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PRODUCT DESIGN

- a. Water-friendly Shower
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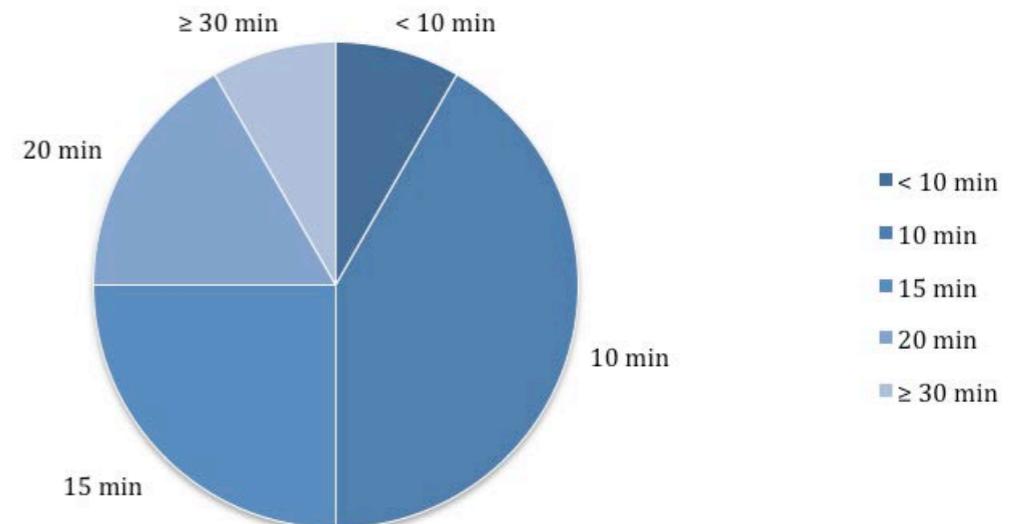
Background:

783 million people do not have access to clean and safe water. Global water shortages are becoming a bigger problem over the past few years. Many governments across the world are striving to persuade their people to use less water. However, citizens at times can be unaware of how much water they are consuming, or wasting. To help ease off the global water shortages, I decided to create something that will inform the citizens about their water usage and raise the awareness of wasted water.

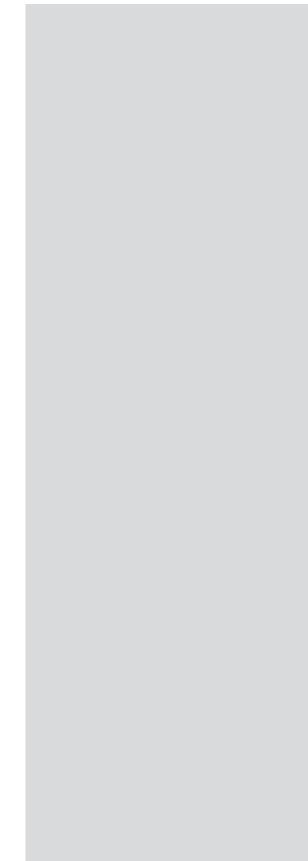
Research:

There are already some methods households use to conserve water. One of which involves conserving water in the kitchen: saving the water from washing vegetables in a basket, which can then be used to water plants or flush toilet. However, conserving water in the bathroom isn't so widespread.

Showering is the main source of water consumption inside the bathroom. Unlike taking a bath, the longer time you shower, the more water you will waste. According to wastewater gardens, an average person showers 12 to 15 minutes. The water flows at a rate of 6 to 9 liters per minute. That is 72 to 135 liters per person per day. After interviewing my family members and my friends, I got similar results.



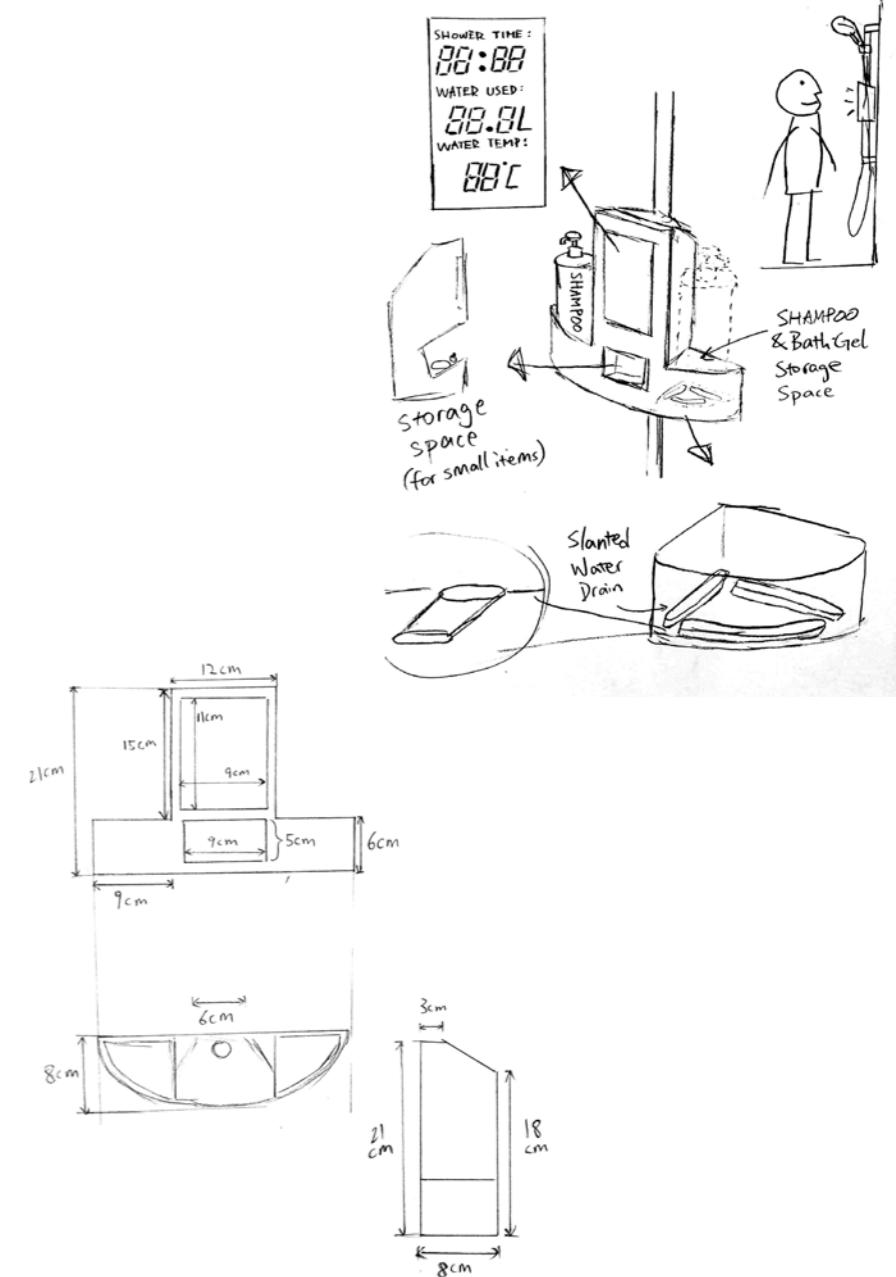
A. WATER-FRIENDLY SHOWER

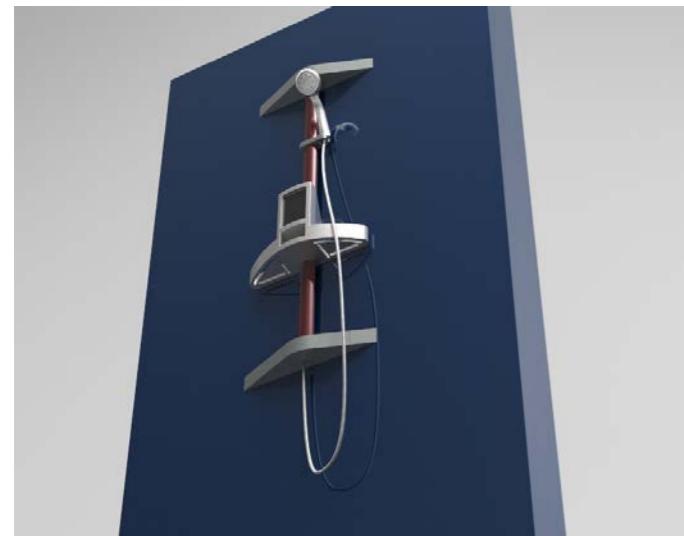
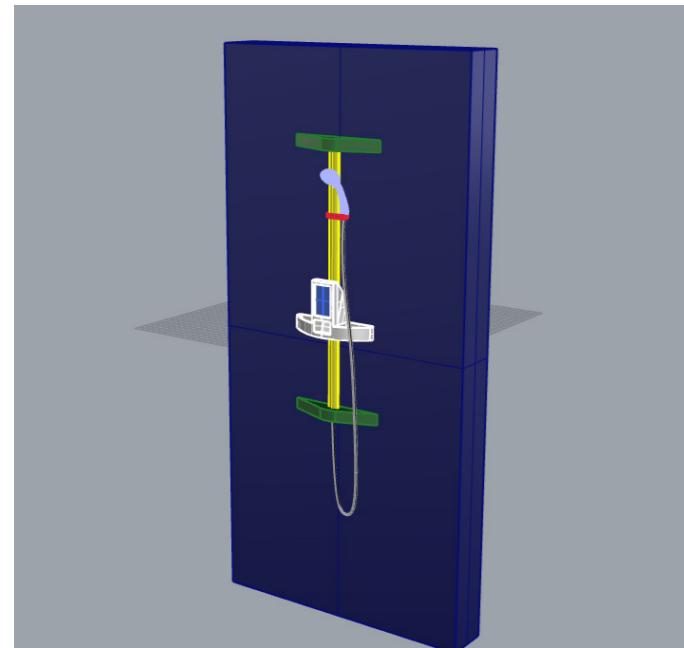


As a person who sometimes shower too long, I often feel unaware of the time passed during shower. If I start thinking about an idea during shower, I would unconsciously spend more time showering.

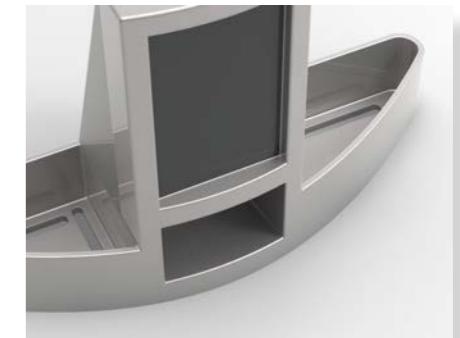
The most common types of shower are shown above. One with the showerhead connected to a metallic tube, the other with the showerhead attached to a wall. However, these two types of shower cannot remind people how much time they have spent or how much water they have used.

My proposal is to design a shower system that shows people how much water they are using and hence remind people to conserve water.

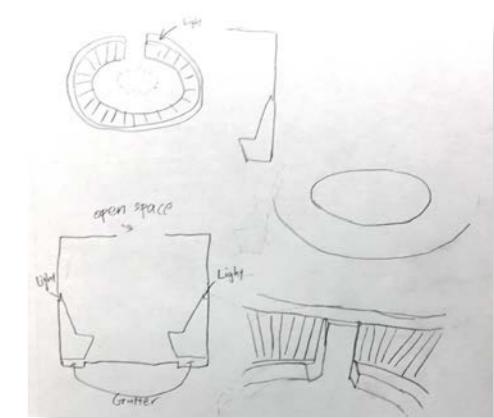
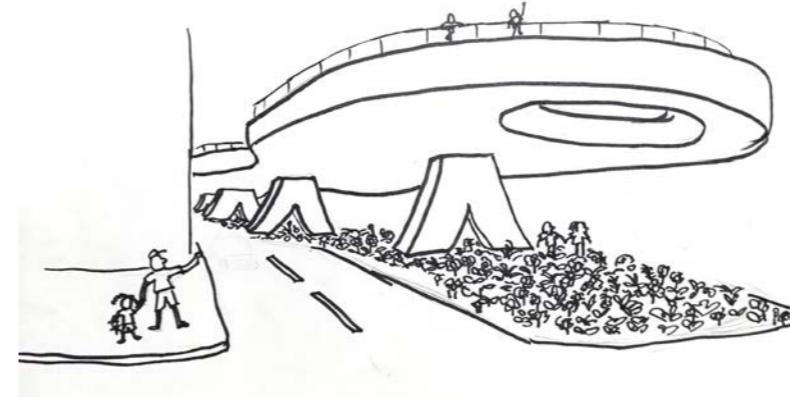
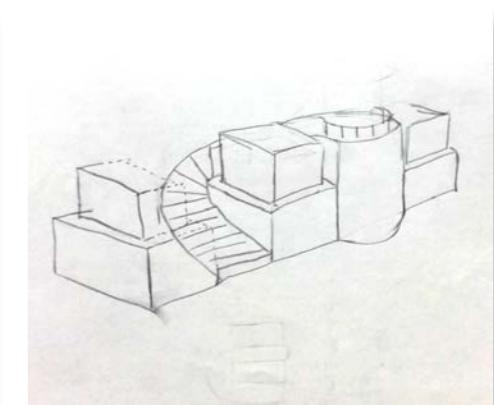
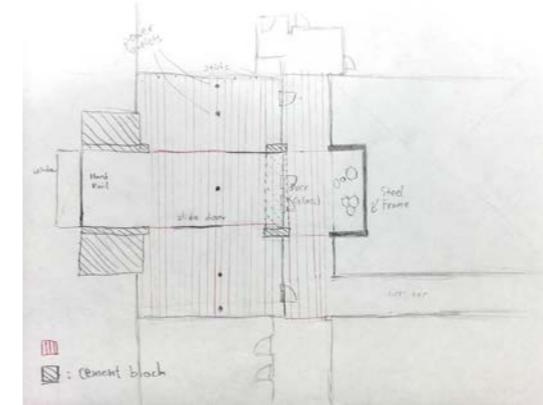




The product I designed is a shower system that aims to remind users about their water usage and hence promote water conservation. I designed a LED display on the shampoo stand, which would show the time and water used for each shower. This way, when the users are applying shampoo or bath gel, they would turn around and the increasing numbers would remind them that water is being used every second. By showing the users a number, the system would raise awareness about water usage and help people use their shower time more efficiently.

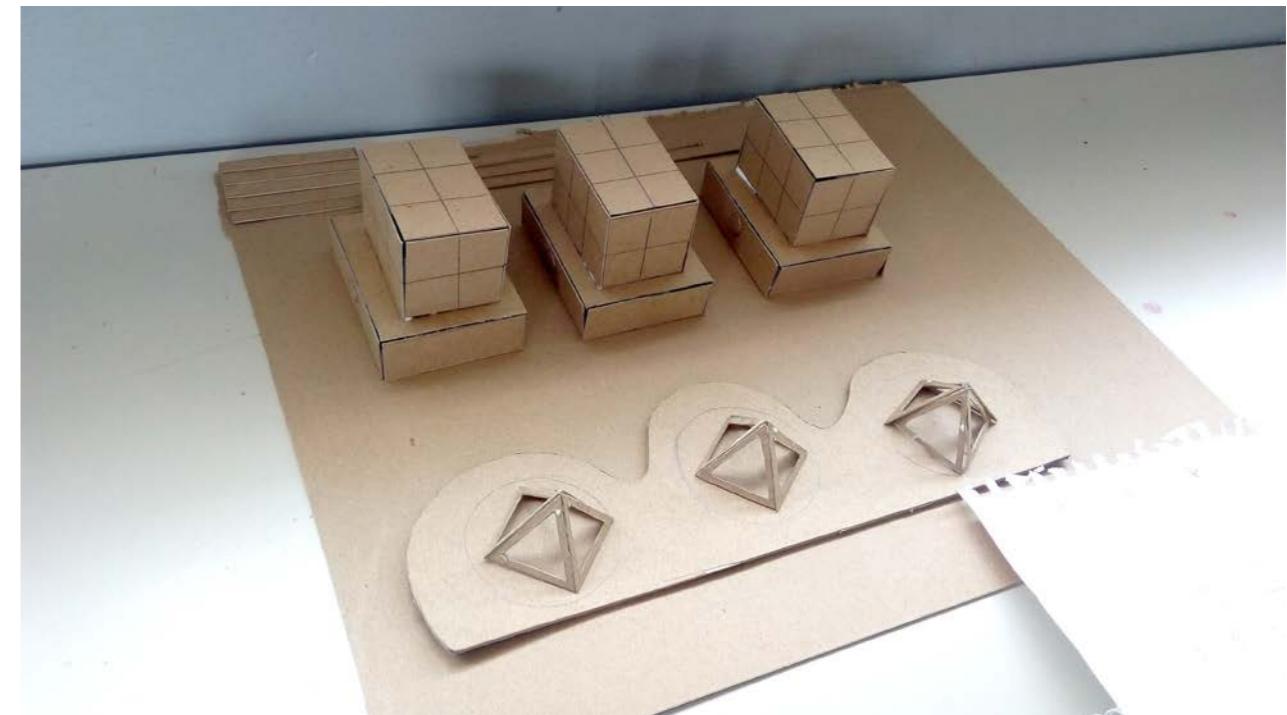
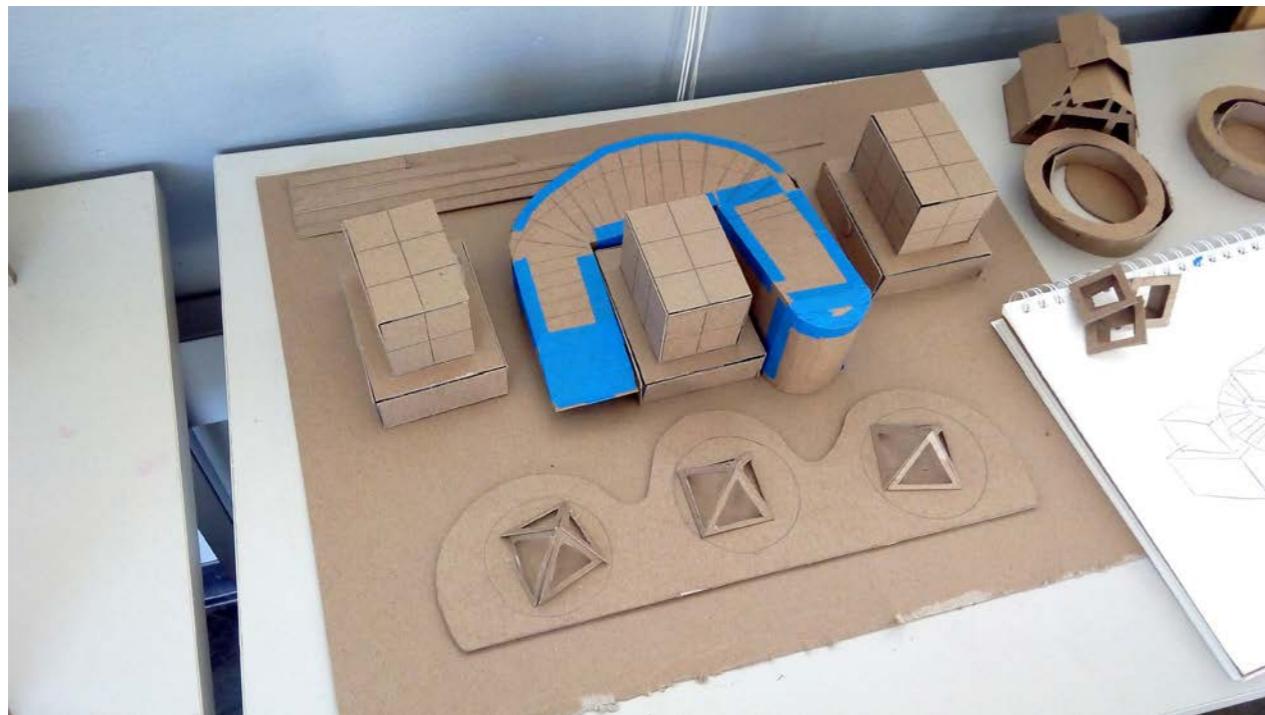


B. ARCHITECTURAL DESIGN INTERVENTION



I made this intervention at the architecture summer program of UW in 2015. The intervention features an elevated walkway in between two rows of structures. I made this bridge/walkway to offer a better view for the students in the university. The walkway could function both as a place to relax and walk around, or as a safer route of commute.

ARCHITECTURAL DESIGN



C. PACKAGE DESIGN BASEBALL SET



Task 6 - Present the chosen design and justify fully and critically its selection with detailed reference to the design specification

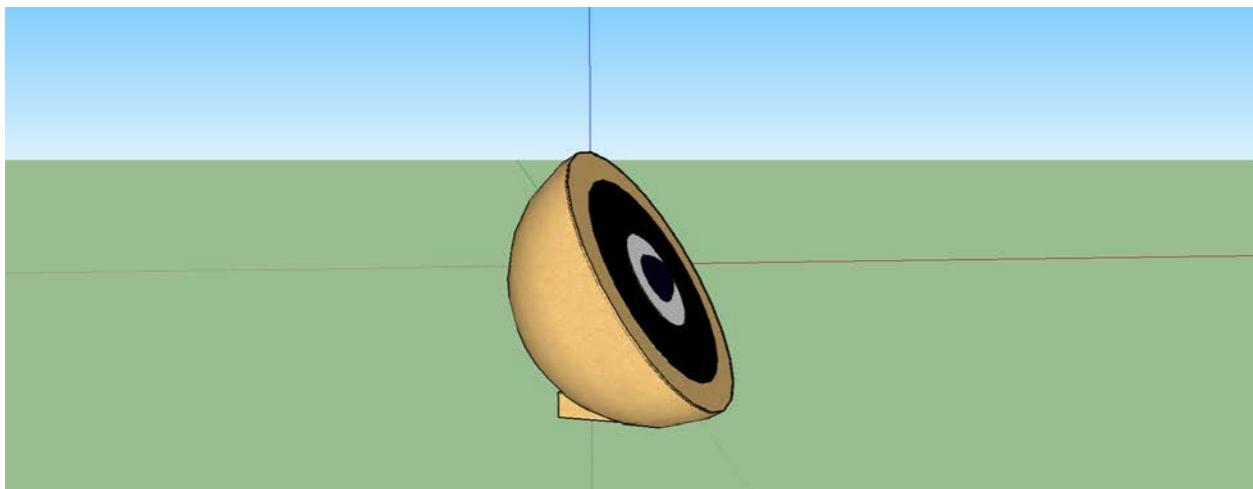
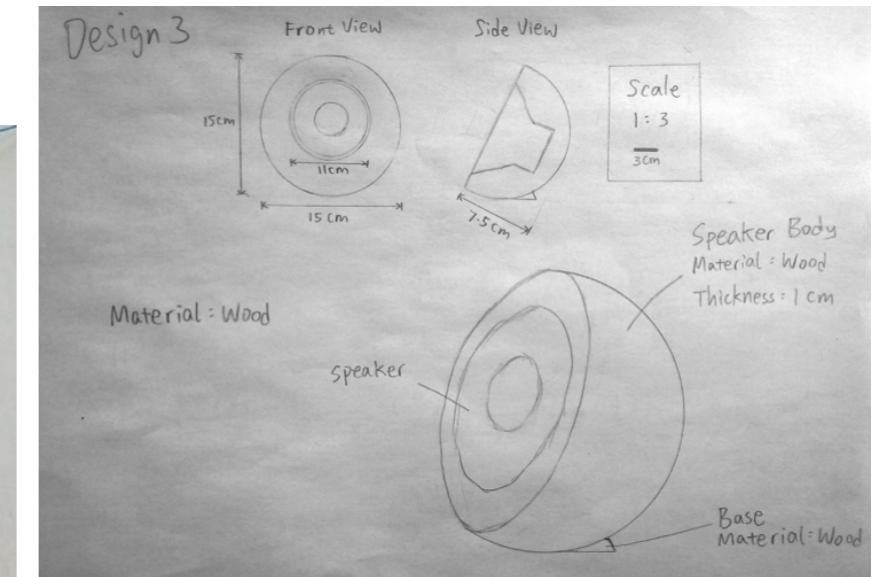
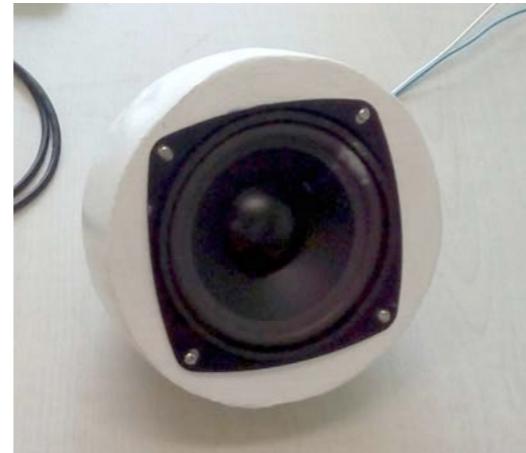
This packaging design is created using wood board and plastic sheets. I made the plastic package (blister pack) with a vacuum-forming machine. The outer design shows the figure of a baseball player diving to catch a baseball. In this way, the baseball glove and the baseball are perfectly aligned and related.



WORK IN PROGRESS



D. PRODUCT DESIGN FUTURISTIC SPEAKER



The white speaker I designed is made of wood and an electric speaker. The speaker is in the form of a half-sphere. Standing on one flat region, the speaker looks wobbly but is actually steady. I aimed to break the traditionally cubical shape of a speaker and apply a symmetric and round form to it.

Futuristic Speaker Creation Process Journal

Day 1

What you did Today I cut out the basic shape of my first wood piece. I used the drill and hand saw to cut out the inner circle.	Why? This is the first step to make my speaker. First wood piece will be the one that holds the speaker.
Pictures and Diagrams 	Emotion and Reflection I have done the work pretty fast today, I think I managed my time very well.
Changes to Your Plan -	What's next? Smoothen the inner circle until the wood piece can fit a speaker.

Day 4

What you did I cut off the edges of the bottom part of the speaker body, then I smoothened the speaker body with the sander.	Why? I want my speaker to look like a half sphere; it needs to be smooth and polished.
Pictures and Diagrams 	Emotion and Reflection I did pretty well in cutting the edges of the sphere and I think smoothening the speaker body will take a very long time.
Changes to Your Plan -	What's next? Keep smoothening the speaker body.

Day 6

What you did I drilled a hole on the speaker body and kept sanding it to make it looks very smooth.	Why? The cable of the speaker needs to be put through the hole and hang outside the speaker body.
Pictures and Diagrams 	Emotion and Reflection I think my speaker looks very well made because it is now very smooth. I have sanded the speaker very well.
Changes to Your Plan No	What's next? Solder wires onto the speaker.

Day 9

What you did I made four layers of paint today and the speaker body now looks very good and harmonic.	Why? To make the color of my speaker richer.
Pictures and Diagrams 	Emotion and Reflection I kept a distance when using spray paint so this time the effect is much better.

Day 10

What you did Today I finished my speaker and tested it in the classroom, the effect of the music produced is really good because of the thick piece of wood. There are very little vibrations on the speaker body.	Why? Finish my final product.
Pictures and Diagrams 	Emotion and Reflection I am really satisfied with my final product, I think the white color looks very good in contrast to the black speaker. The sound effect is also very good.

Day 2

What you did I used the bobbin sander to smoothen the inner circle of wood piece one.	Why? I need to fit my speaker in the hole.
Pictures and Diagrams 	Emotion and Reflection I thought of using the bobbin sander. I can simply put my speaker through the sander to sand off the inside.
Changes to Your Plan -	What's next? Cut out second wood piece.

Day 5

What you did I kept smoothening the speaker body and created a flat surface on the bottom of the speaker body. This way my speaker can stand on its own.	Why? The speaker has to be stable on a table.
Pictures and Diagrams 	Emotion and Reflection The speaker body is now taking shape. I feel satisfied with what I created.
Changes to Your Plan -	What's next? Drill a hole for the speaker cable to pass through.

Day 7

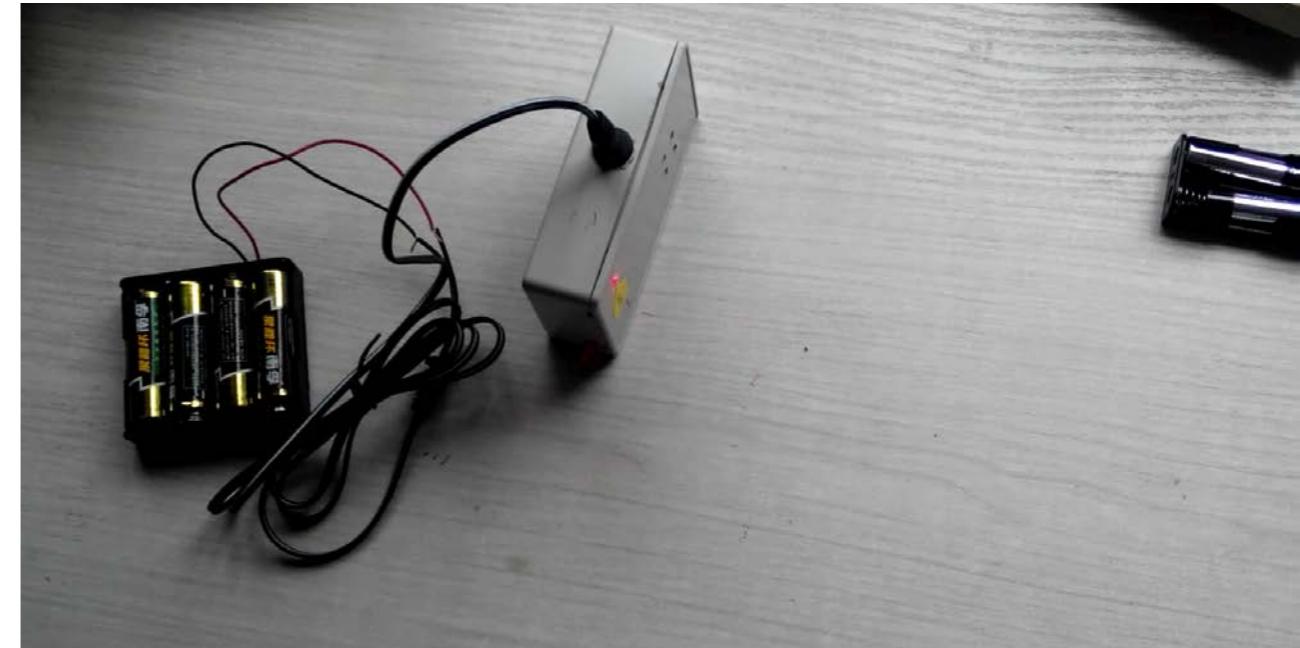
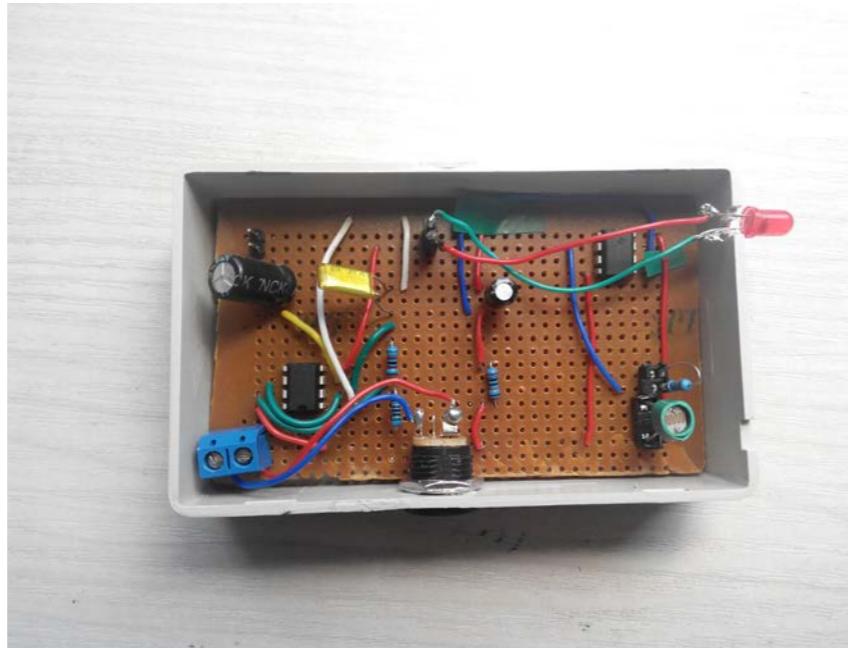
What you did I soldered wires on the speaker and tied a knot to prevent the speaker from tension damages.	Why? My speaker cable can come out at the bottom of the speaker body instead of sticking on the surface.
Pictures and Diagrams 	Emotion and Reflection The soldering was not easy, I tried a few times to melt the soldering wire onto the speaker.
Changes to Your Plan -	What's next? Start painting the speaker.

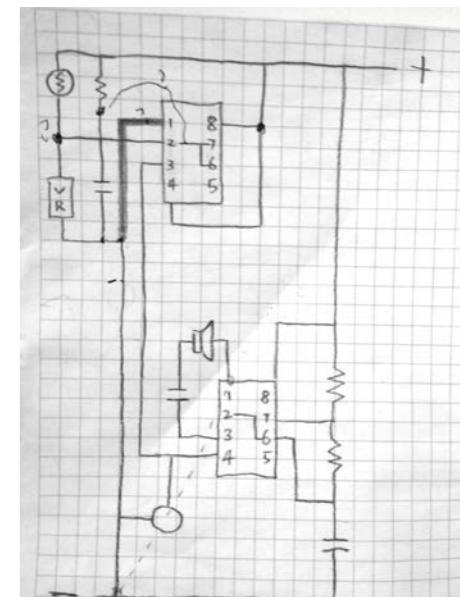
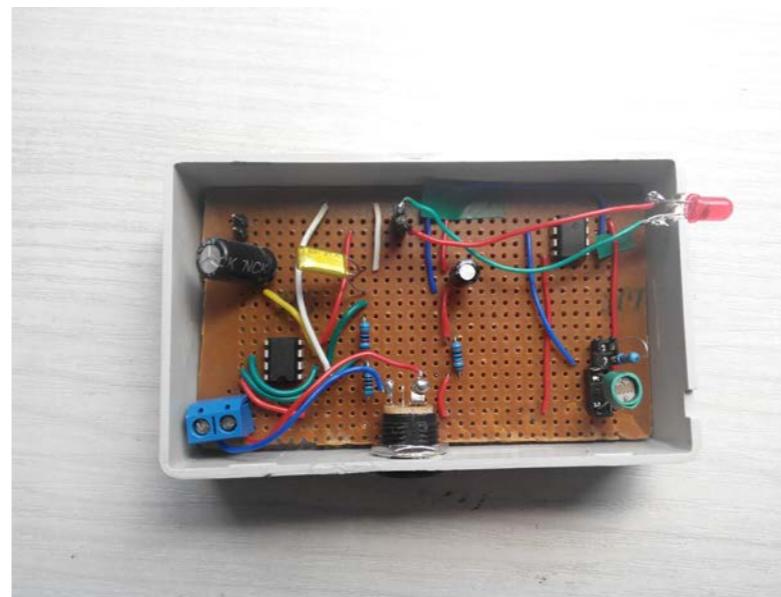
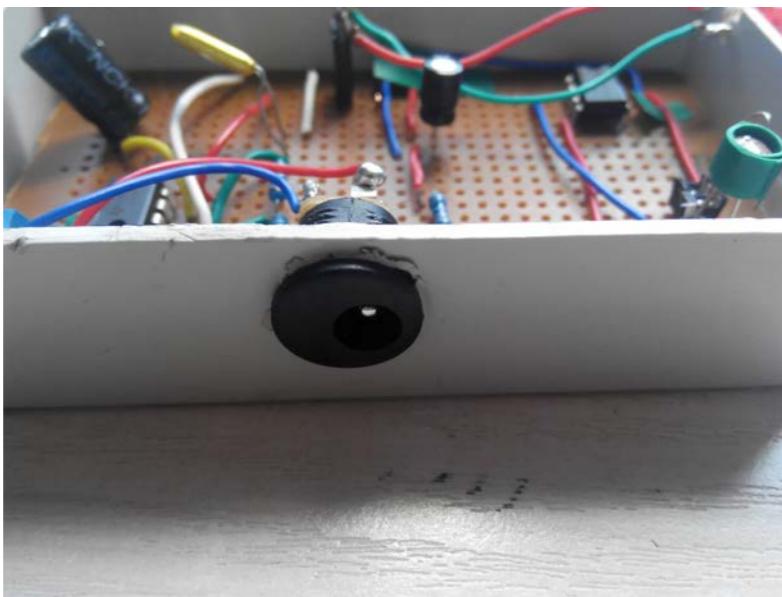
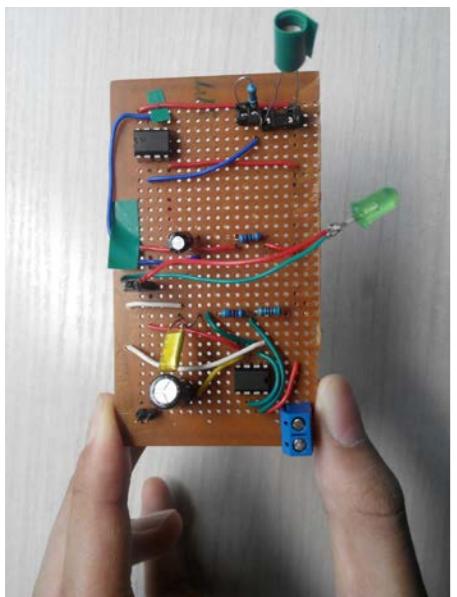
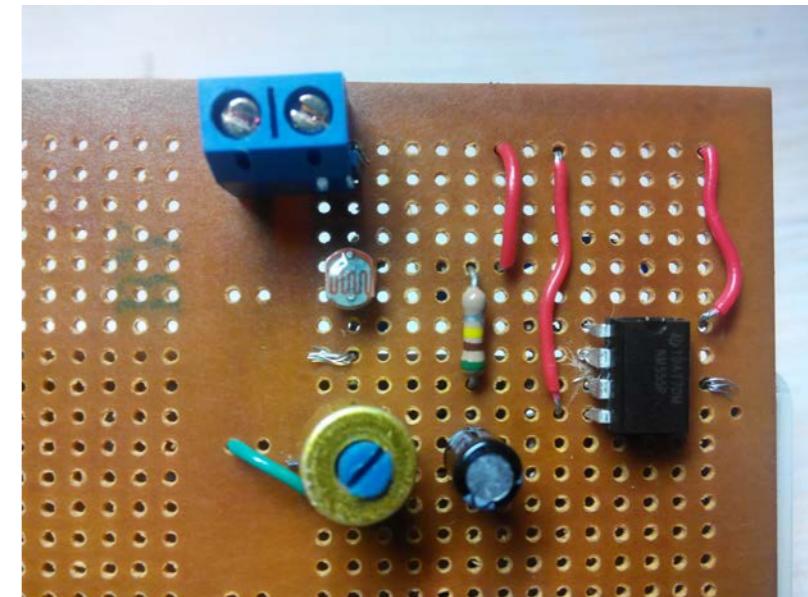
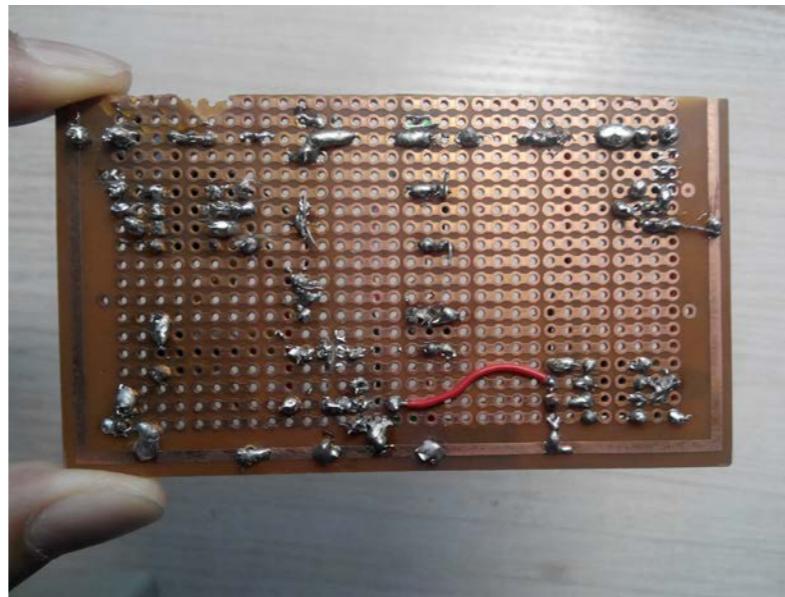
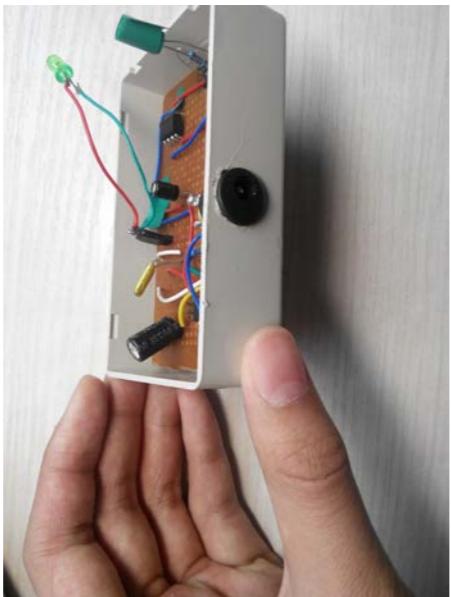
Day 8

What you did I used spray-paint to color the speaker body.	Why? To make the speaker more attractive
Pictures and Diagrams 	Emotion and Reflection At first I put the spray-paint too close to my speaker body so the paint was actually dripping. Later I learned that I should have kept a distance of 20 centimeter.
Changes to Your Plan -	What's next? Spray more layers of paint.

E. PRODUCT DESIGN LASER ALARM DEVICE

The laser alarm I created is more "science-based". I designed every detail in the circuit, which contains two NE555 chip as the central key of the alarm. The product is sealed inside a simple box, with the receiver fitted in an opening on the box. This design draws little attention and can stay camouflaged as a little box, but actually functions as an alarm.





2

3D SCULPTURE AND MIXED MEDIA

- a. Life
- b. Mandala
- c. Old man and his turtle

"Life" is a mixed media piece made out of branches. The color of the background shows a gradient from white to blue, like the journey to the night sky. The bright colors at the tip of the branches show that they are straining to grow and live, even though the roots have turned white.

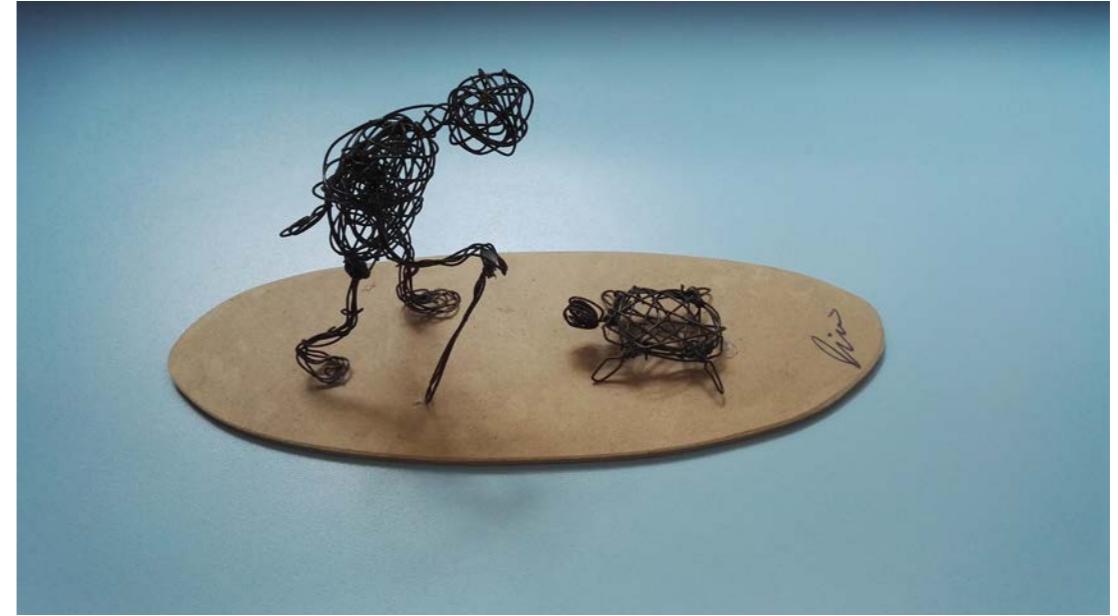
Life





Mandala

The “Mandala” features a moment when a stone is dropped inside a mossy pound. The splash causes the water to rise and spill. Interestingly, the “mossy water” is made from foam plasticine, which is very soft in texture. The rock is decorated in the mandala style, which is why this piece is named the “Mandala”.



Old man and his turtle

This piece was made of wires and wood. The old man's bent back and the turtle's slow movement show a harmonic scene of stillness. Both figures are slow and of old age, that is why they are close in life. I aim to express the sense of companionship through this 3D piece, evoking love from the viewers.

3

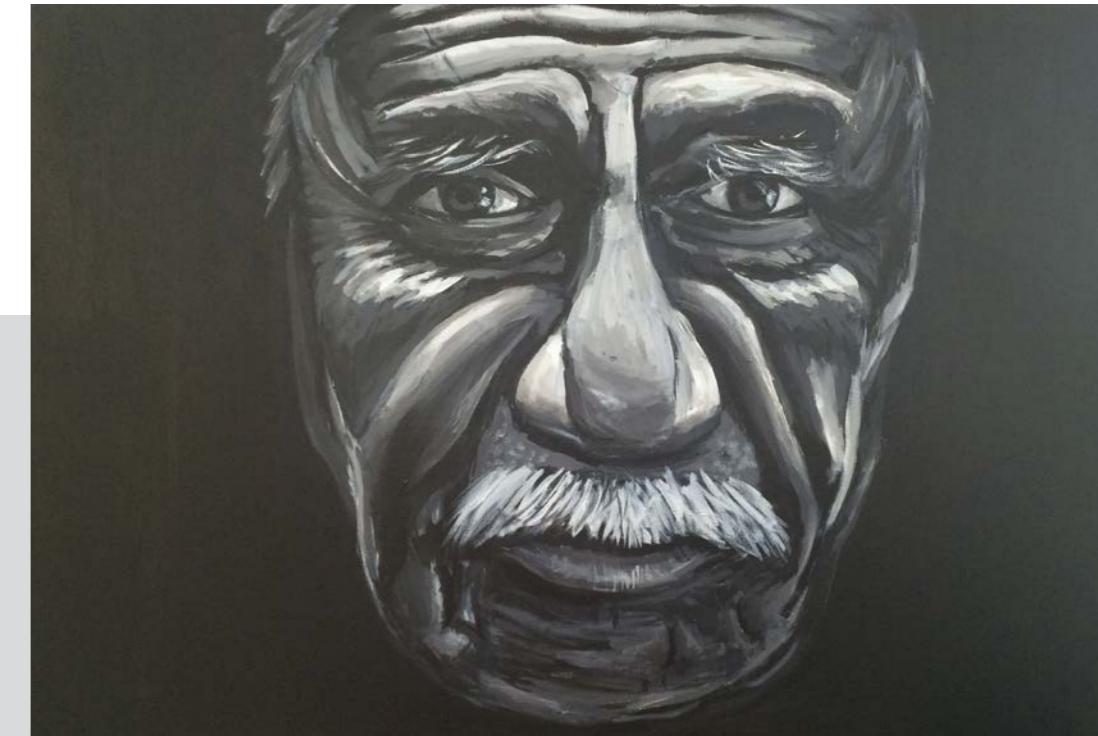
PAINTINGS

- a. Bridge
- b. Old man
- c. The thinkers
- d. Winter truck
- e. Woman



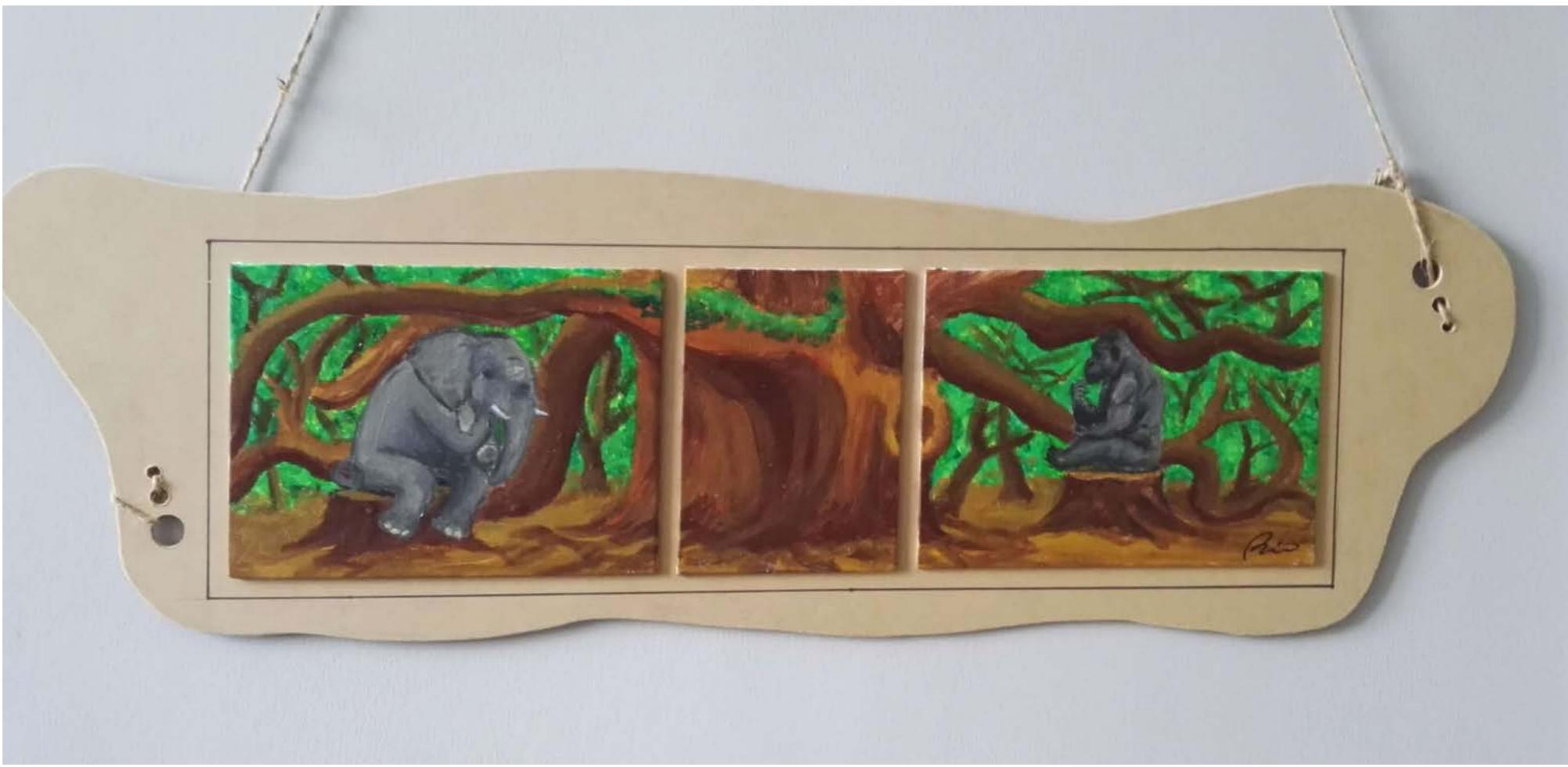
Acrylic on canvas, Bridge.

"Bridge" is an acrylic painting featuring a Chinese style stone bridge. I aim to express a harmonic and bucolic environment by using the blue and green as combination. The almost symmetric view in the reflection offers a stronger sense of "stillness", calming the heart of the viewers.



Acrylic on canvas, Old man.

"Old Man" is an expressive painting showing the complex emotions of a man of old age. The deep wrinkles, the sad eyes and thick mustache express a feeling of grief. I hoped to achieve a powerful image that reminds the viewers to spend more time with their old family members.



Acrylic on canvas, Triptych-The thinkers.

"The thinkers" is a relaxing triptych made with three panes. An elephant and a gorilla are sitting under a giant tree to avoid the bright sunshine. The two animals have the pose of the famous sculpture "Le Penseur" by Auguste Rodin. The thinking animals remind people to take their time and consider more.



Acrylic on canvas, Winter truck.

"Winter truck" is an acrylic painting on canvas featuring an old military truck. The truck has a certain rusting texture and is covered by a thin layer of snow. Trees in the background are blurred out to enhance the importance of the truck. The color scheme I chose expresses a cold temperature for the audience, making them feel chilly by the snowy winter depicted in the painting.



Acrylic on canvas, Woman.

"Woman" features a young and attractive lady. The black and white color shows the woman's intrinsic beauty, and Her half-opened lips and her focused gaze present a flirtatious characteristic.

4

SKETCHES

(General description for all sketches)

The focus of my sketches includes people, sculptures, daily objects, busts and buildings. I enjoy the satisfaction sketching can bring. The moment when I complete a sketch thrills and excites me to sketch more and more.

