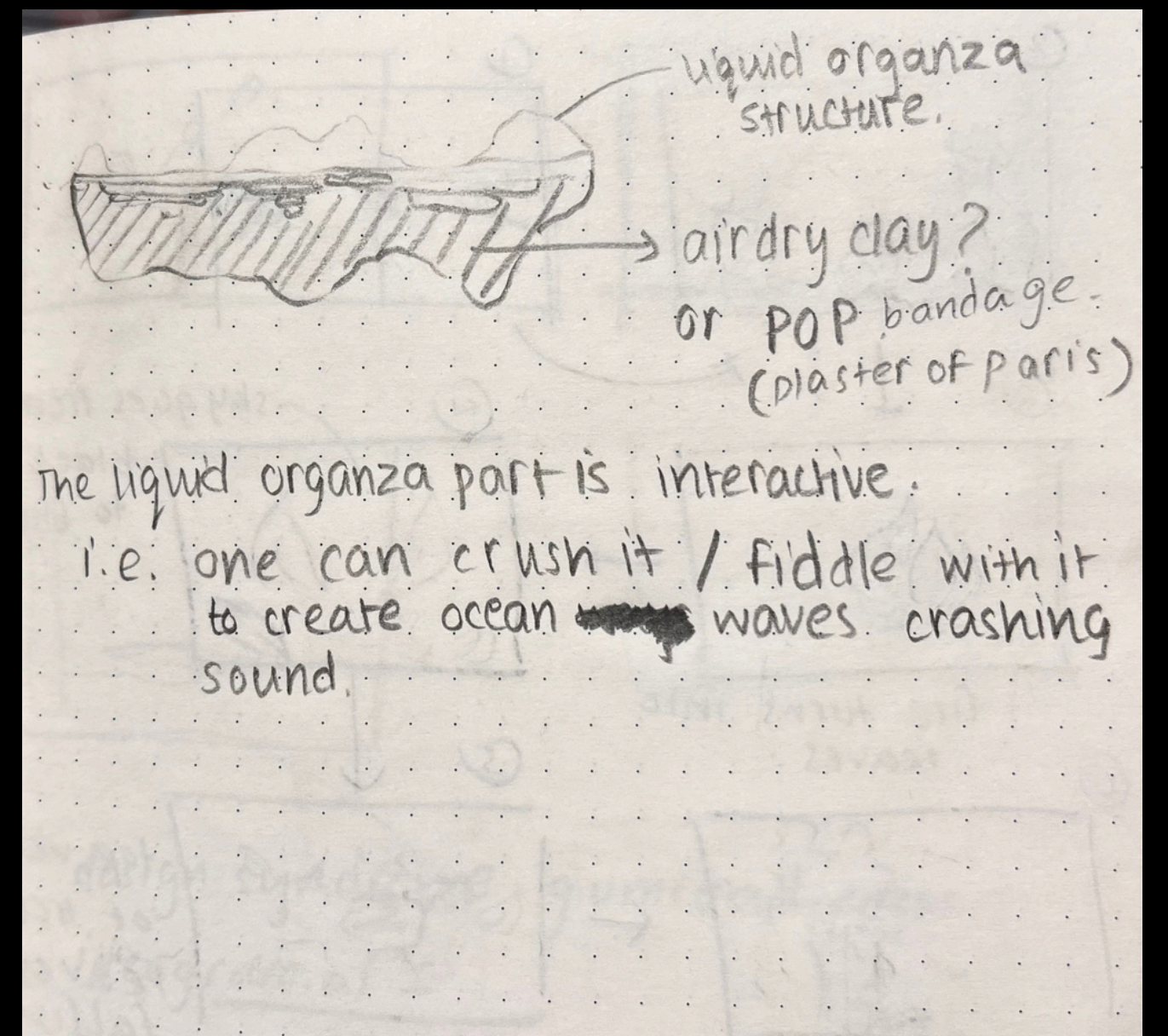
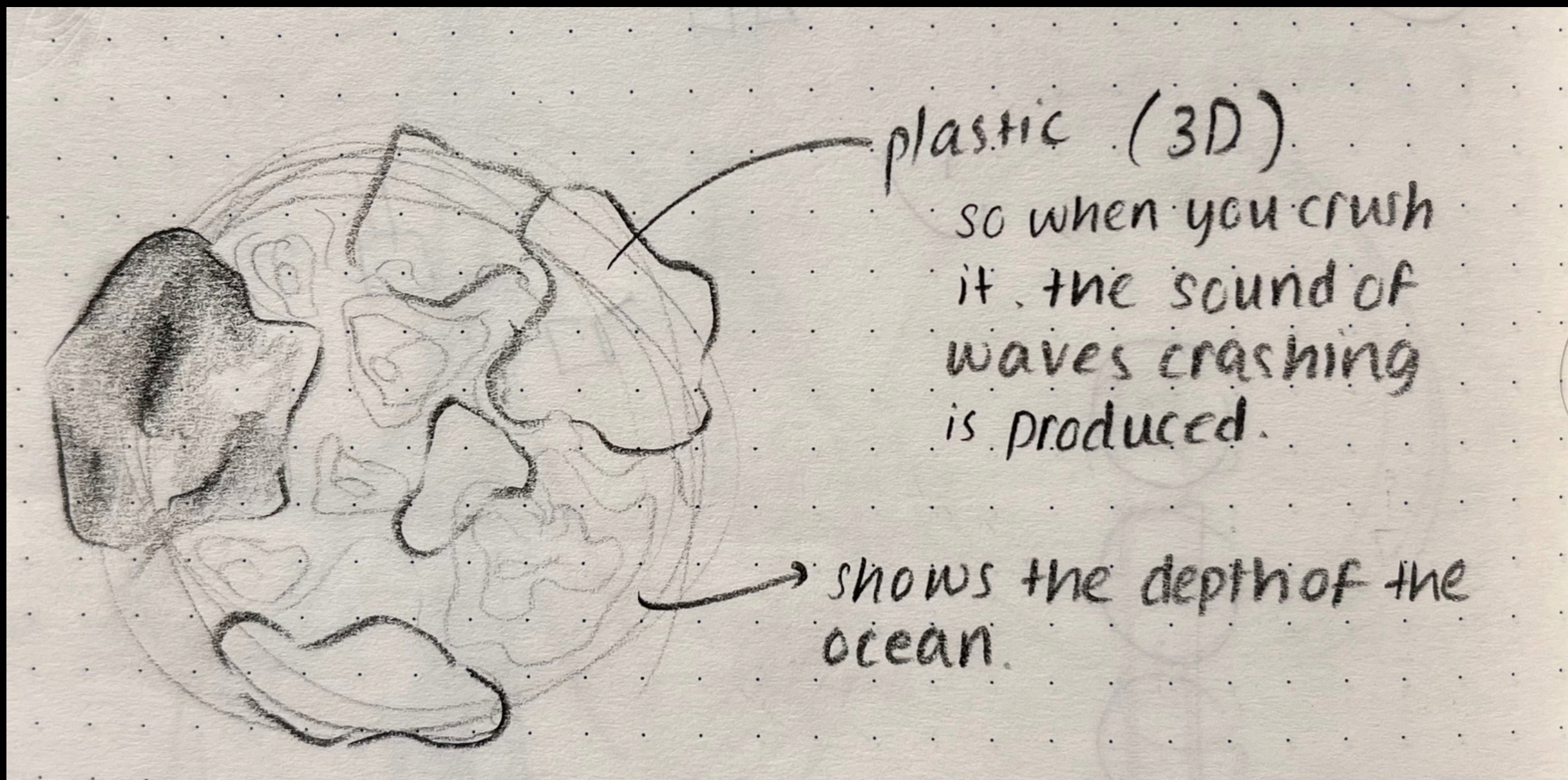


**foam board**  
(left over from DDC)



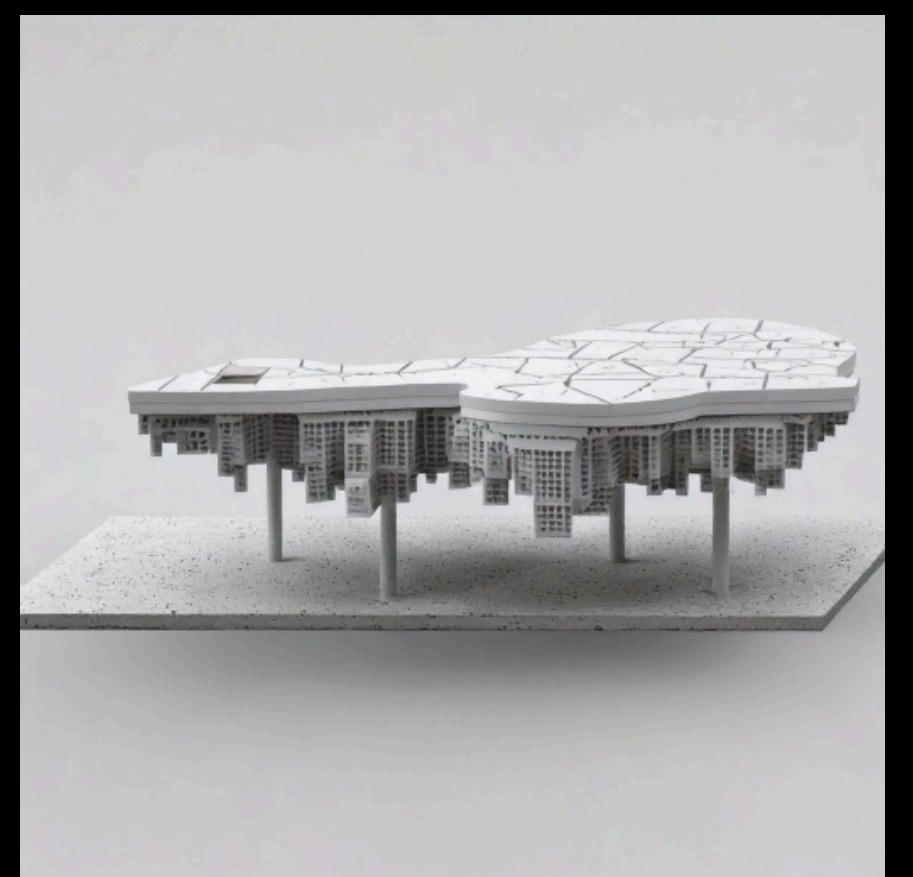
# process

## Initial model iterations (sketches)



## AI model generation process

initial iterations



final AI model



I combined 2-3 AI models and edited the image to added the liquid organza part of the model (using *adobe sketch up*)

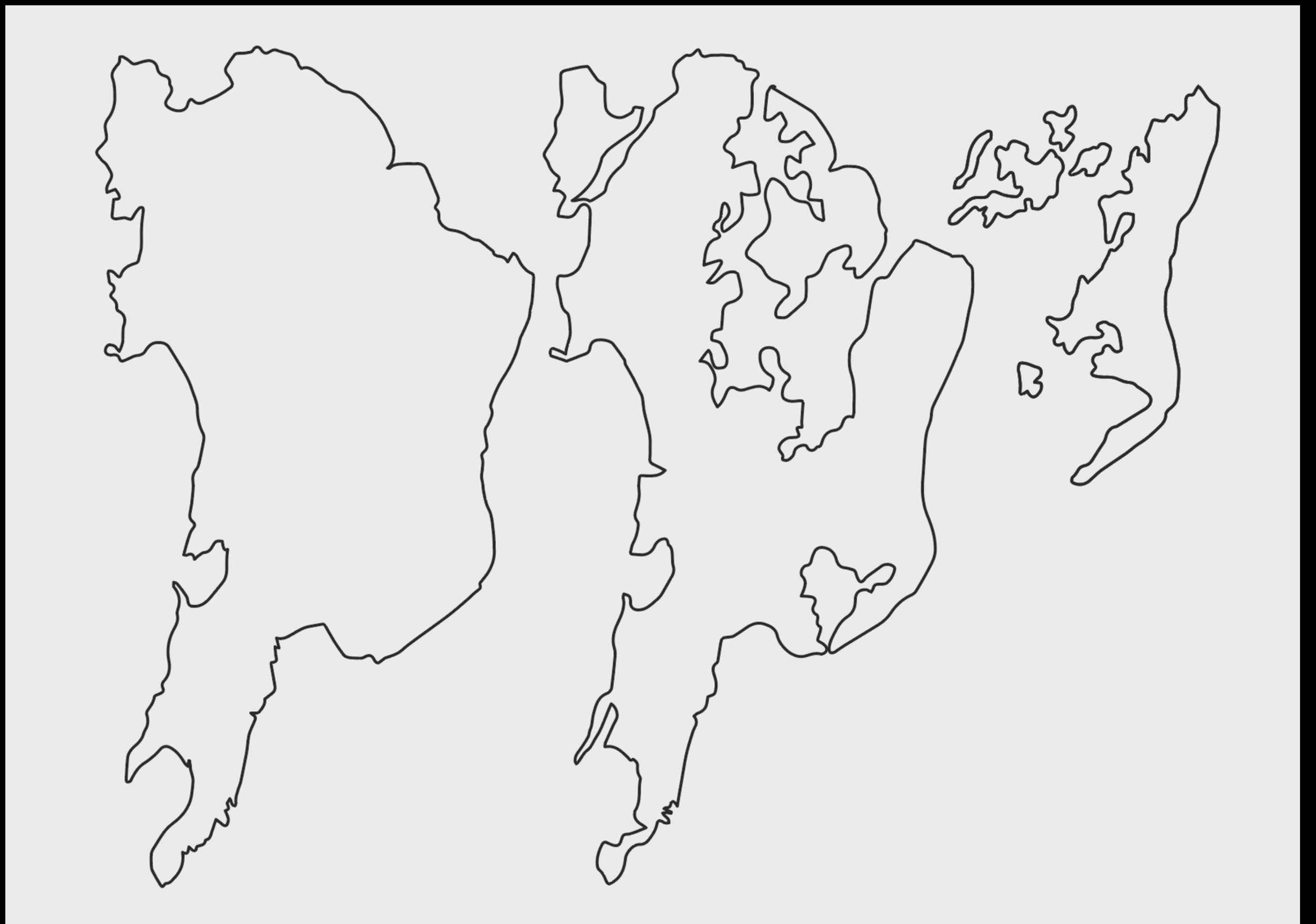


# Illustrator ACRYLIC laser cutting file

For the layered glass, I laser cut acrylic to make each layer.



all elements put together



illustrator file

## Sticking the gelating paper to the acrylic

In this process I definitely went through some ups and down.

There were times when the *fevi quick* would leak through and spread to the top, with would then get stuck to the acrylic covering.

Initially, there were a lot of bubbles that were forming as well. I switched up the way i was sticking the gelatin to the acrylic.

I started flatening the gelatin paper on flat ground and sticking the acrylic to the gelatin instead of the other way.



some parts **before** sticking the gelain



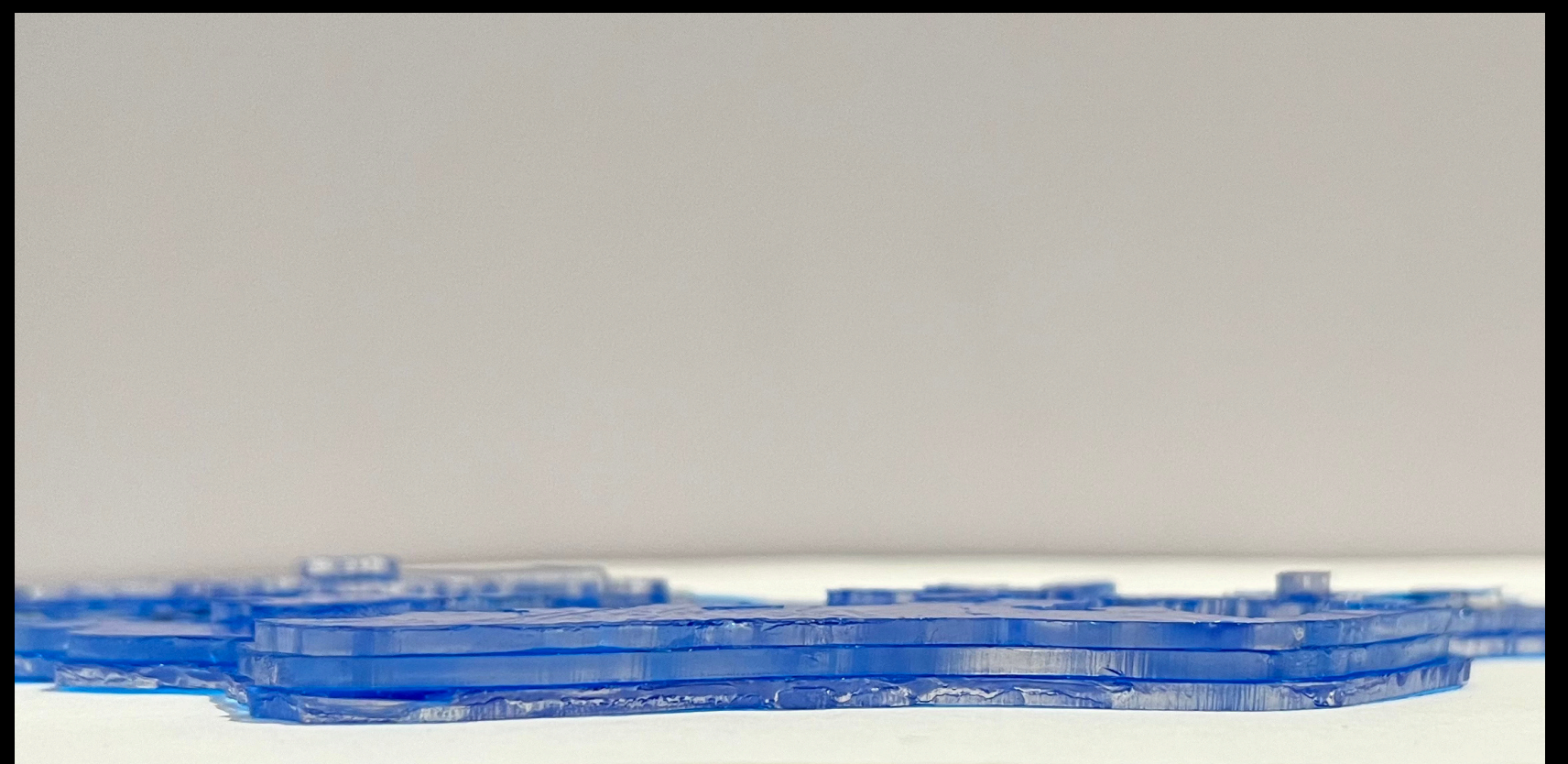
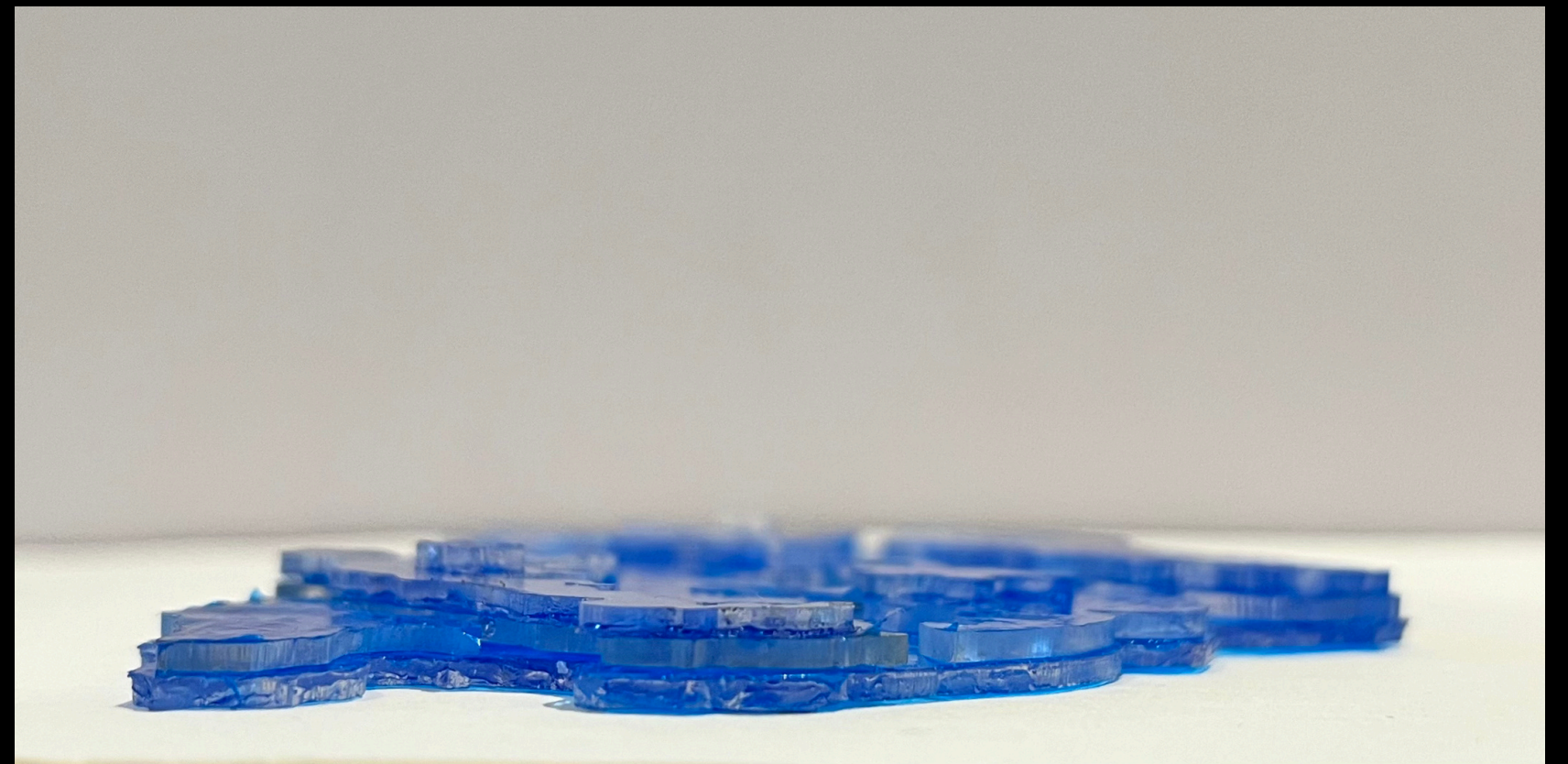
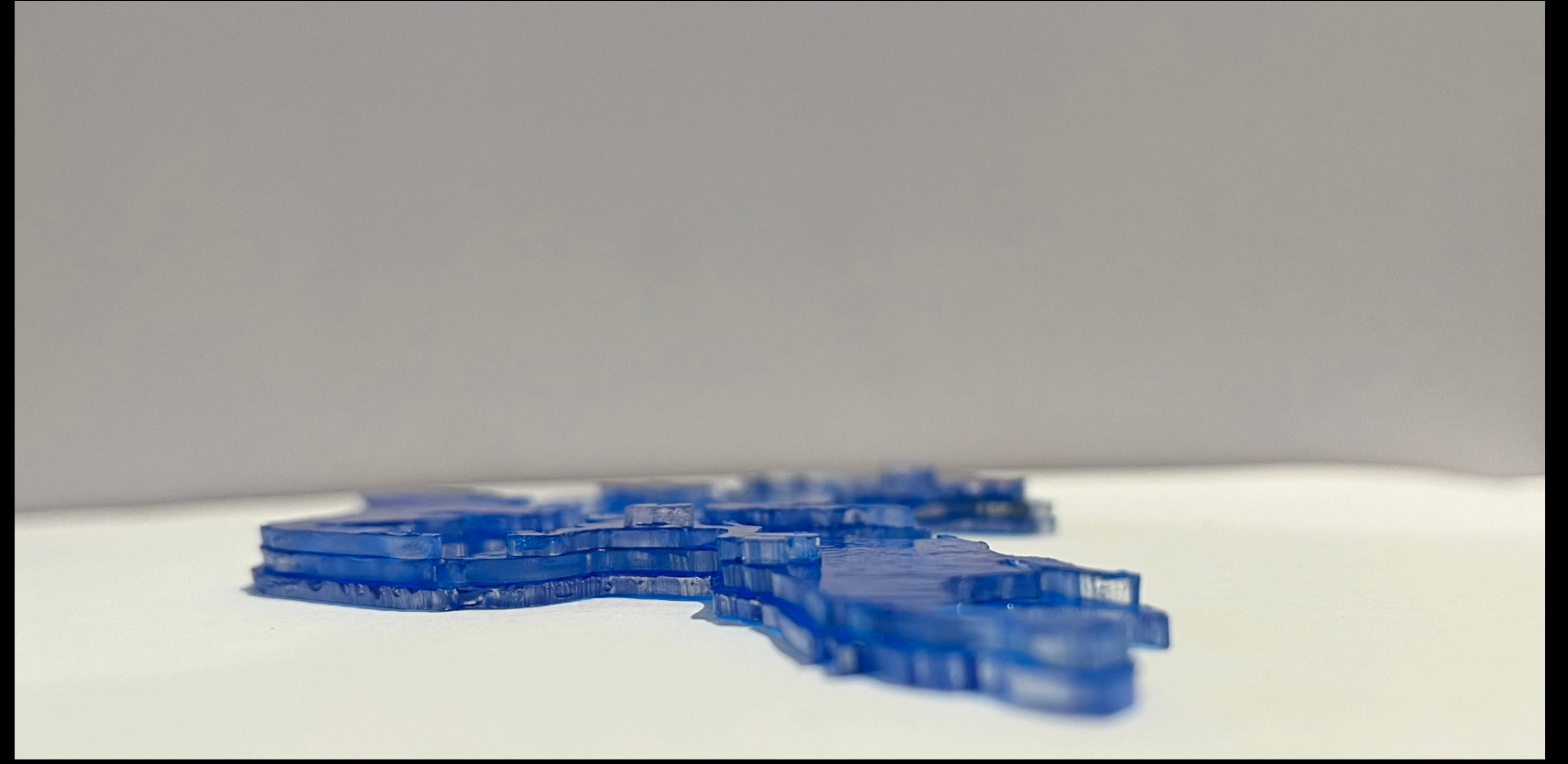
some parts **after** sticking the gelain



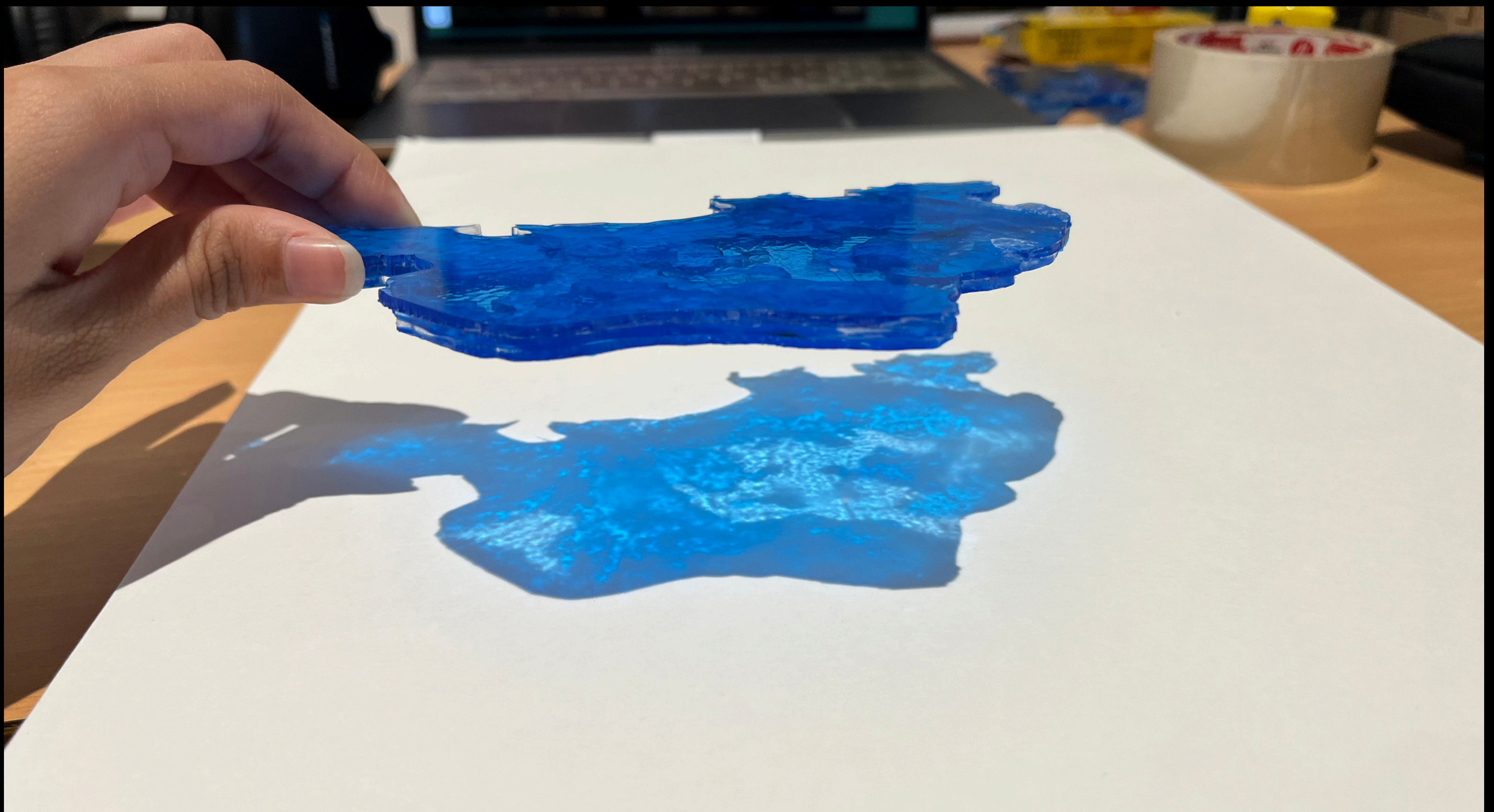
## Layering the acrylic



top view



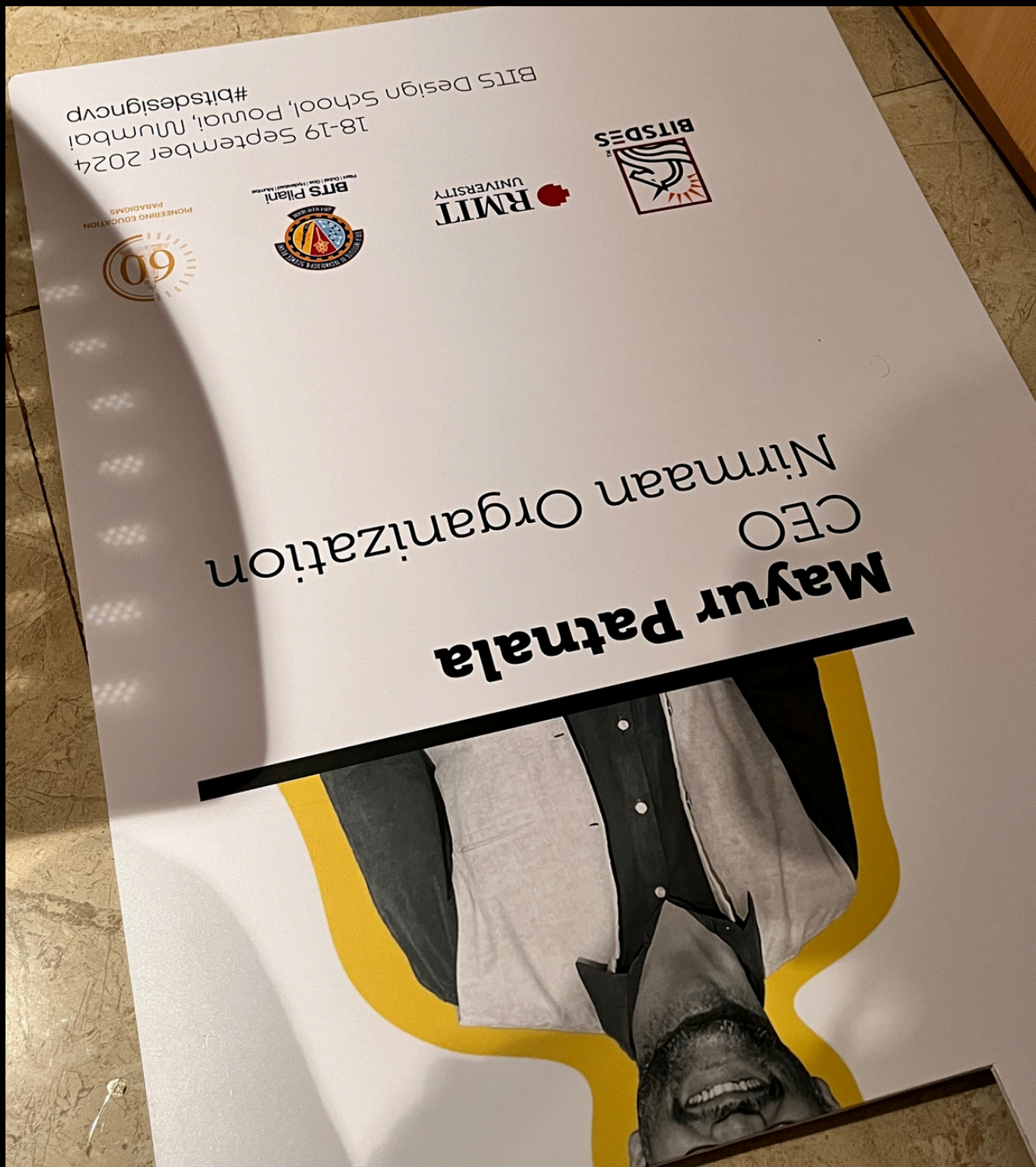
side view



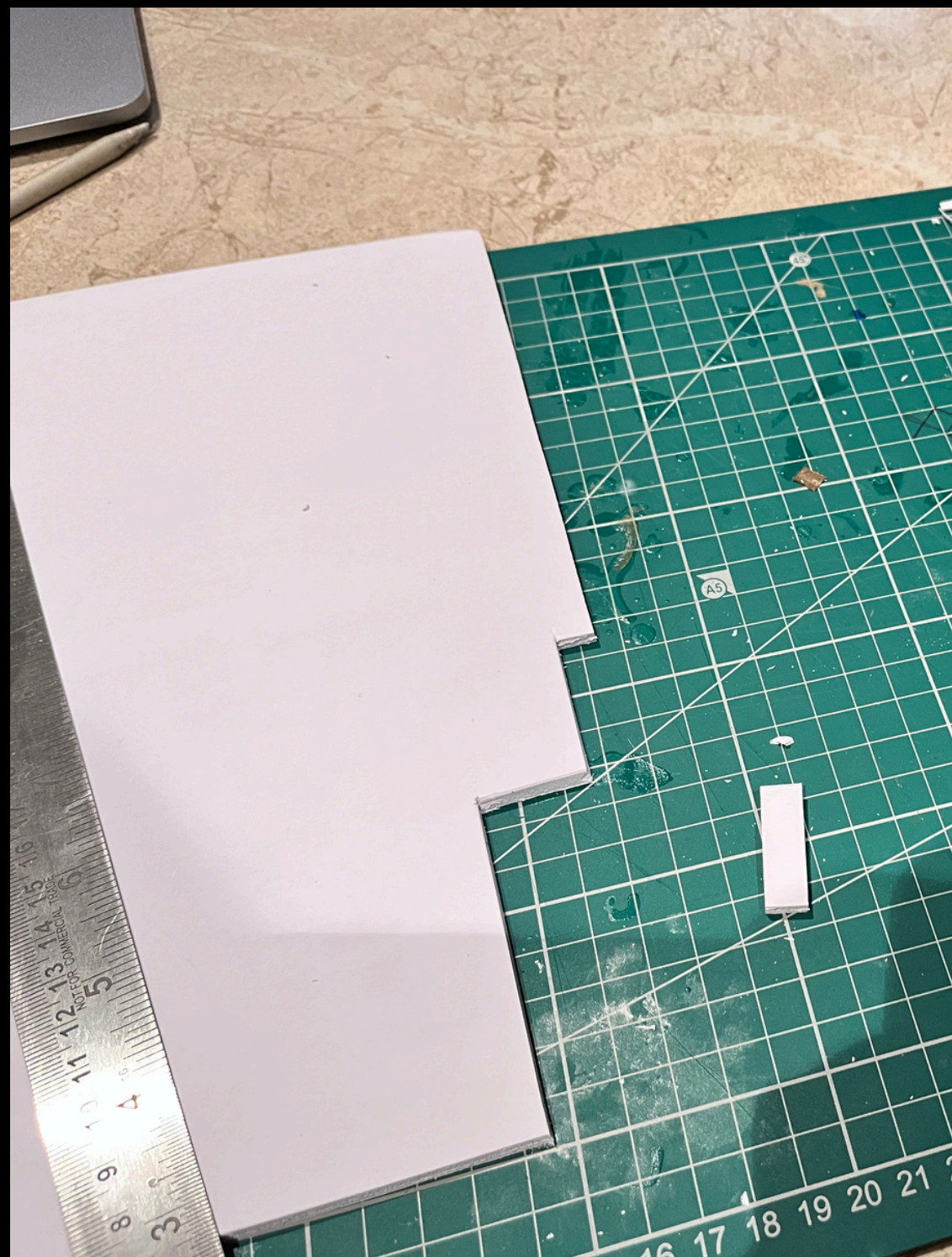
layers view



# Making of the buildings for the skyline



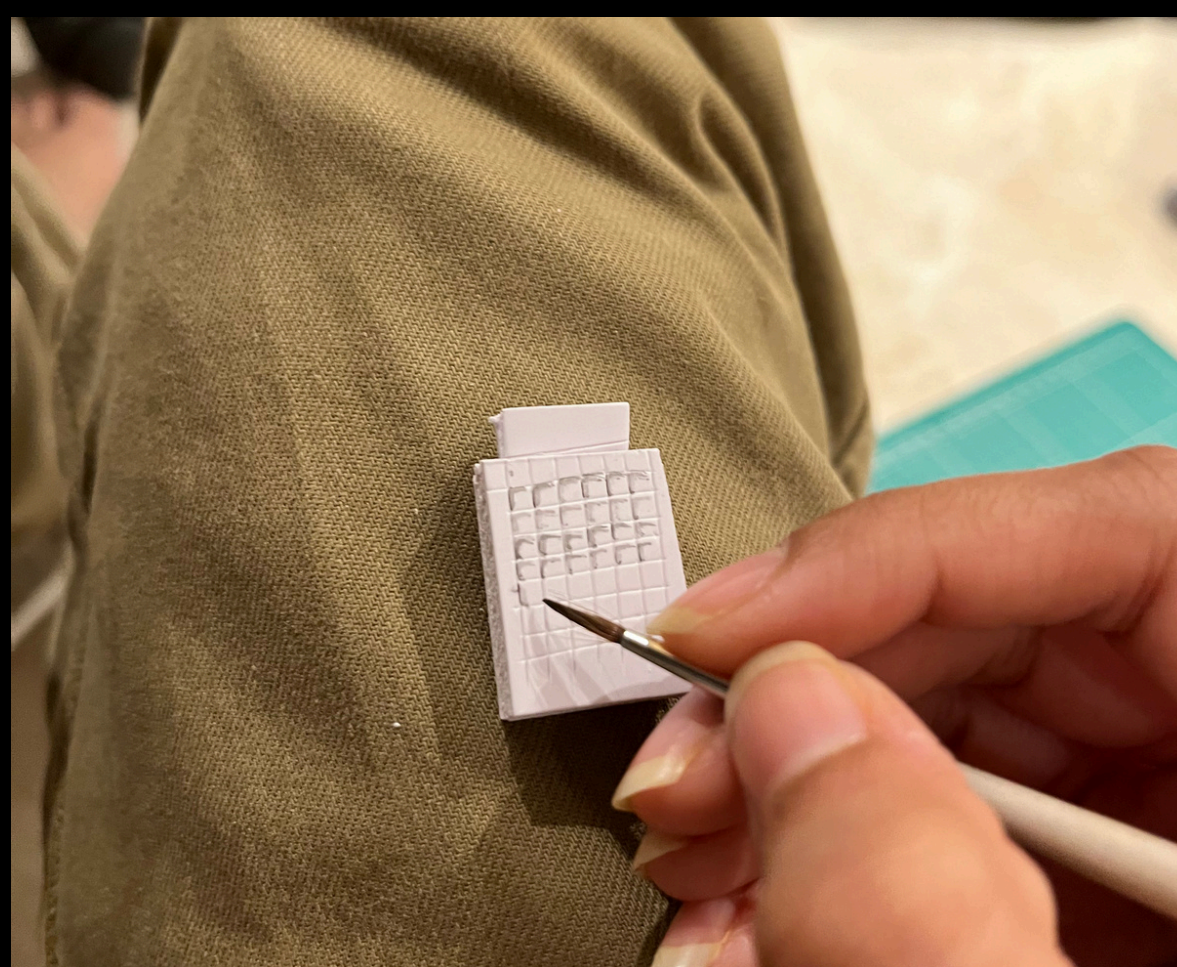
I made the buildings using the extra foam board from DDC



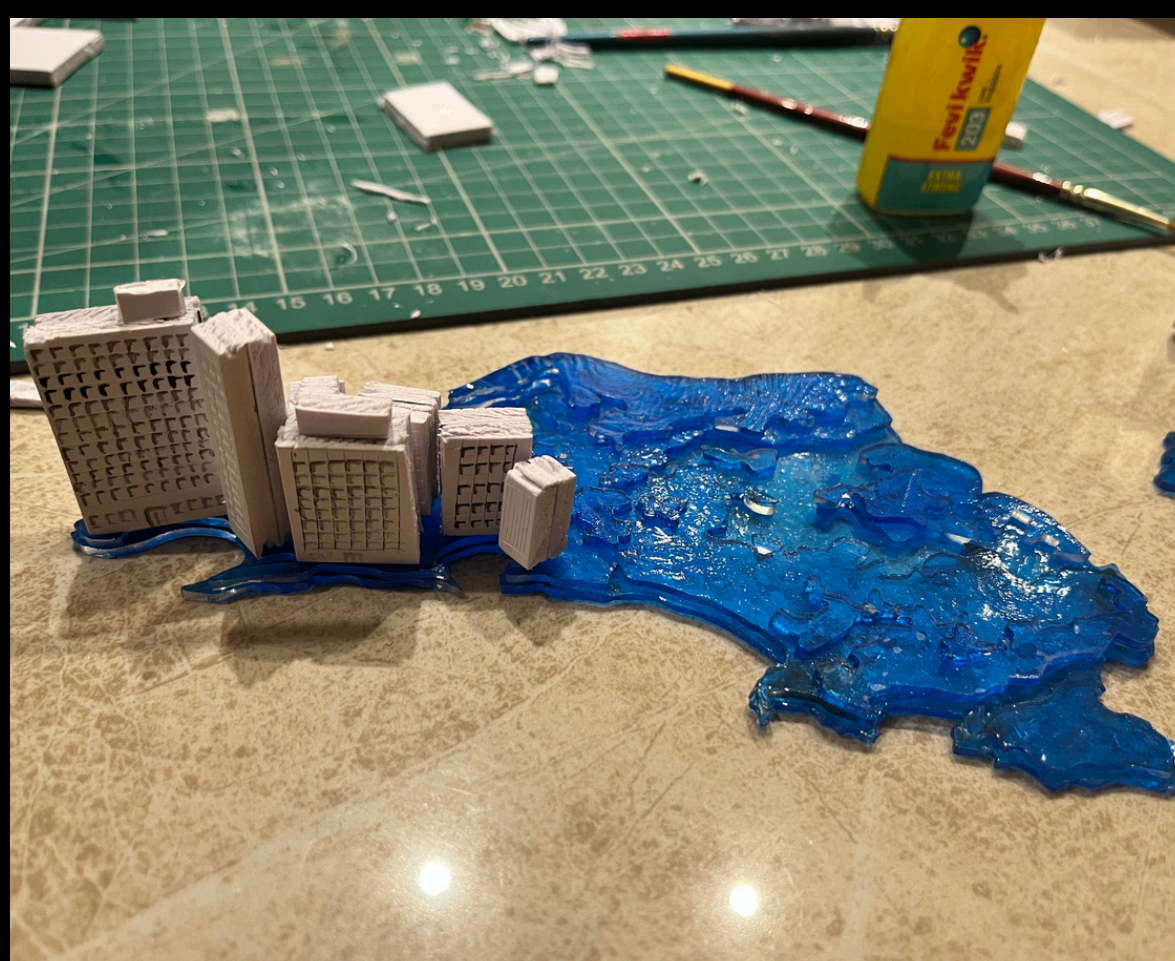
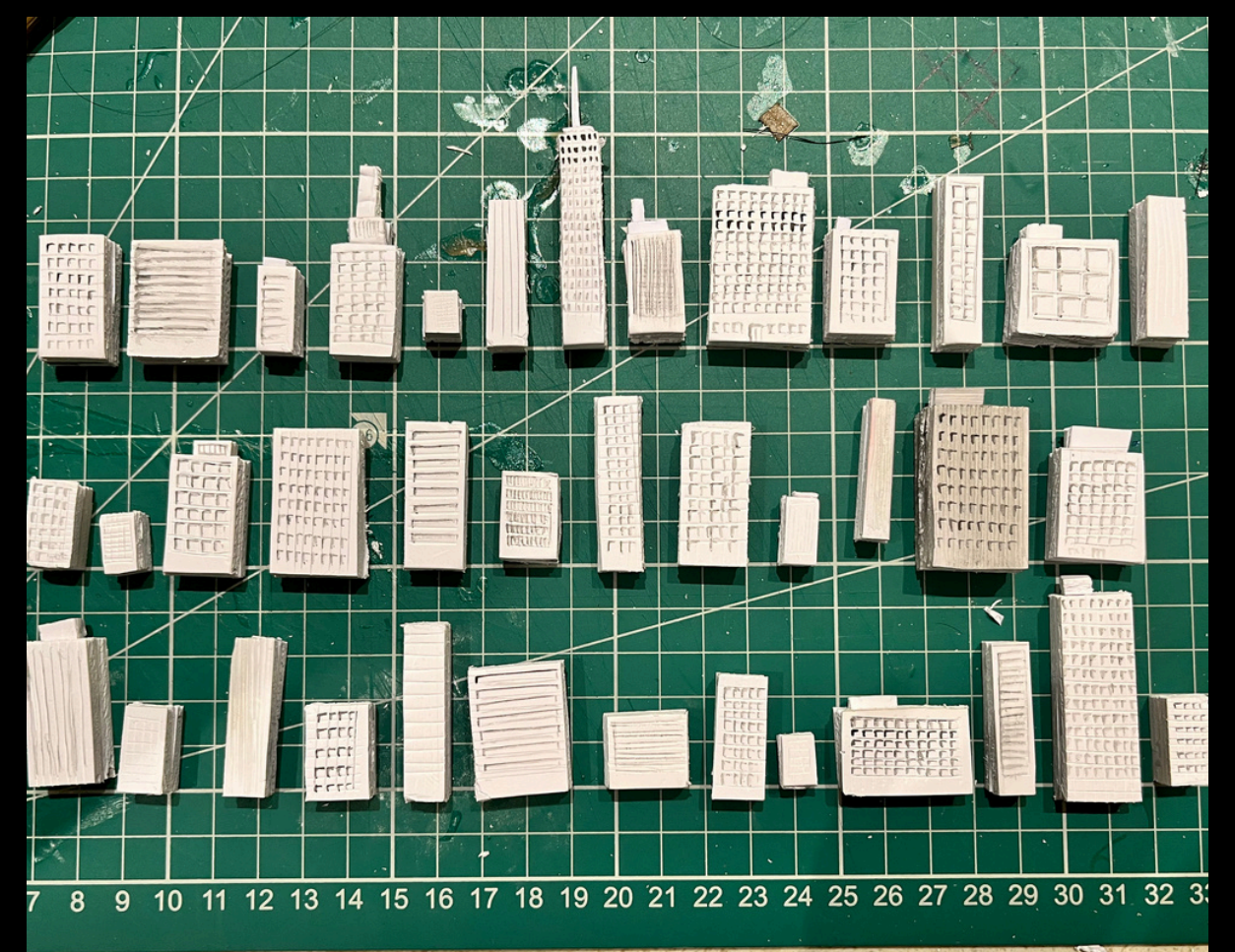
I started by cutting up rectangles of the foam board to create the main structures.



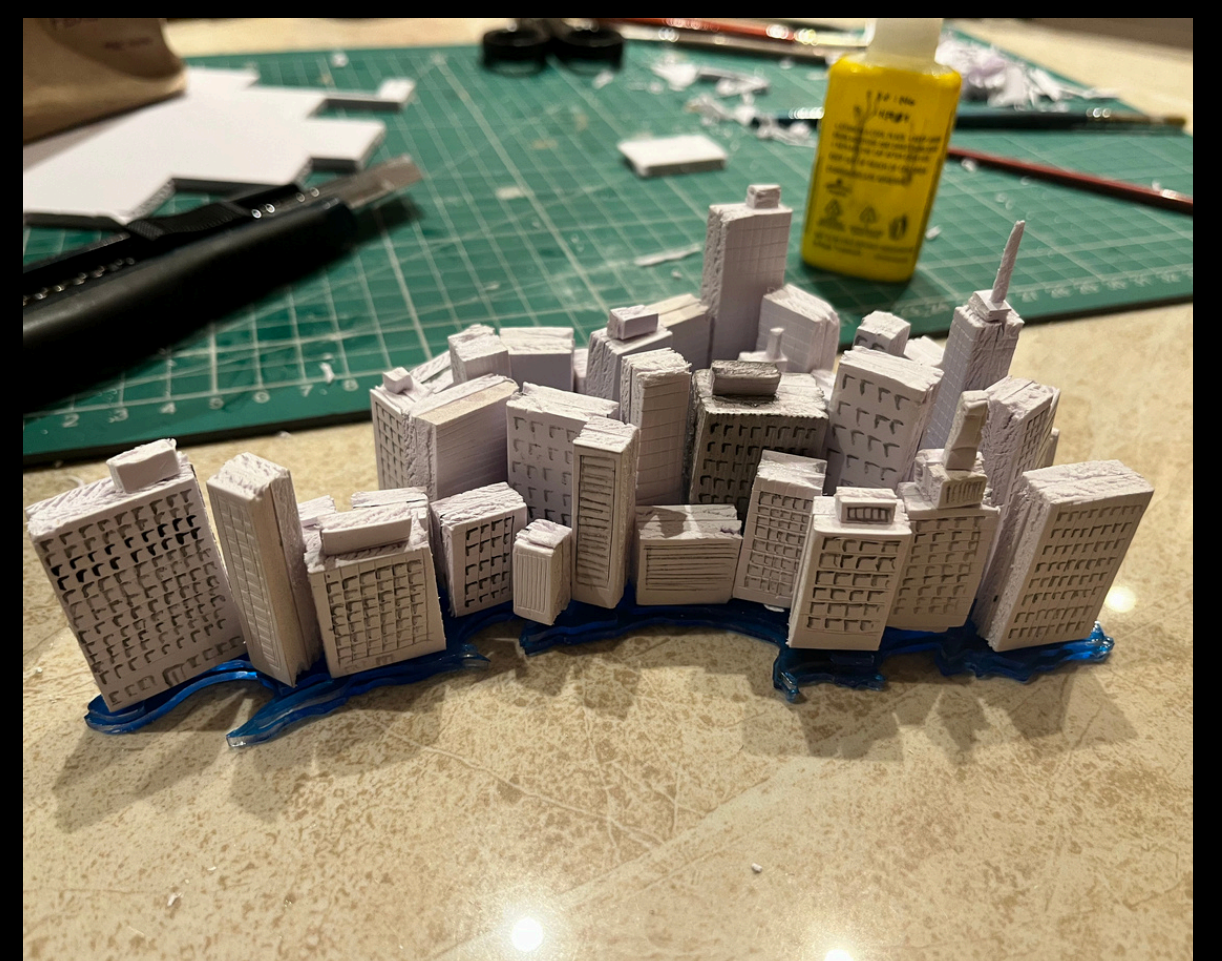
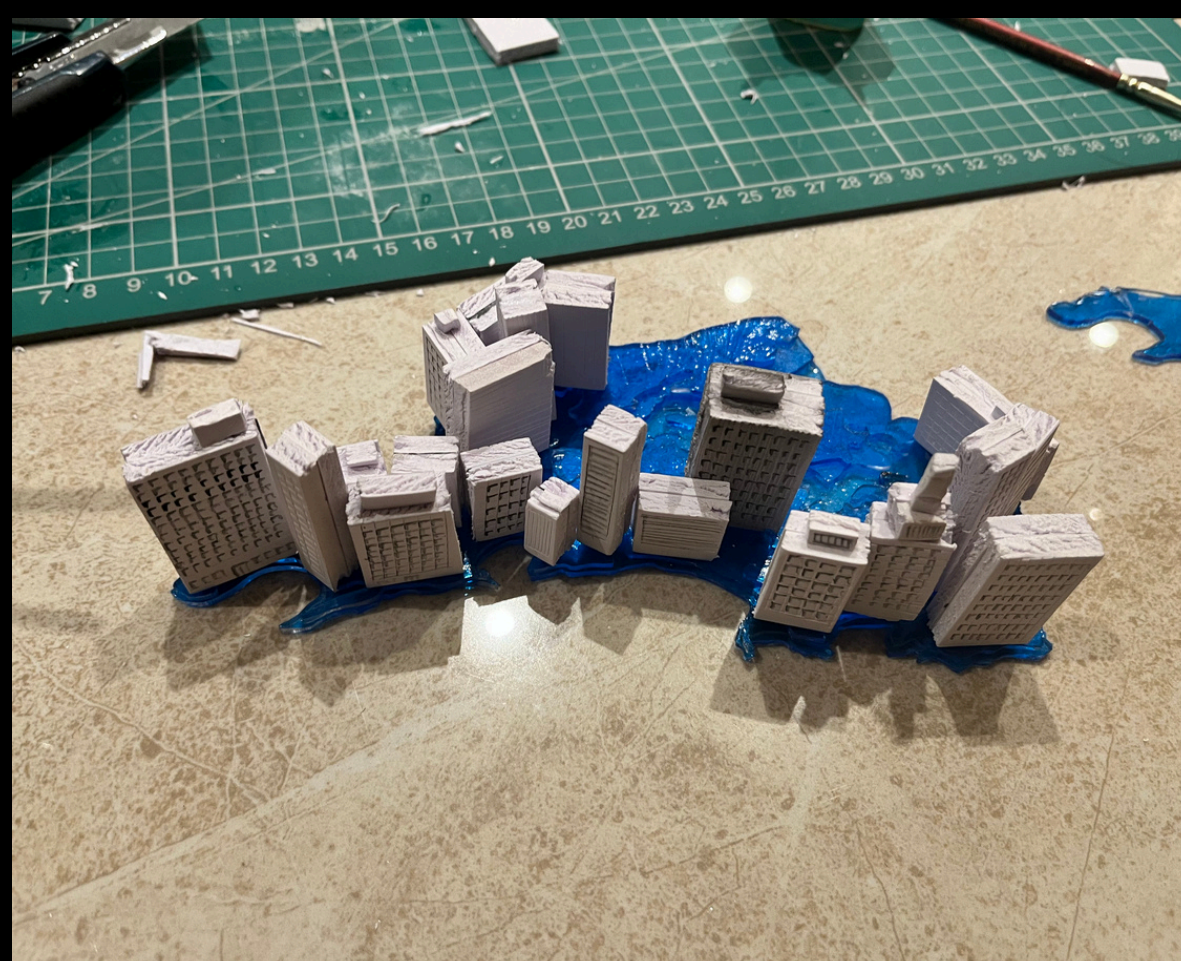
After which i started adding the small deailts to the buildings using foam board. (such as network antennas, water tanks, terraces, etc)



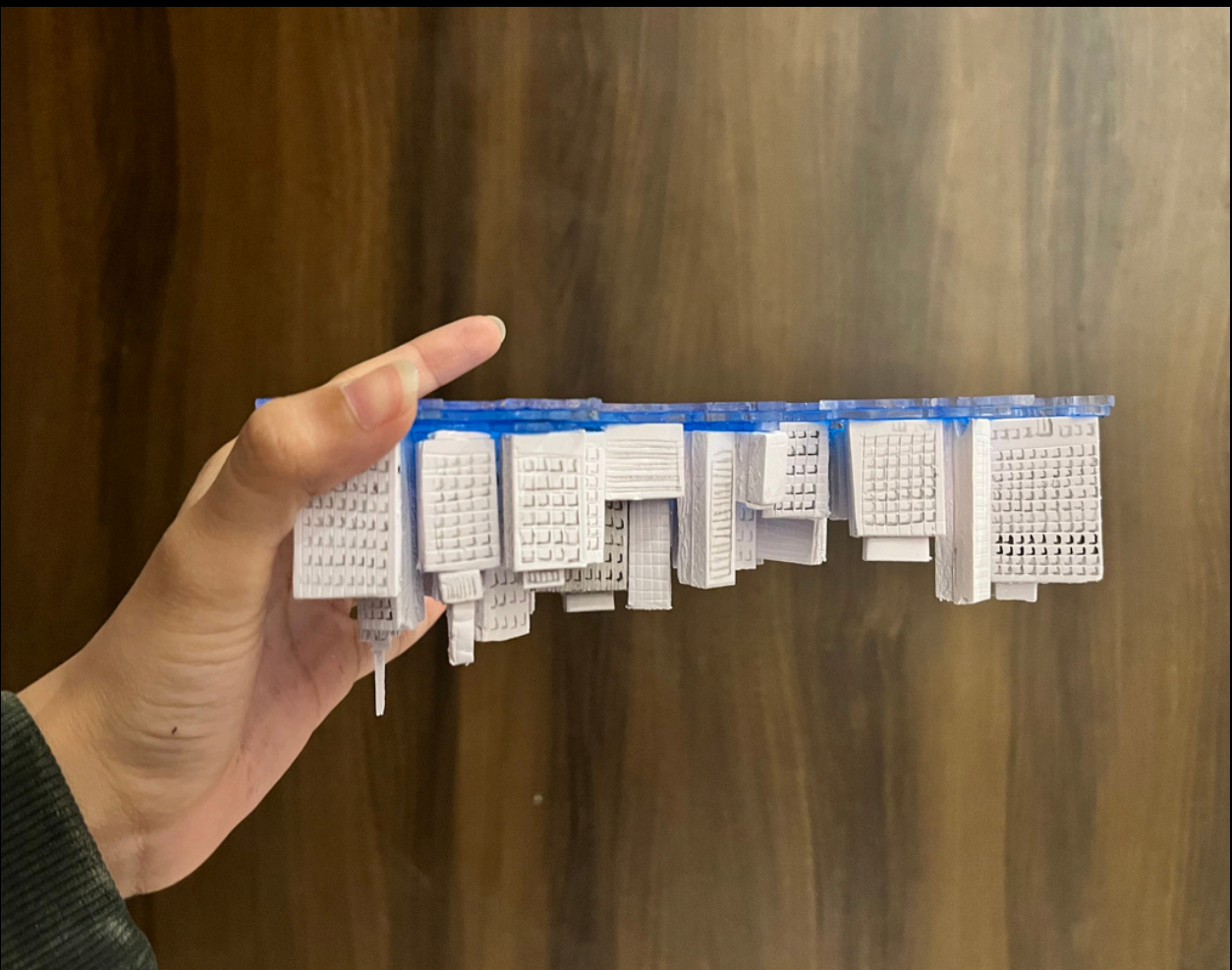
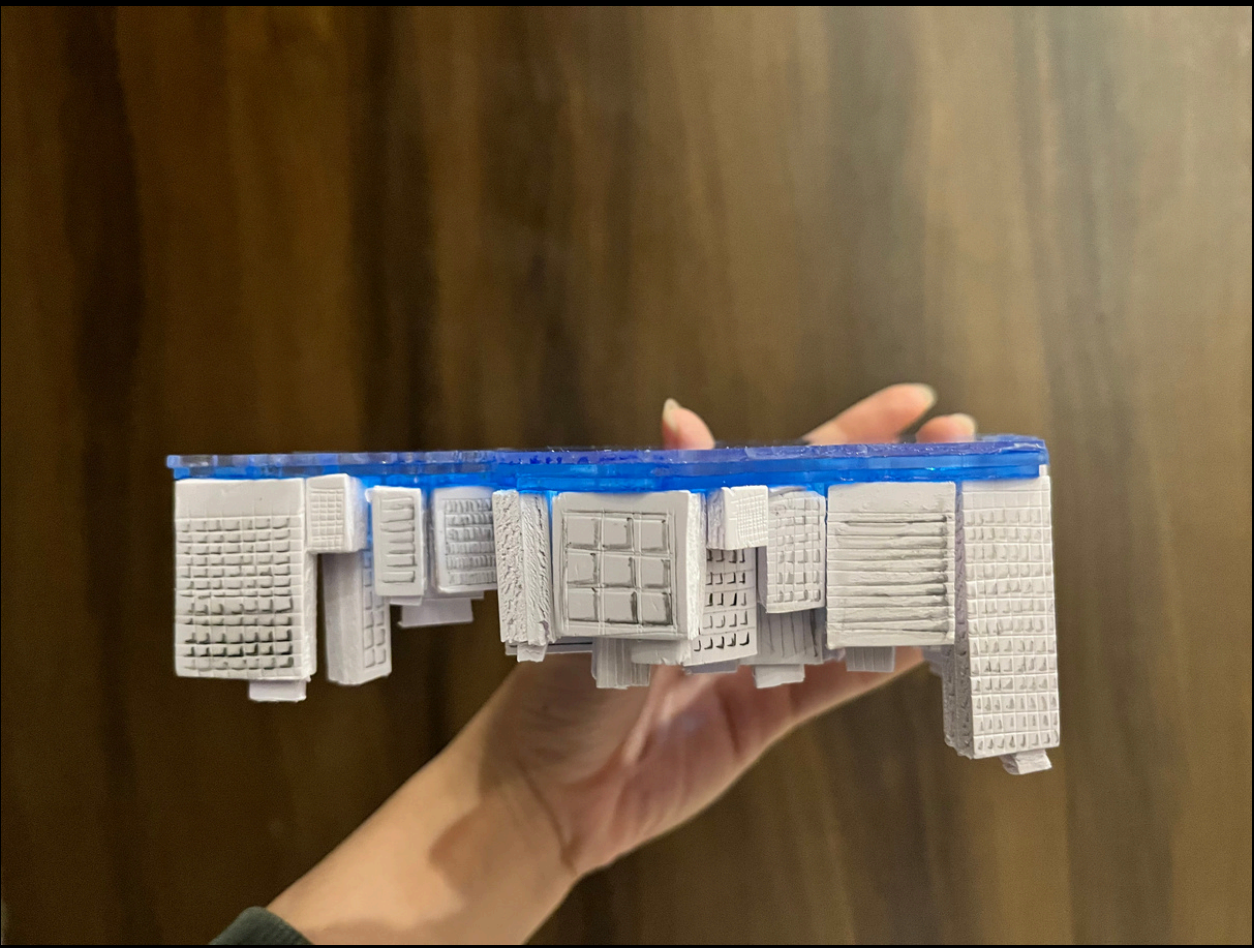
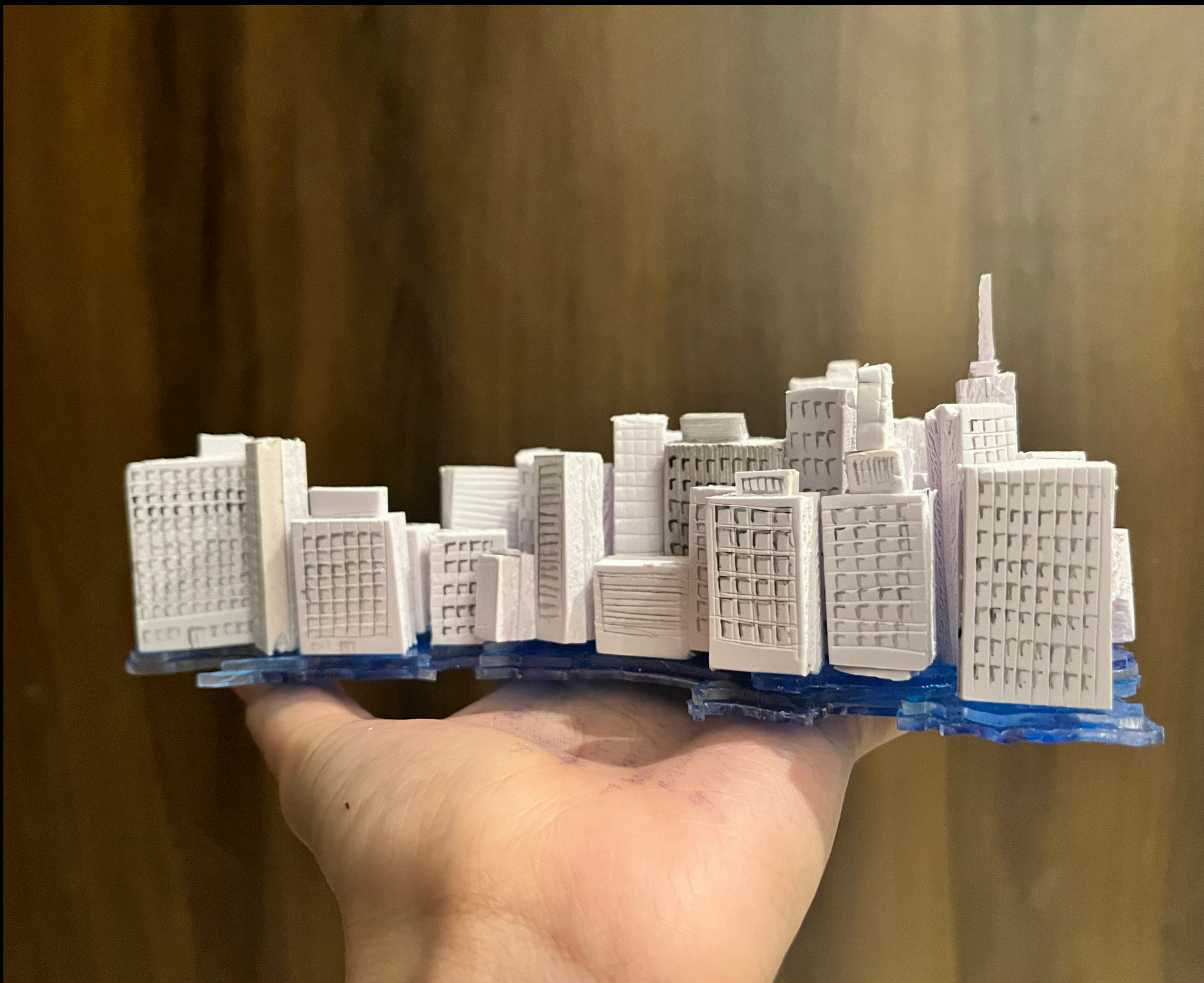
I then painted the deails of the buildings (such as the windows and balconies)



sticking the buildings to the acrylic







final buildings stuck to the acrylic

# Making of the legs for the installation

To make the legs of the installation, I used *acrylic pipe*.



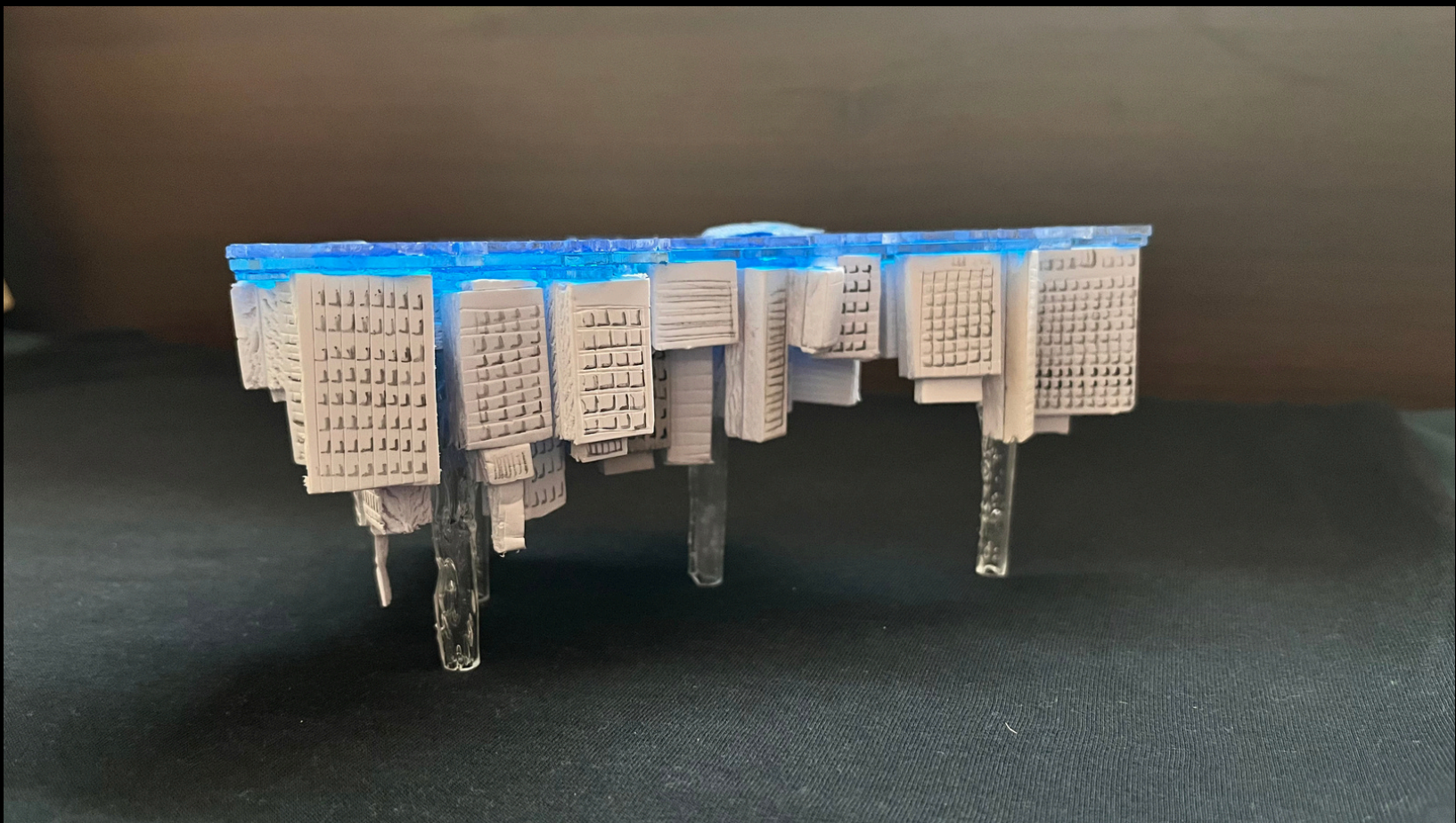
I then used the *heat gun* to melt it and stretch it out



After which I cut then up using the *band saw*



*acrylic pipe*



legs connected to the buildings



final parts  
(plus a few extra)



failed attempts



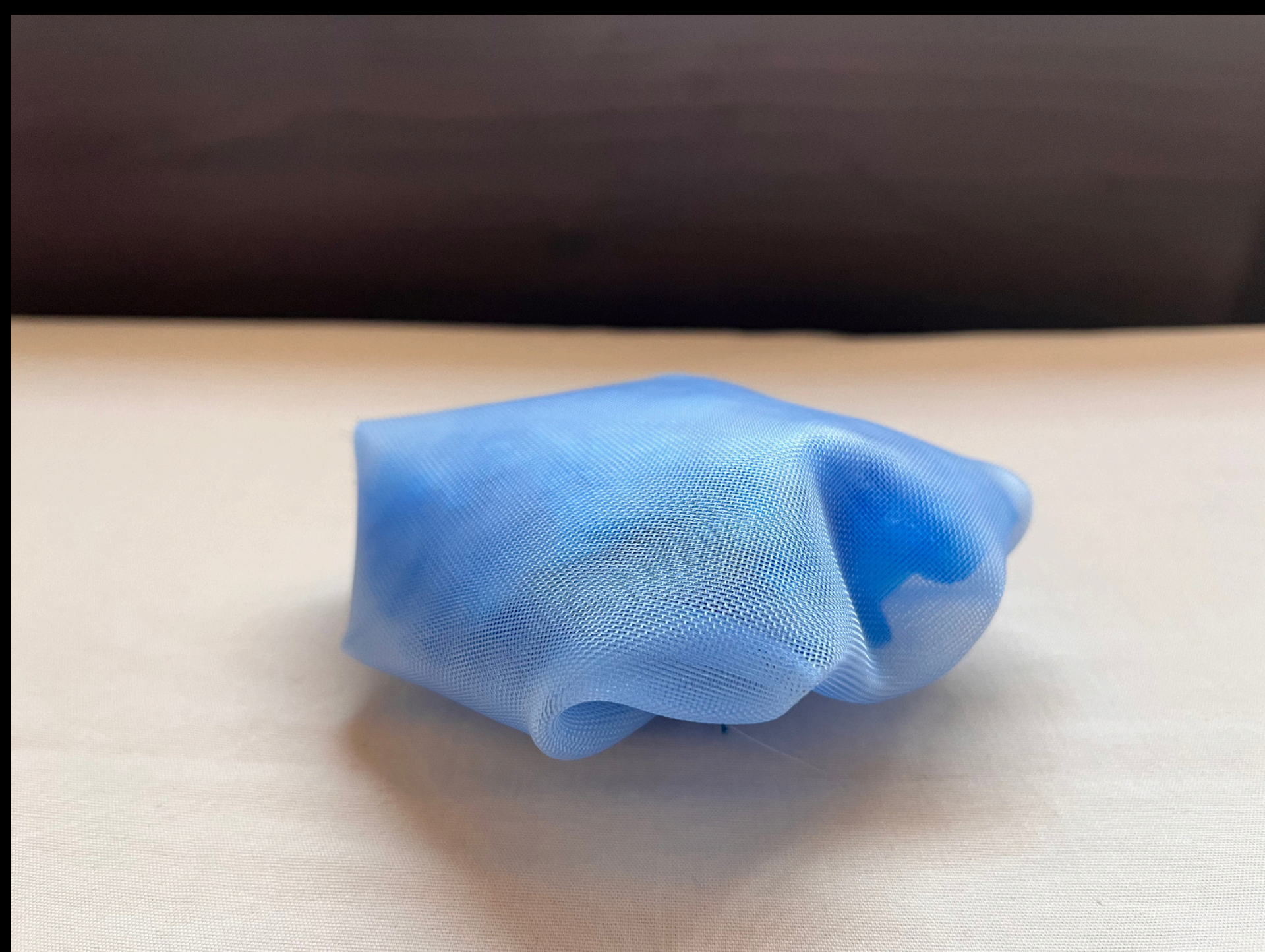
# Making of the water-like effect on the surface

(liquid organza part)



I started by stitching the nylon mesh with a needle and thread. I also added the gelatin paper inside it as I was stitching

[clcik here to watch the video of the nylon mesh moving](#)



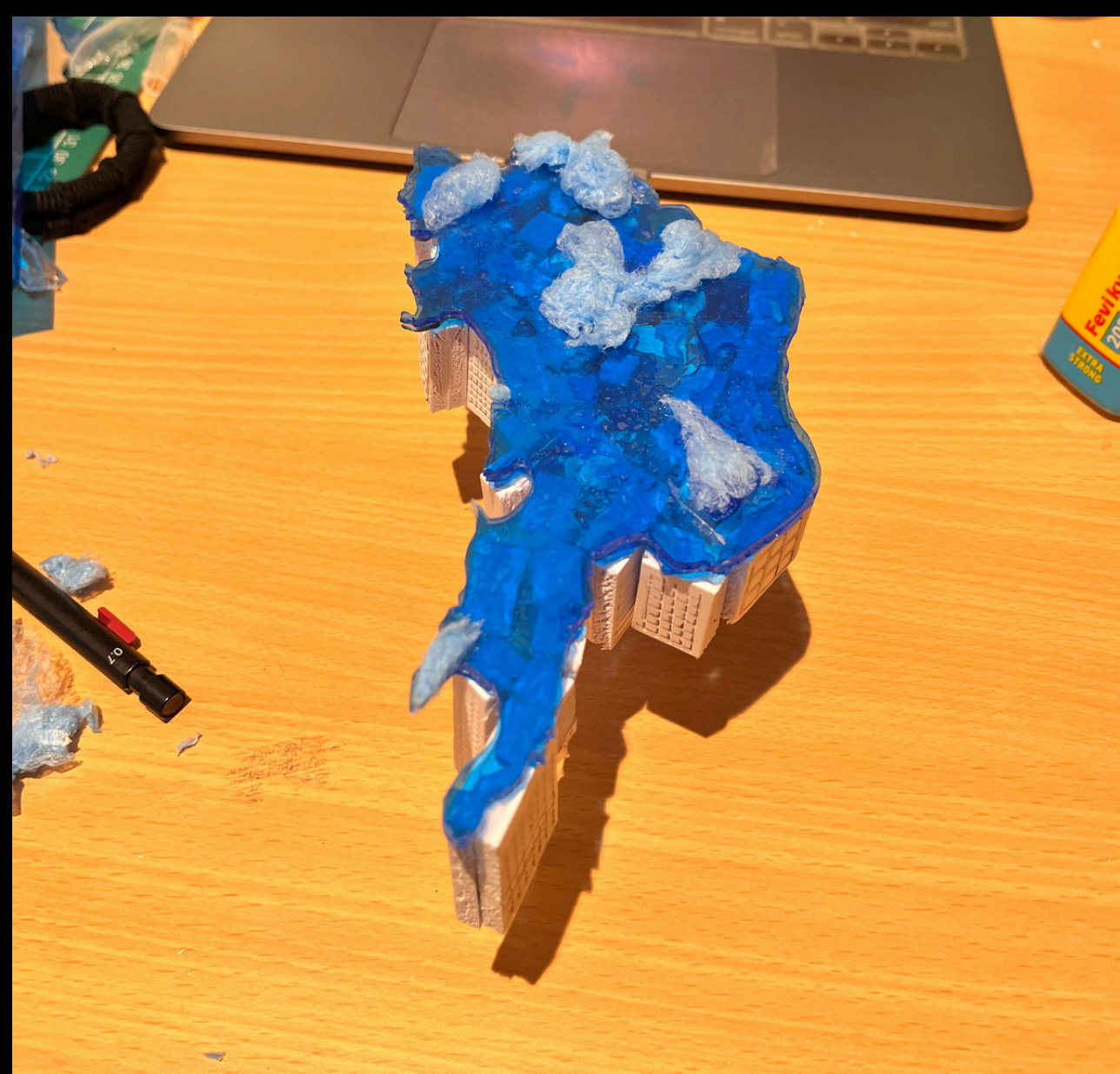
final mini model of the working of the interactive part of the installation

[click here to access video of the interactive part](#)

For the model, I tried making it using the nylon mesh and the gelatin paper, but it got too messy and un-neat as it was too small. So i decied to use a hair net instead



hair net



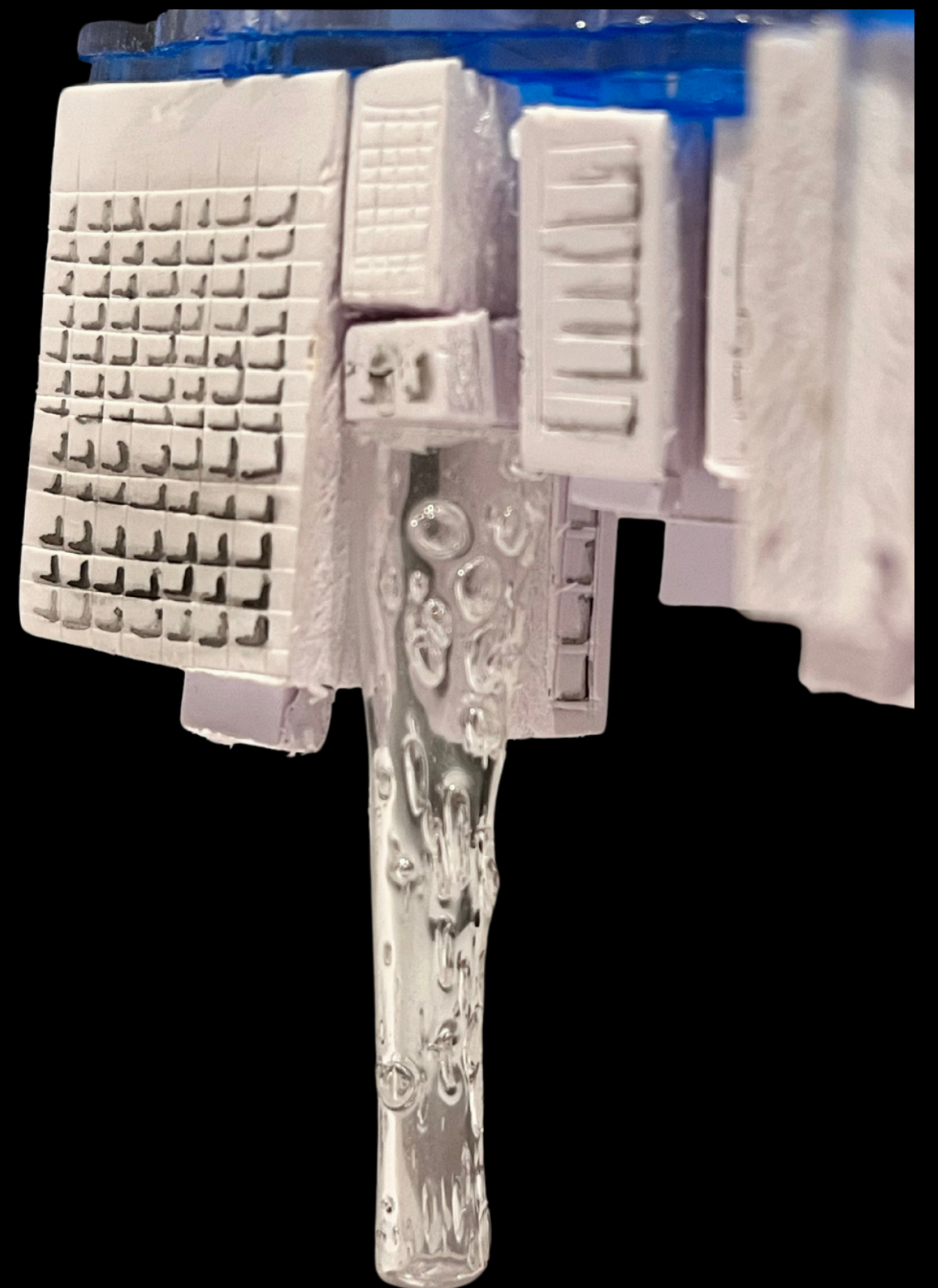
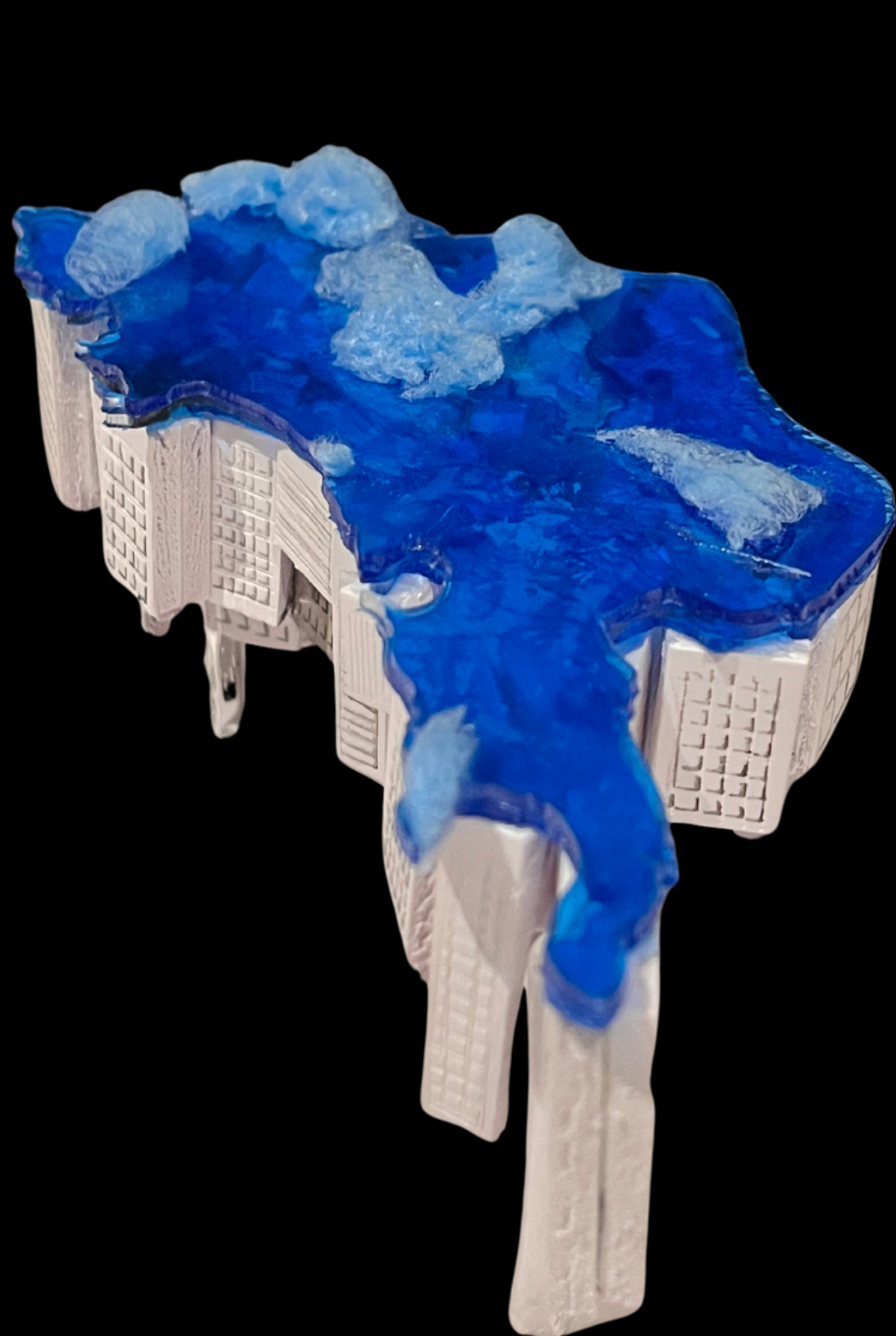
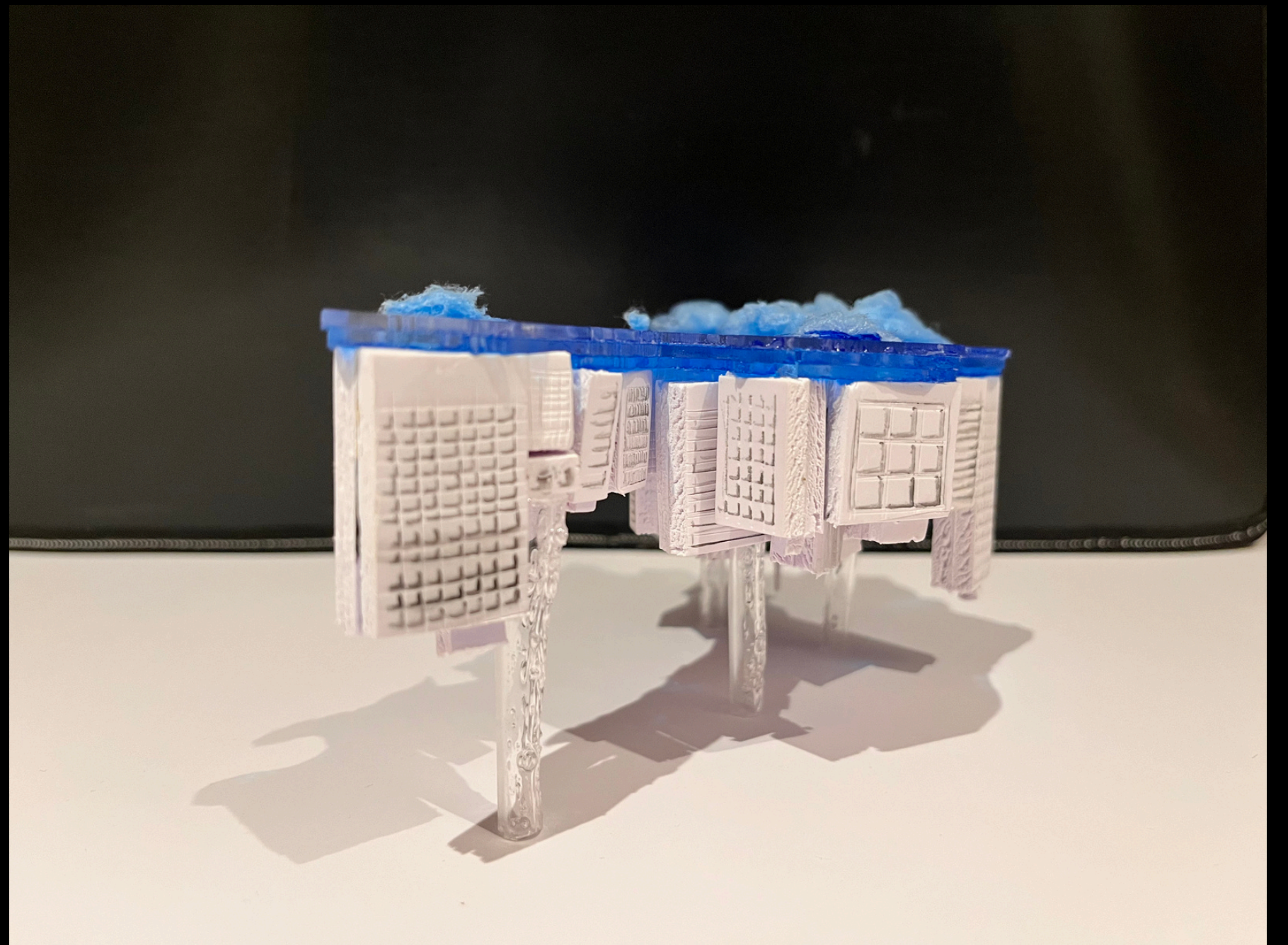
final



messy nylon mesh + gelatin paper



# Final model





# conclusion

This project started as a way to celebrate the beauty and calmness of Mumbai's beaches, but as I went deeper into it, I realized that the ocean isn't the same anymore. Through liquid organza, I wanted to recreate the feeling of playing with ocean waves—only for people to later realize they're actually playing with plastic, just like how pollution has changed our beaches. The upside-down Mumbai skyline represents how, despite rapid urban growth, the city is losing its natural environment.

Throughout this process, I made plenty of mistakes, but each one taught me something valuable. I experimented with new materials, especially liquid organza, which had the perfect fluidity to mimic ocean waves—something chiffon, voile, and crêpe de Chine couldn't quite achieve. Some mistakes were easy to fix, like when I struggled to attach the gelatin correctly. Since I had anticipated possible errors, I had laser-cut extra acrylic pieces, which made the reattachment process smoother.

However, other mistakes were harder to solve. One of the biggest issues I faced was the unexpected transparency of the acrylic. Once I assembled everything, I realized that the bottom parts of the buildings were clearly visible through it, which wasn't what I had planned. It disrupted the illusion I wanted to create, and at that point, there wasn't much I could do to completely fix it. Another thing I noticed too late was that the layers of tinted acrylic weren't as saturated as I wanted. If I had added more layers of gelatin, the colors would have been deeper and more striking. These were things I only realized toward the end, but they taught me to plan and test my materials more thoroughly in future projects.

Even the legs of the installation were a challenge—figuring out the right amount of heat to bend the pipes without breaking them took trial and error.

Despite all these challenges, I'm really grateful for this project. It pushed me to experiment with different materials, problem-solve on the spot, and think deeper about the message I wanted to convey. It was a learning experience in both design and storytelling, and I'm excited to take these lessons forward in future projects.