

AD313 Creative Enquiry  
Edited Publication



# Mood Totems

Relaxing Lightings  
Inspired by the Water Revolution

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# Page of Content

<b>01</b>	Introduction
<b>05</b>	Literature Review
<b>09</b>	Mood Board
<b>11</b>	Partical Review
<b>19</b>	Ideation
<b>33</b>	Idea Development
<b>45</b>	Digital Renderings
<b>51</b>	Reflection



# INTRO DUCTION

(Image from Ming Po)

## Background

This project was inspired by the Hong Kong pro-democracy protest in 2019. The protest was first started because of establishment of the extradition law to China, which Hongkongers believe that the law will greatly harm the rule of law and freedom of Hong Kong. Almost one-fourth of the population of Hong Kong were participated in the march but the government were still being ignorative. The protest has continued. More and more hidden problem on human rights, freedom of press, freedom of speech, police brutality, corruption and much more problems were revealed by this political movement. This long-lasting social unrest, which is still continuing until May 2020, has impacted Hong Kong and the citizens in multiple aspects.

One of the most concerning issue is the mental health issue of people in Hong Kong. On the 15th June, a 35 years old man has committed suicide because of his hopelessness and disappointment on the future of Hong Kong due to the extradition law event. He was probably the first person who died in protest. After his death, the negative emotions have quickly spread to the others and soon online forums and social media were filled with posts about committing suicide or similar self-harming behaviours <sup>1</sup>.

Hong Kong has been an incredibly stressful place even before the protest. This can be reflected by the low happiness index of Hong Kong <sup>2</sup>. As a Hongkonger, it is not surprising to understand why people are not being happy. Student are facing a unbalanced and harsh education system, fresh graduates struggle to find a job, grown-ups facing extremely high living cost and housing problems. And not to mention the pressure from the political environment. One of the reasons I want to be a designer is that I want to solve someone's problem with something I create. This thought has provoked me starting this project on helping people's mental health.

One of the philosophies in the protest is "be water", a quote forms the famous martial artist Bruce Lee. It reminds protestors to have a flexible mindset and their actions. Let the believes flow to everywhere like water; stay together and resist like ice; flee from everything to none during danger like vapor. I think water is an encouraging symbol to Hongkongers. Also, I realized the effect on relaxation by the elements from nature, especially water. Therefore, I decided to use water as the theme of this project.

<sup>[1]</sup>Hong Kong Free Press HKFP. 2020. Social Workers, Psychologists Offer Emotional Support To Hong Kong Protesters After Four Deaths | Hong Kong Free Press HKFP. [online] (Available at: <https://hongkongfp.com/2019/07/05/social-workers-psychologists-offer-emotional-support-hong-kong-protesters-four-deaths/>) [Last accessed 10 May 2020].

<sup>[2]</sup> South China Morning Post. 2020. Hong Kong Happiness Declines Amid 'Alarming' Mental Health Issues: Survey. [online] (Available at: <https://www.scmp.com/news/hong-kong/health-environment/article/3032430/hong-kong-happiness-declines-survey-shows-quality>) [Last accessed 10 May 2020].

# Persona

Name:  
Kelvin Lee

Nationality:  
Hong Kong

Age:  
29

Characteristics of age group of 20-35:  
- accepting new ideas,  
- usually having their private space  
e.g. owing their own room or office space

Kelvin's needs:  
Relaxation for slight anxiety (no medical needs), insomnia

Interest:  
classic philosophy, meditation, yoga, country music

More about Kelvin:  
Before June 2019, Kelvin has never thought of witnessing another political storm after the Handover in 1997 and Occupy Central in 2014. In 1997, he was too young to notice what was happening. The only thing he knew was one of his uncles has moved to the UK with his family and therefore he could not play with his elder cousin Jack Lee anymore. In 2014, that was his first time paying so much attention to politics. Before that, he did not even boarder to register for voting.

In early July, he received a message from his uncle telling him not to go to the protest. His uncle claimed that those protestors only aims to mess up the society and are doing no good to the future of Hong Kong. On the other hand, Jack has also texted him, telling Kelvin that he is coming back from the UK to join him in the protest, "this is my home and I don't want to see it vanish," said Jack.

In fact, Kelvin has been very involved into the protest this time as he considers this time is the last chance to fight back. Despite not standing at the most front lines of the crowd resisting the police forces' desperations, hearing shot bangs and taking tear gas shot has not been a new experience for Kelvin. Recently, his sleeping quality is getting worse. Sometimes dreams of being arrested and he can't help thinking of things related to the protest when he closes his eyes. He has realized his problem. Sometimes when he couldn't fall asleep, he will meditate as his yoga teacher suggested to him.

(Image from New York Times)

# Product Positioning

Style:  
Lifestyle product, pain, innovative

Category:  
Desktop furniture, decoration, lighting

Potential selling point:



Futon Company (Brighton)  
(Image from threebestrated.co.uk)



Moderne (Brighton)  
(Image from englandshiddengems.com)



MADE.com  
(Image from made.com)

Background+  
The 2 million people march has started from 2:43 p.m. to around 11:30 p.m.



# LITERATURE REVIEW

## Literature Review

As this project focus on 3D designs which can enhance the users' mental well-being, it is important to understand the cause, symptoms and existing treatments on mental health disorders. The research began from general knowledge on the causes and symptoms of anxiety and panic disorder. Then, more research was done along the development of the project on art therapy for mental disorders. These researches aim to identify elements which are beneficial to enhancing mental well-being and therefore to endorse the idea development of the 3D designs. This literature review has summarized the most important sources throughout all the secondary research done within the whole project regardless the stage of development.

Suffering from mental disorder is different from feeling depressed or being upset by cause by some events encountered but instead, mental disorder patients' emotion can be triggered abnormally and sometimes the negative emotion is linked to more symptoms. According to Asmundson and Katz's research, medical data suggested that anxiety disorder frequently co-occur with chronic pain. It is implied that pain is more than sensation and its cause is not limited to physical but also phycological and social. Furthermore, the research indicated that the chronic pain in relation with trauma could become a cause of anxiety for anxiety disorder patients and thus forming a vicious cycle (Asmundson and Katz, 2009). From Asmundson's research, it is known that the patients' mental and physical health can be worsen if the patients does not receive effective treatments.

Within the many treatments of mental disorders, art therapy has been a relatively innovative and non-medical based treatment for different mental disorders. Beans has reported that art therapy is gaining popularity in promoting mental health through creating artwork with a vary of media such as clay or paints. Under a well-designed program with professional guidance, art therapists encourage patients to express their feeling and experience through creating artworks (Beans, 2019). Despite the effectiveness of art therapy is difficult to be studied and analyzed, case studies tend to prove that art therapy is a positive treatment for mental disorders.

Understanding that art therapy is effective in easing or even treating mental disorders, the secondary research continues in treatments on anxiety and panic disorders, as this disorder is more related to the target users of this project. Further chapters will discuss more on the target users and their needs. Albertini has documented an art therapy course for one of her anxiety disorder patients and have suggested that autogenous training can be more effective assisting with art therapy. In well-designed and well-constructed art therapy sections, art making has played the role in the comprehension and reflection-from-within process for mental patients (Albertini, 2001). Through art therapy sections, patients tend to express themselves more comfortably and confidently. Also, art making can help the patients in self-exploration and managing emotions. On the other hand, therapists can build up relationships with the patients while learning more about their feeling through their works (Albertini, 2001). From this research, it is learnt that patients can feel better if they can express their feeling through art making. Therapists can observe the patients' inner needs and feelings through their creations. It is implied that customization can be included to the 3D design. In the customizable parts, users should gain a fairly large freedom in their creation to express their thoughts and because of that, the customization should not require professional design and crafts skills but only simple actions such as hand drawing or colour filling.

(Image from SCMP)

Even though art therapy is an effective treatment for mental disorders, its effectiveness requires professional guidance. This requirement cannot be achieved through a product-based approach unless it is a tool for an art therapy course. Instead, this project tends more to ease negative emotions through making or using a device without any professional help. Thus, the secondary research has moved on from art therapy to studies on treating stress related disorders and the relationship between mental health and exposure to nature. Annerstedt's research team suggested that the exposure to green environments is related to stress, mental fatigue and restoration. The researchers suggested that close connection to natural environment has a positive relation to mental health. Furthermore, exposing to natural sound have similar effect in enhancing mental health while birdsong and sound of water seem to be more effective (Annerstedt, et al., 2013). By knowing that simulated experience could have similar results of accessing to the natural environment, such as recreating the soundscape, the researcher team has conducted a series of experiment on stress measurement with visual reality (VR). They have suggested that high quality VR simulations with sound and visual effects can partly simulate the exposure to natural experience and the effect on stress level. According to the findings that VR environment can also create a similar experience as visiting nature, it seems that relaxation can be achieved by sound and visual stimulations.

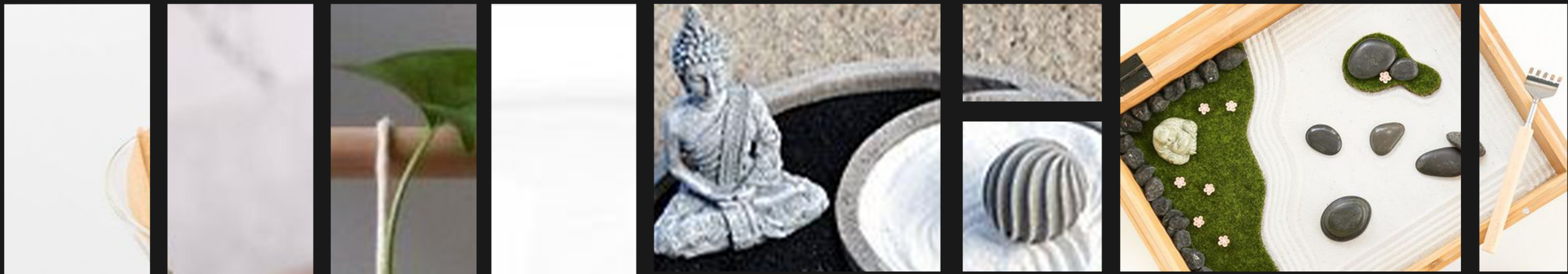
To understand more about reducing stress by listening to certain sounds, more researches were done on sound therapy. Aydin and Searchfield has conducted a series of experiments on the relationship between sound therapy and stress related mental disorders. Effectiveness on using nature sounds, such as rain, stream and ocean waves, and broadband sound were compared in reducing stress measures without counselling. The results showed that both nature sounds, and broadband sound were effective in reducing most stress measures including tinnitus ratings, heart rate, salivary cortisol, and cortisone concentration. Only broadband sound was effective in lowering the participants' blood pressure (Aydin and Searchfield, 2019). Therefore, it was concluded that the interaction between stress and sound therapy is complex, but in overall, nature sounds, and broadband noise can help reducing stress.

There are similar researches on the relation between the choice, quality of sound and relaxation effectiveness. Alvarsson's research has compared the effectiveness of stress reduction by listening to different sound. The results suggested that the nature sound is generally more pleasant than urban noise or the mixture of both. In particular, Alvarsson has used the sound of a fountain and tweeting birds at the average of 50dB in his experiments (Alvarsson, Wiens, and Nilsson, 2010). The research has also found that recovery of stress is faster during exposure to more pleasant sound. Therefore, the effect of sound may vary due to personal preference (Alvarsson, Wiens, and Nilsson, 2010). After summarizing the findings of Alvarsson's, Aydin's and Searchfield's studies, the design can include sound elements. It seems that nature sound is a better choice than broadband noise in a product or craft content. Although broadband noise may be more effective in reducing stress of the users, the sound may remain users or viewer of a broken device, which some broken device, like a radio, will generate such sound. The broadband sound tends to create a negative image when it is used on a product and it does not fit into the design language. On the other hand, nature sound, especially the sound of water fits well into the theme of this project while being effective in reducing stress.

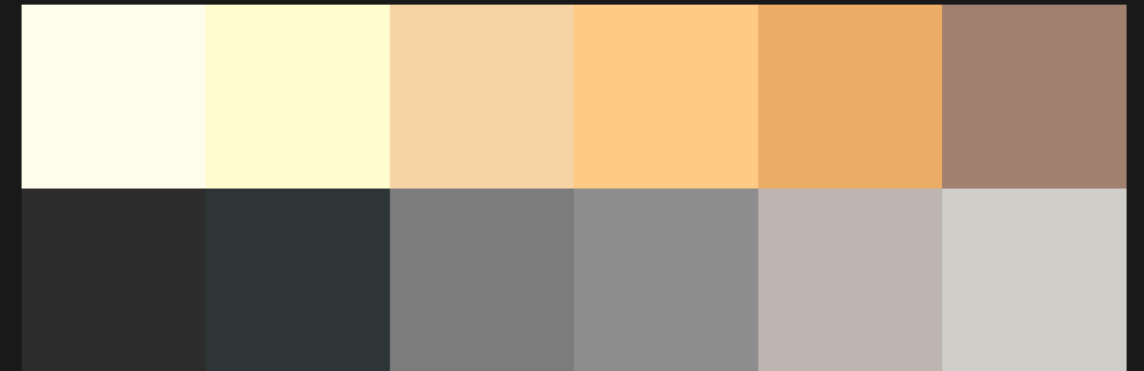
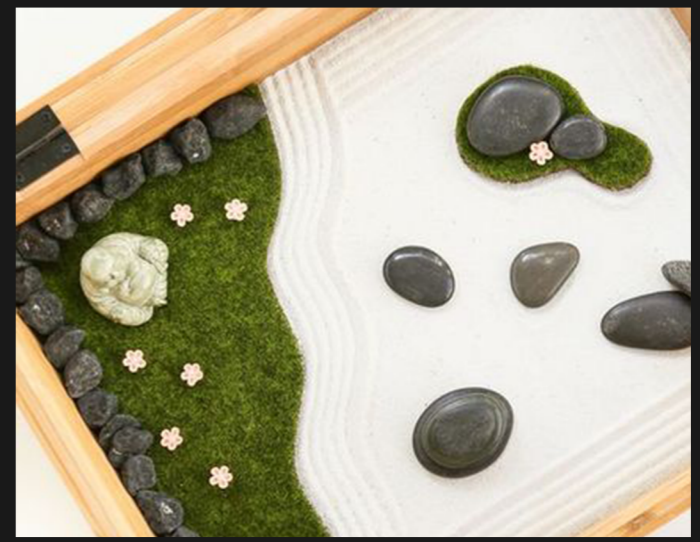
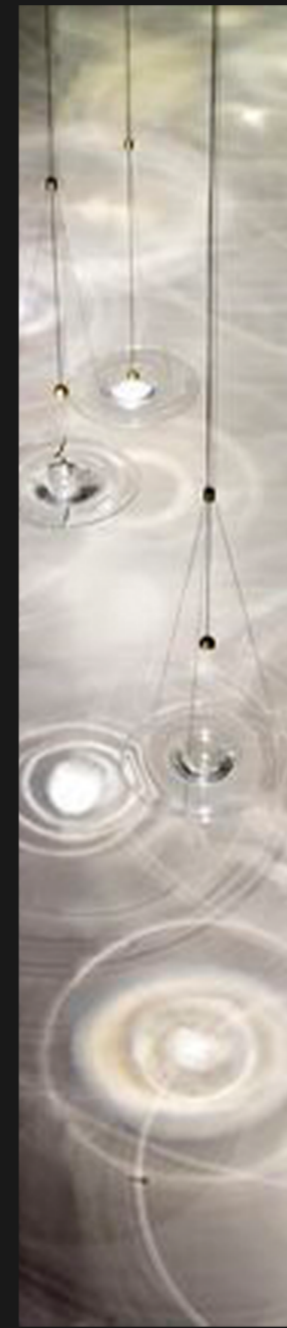
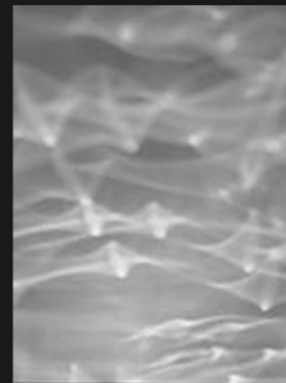
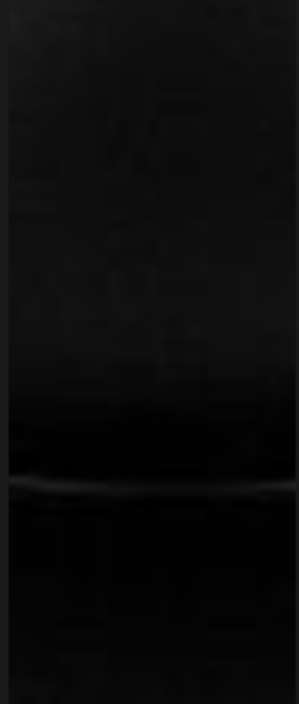
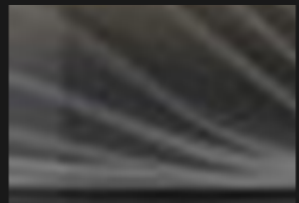
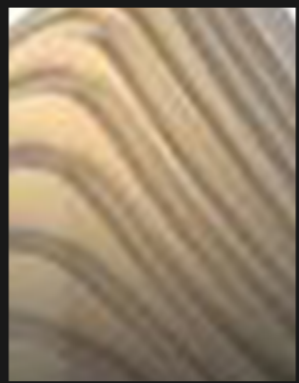
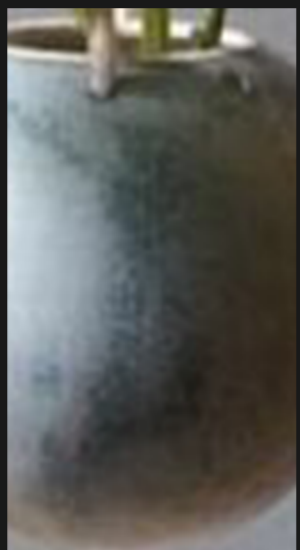
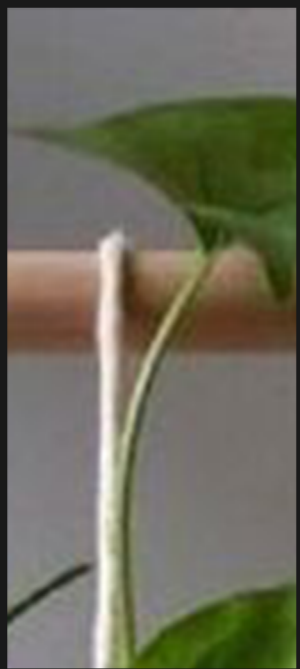
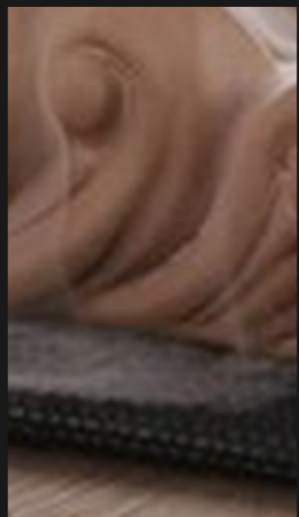
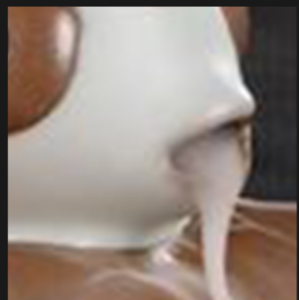
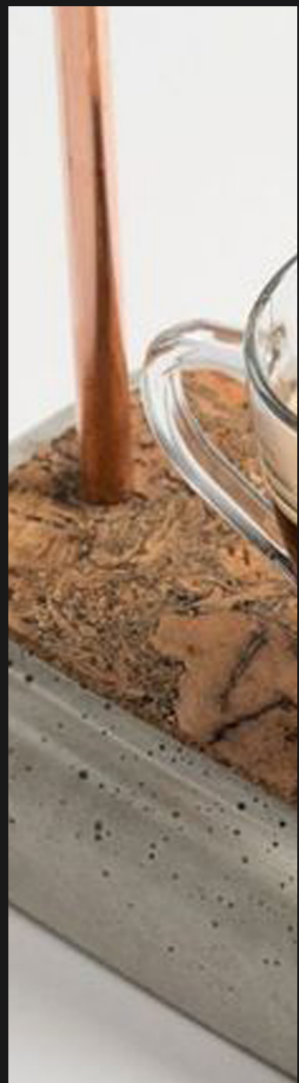
In overall, the secondary research can be concluded to the followings. Firstly, mental disorder can harm both patients' mental and physical health if it is not treated rightly. Secondly, to treat mental disorder, especially anxiety and panic disorder, art therapy and sound therapy tend a relatively innovative and positive treatment. However, art therapy requires professional guidance from art therapists. Therefore, it is not likely that art therapy approaches will be added as a feature in a design. Yet, there can be some customizable part so that the user can participate in art making activities, which can also benefit in reducing stress. Thirdly, nature sound is effective in reducing stress without professional guide. The design can generate the sound of water to enhance stress reduction effect. By adding the sound of water, not only the function of the design is improved, but also to reinforce the theme and content of the project.

## Reference

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# MOOD BOARD



The followings are some remarkable features from these products. These features will be some of the considerations during the idea development stage.

- 1) Designed customisation:  
Allowing the users to interact with the product by temporarily customising a part of the product with a designed tool and perhaps altering the customisation from time to time. However, this does not mean to set a task and tell the user what they NEED TO do, but only to point out a direction, suggesting what they CAN do.
- 2) Material choice:  
All these products tend to use materials which gives a warm feeling in touch or visual, such as wood and matt surfaces. Some contrasting material can be used to make an interesting combination.
- 3) Colour warmth:  
These products tends to use warm colour, especially in lightings. Blue-ish and cold colour light was prevented and instead using yellow lights.
- 4) Greeneries:  
Greeneries can be added to the design to bring connection to nature.
- 5) Water reflection and lighting:  
Projecting waves or water movement onto walls with light. One of the samples has demonstrated simulating the effect with round glass discs instead of using actual water.

Background+  
Since June to December 2019,  
16,000 tear gas rounds were used.

Colour of  
Hong Kong  
2019  
  
PANTONE®

Water Cannon Blue  
97-172-214

Photography: Reuters/ Kim Kyung-Hoon



Background+  
The "Lady Liberty" was built by a 150  
people voluntary team. ~8000 people  
were involved in draft design vote.

Colour of  
Hong Kong  
2019  
  
PANTONE®

Tear Gas Gray  
190-187-182

Photography: Reuters/ Tyrone Siu



PRATICAL  
REVIEW

(Image from Ming Po)



# Artist Research

Ai Weiwei



Ai Weiwei creates artworks to express his political opinion or spread messages through art works. For example, the sunflower seeds installation interrupts the censorship in China and his believe in overriding the Chinese Communist Party by the people's solidarity. He also aims to raise awareness of an issue or an event with his works. For example, he created the map of China with milk tins to call attention for the toxic milk formula indecent happened in 2008. Ai used symbolism in the form and material of his work. The symbols he added in the works build up the content and tell the story behind the pieces.



Random International

Rain Room is an installation created by Random International. Rain Room is a project aims to create a different experience of raining indoor with digital technology. Sensors controlling the water fall allows the viewer walking in the rain without getting wet. Random international does not only to challenge themselves to entertain the viewers with technology, but also to provoke reflection on people's relationship with the environment.



# Technical Research

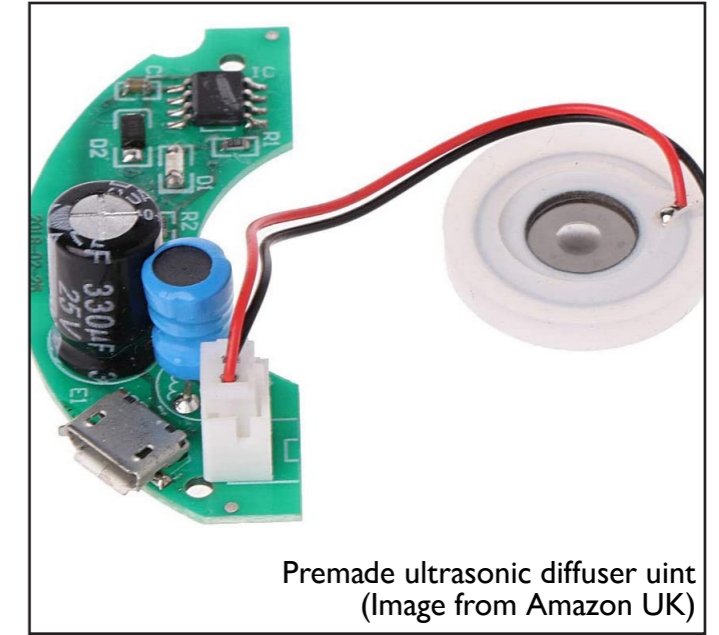


After researching on existing products and topics, one of the ideas I came up was to recreate raining in a desktop scale design and to simulate the sound of rain. Also, this device may project the reflection of water and the movement of water onto walls. This may mean I will need some simple electrical circuits to achieve it. The first two methods I came up to were using a

pump and using steam to recreate water circulation and raining. Therefore, I have studied the mechanism of a diffuser and tried to connect some devices with simple circuits.

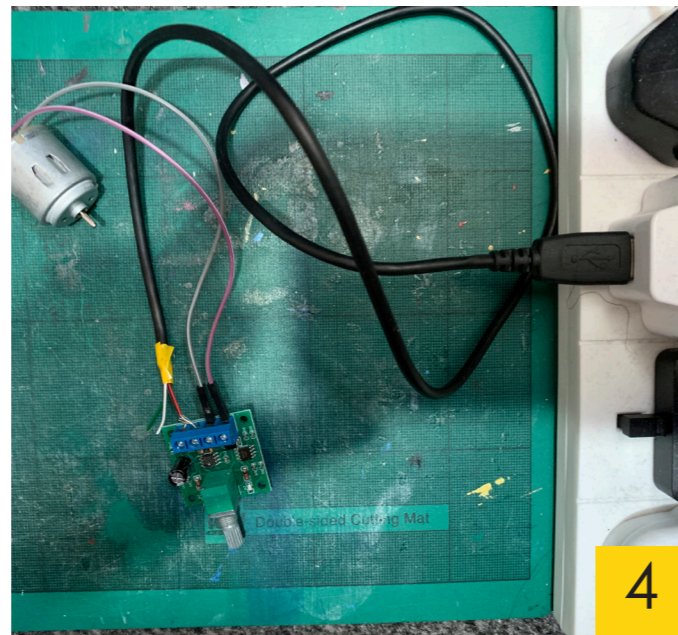
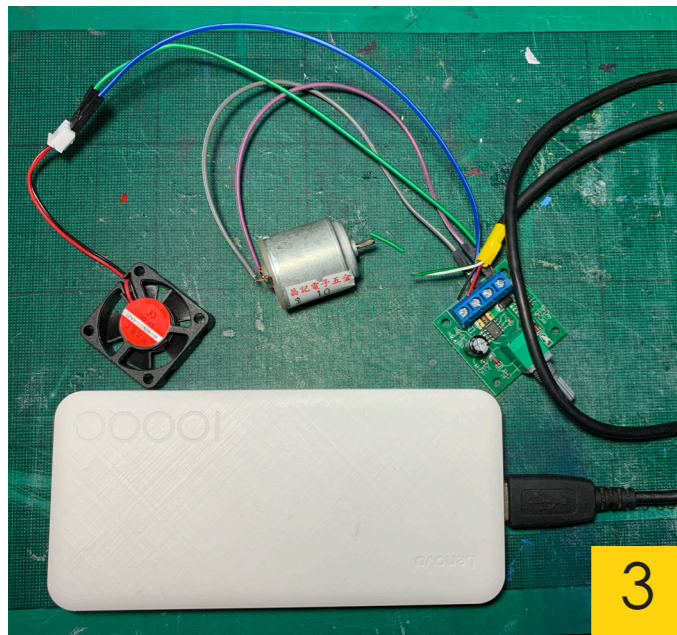
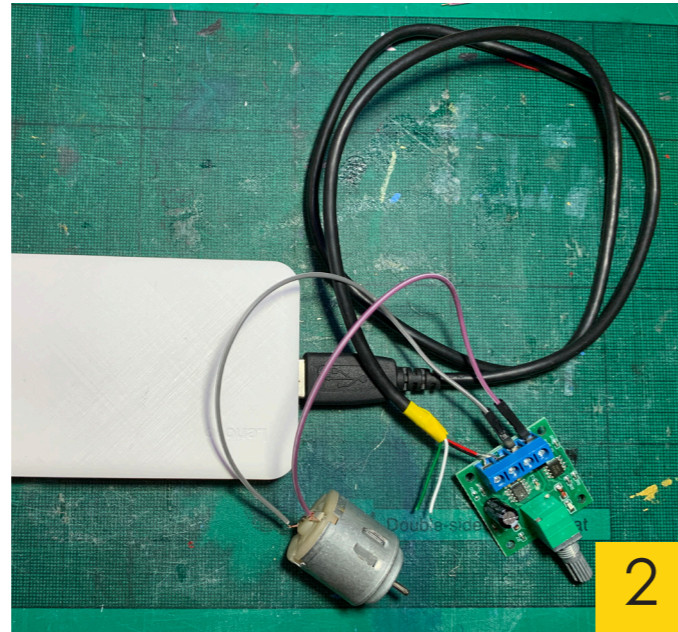
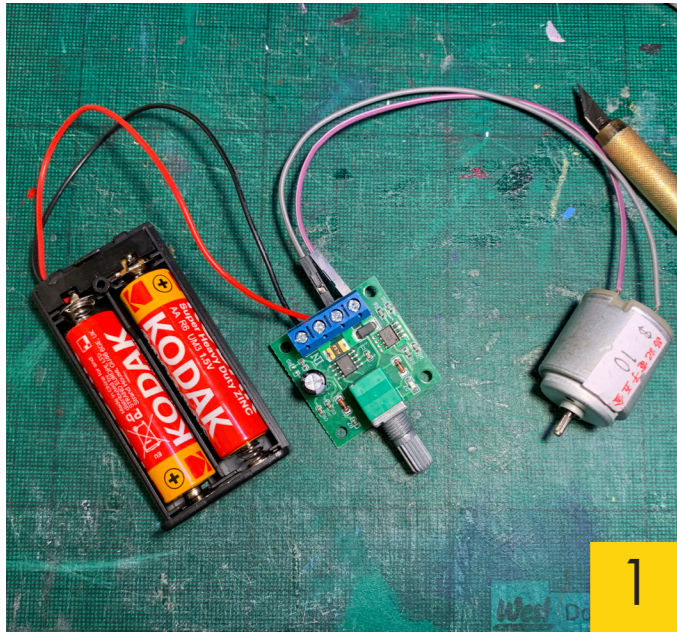


The mechanism of this diffuser is less complicated than I thought. There is a mist maker inside and it diffuses any water sucked up by the compressed cotton rod. After some research, the mist diffuser should work by using sonic waves and this component are available on Amazon or some stores which sell electrical components. Another approach is to use



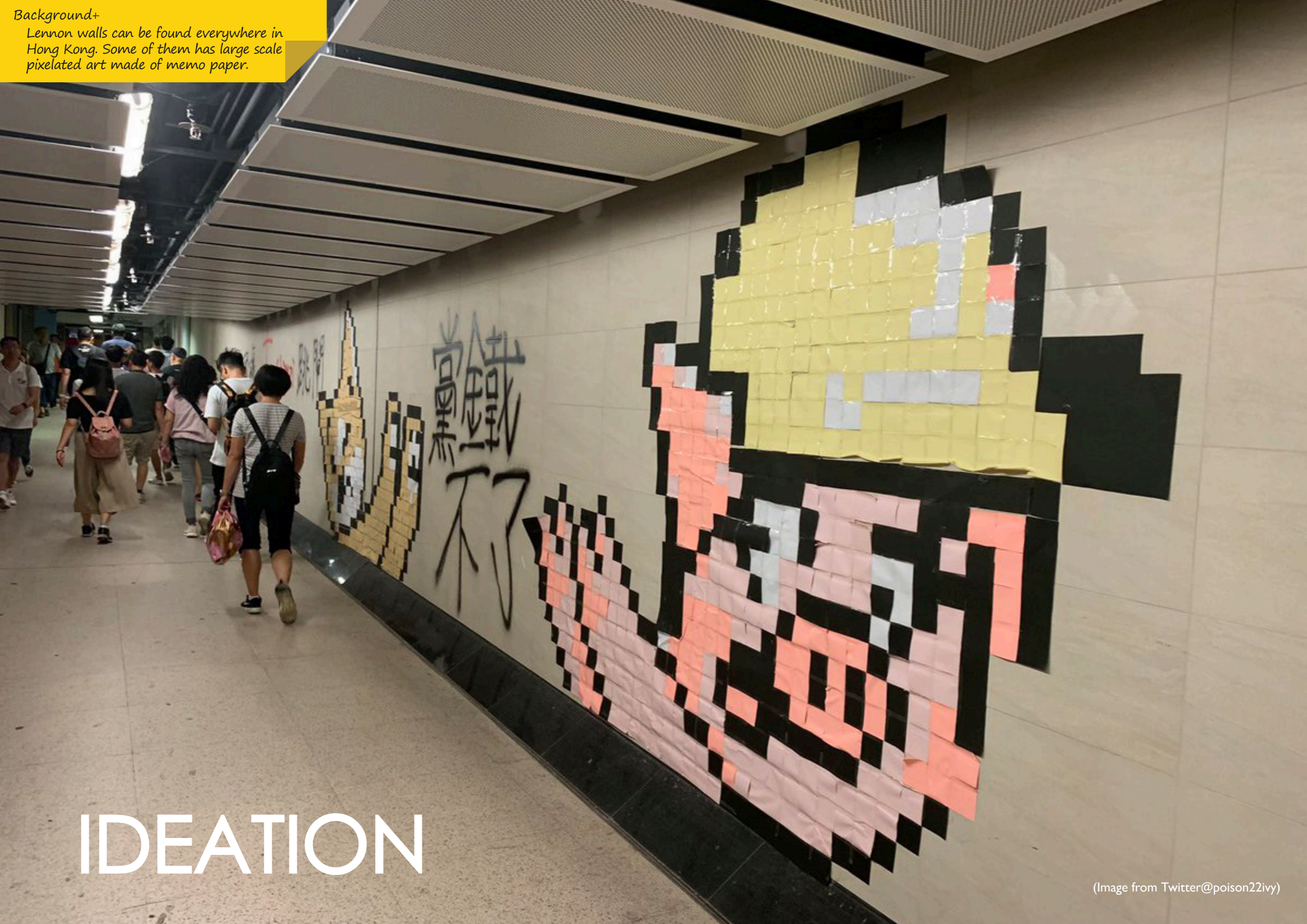
Premade ultrasonic diffuser unit (Image from Amazon UK)

the components inside this diffuser or another similar device. This approach is an easier one as there is a printed circuit board (PCB) connecting all parts and it seems may need a program code to function. However, I don't have any knowledge on coding so that using a ready-made circuit seems to be a better choice.



These are a series of technical experiment on connecting multiple component in a circuit. The experiment starts with a simplest circuit connecting a battery box to a switch and a motor. Then it has developed into connecting a fan and a motor which can be powered by a mobile charger. From this experiment, I know that I can power multiple devices with almost any kind of power source in one simple circuit without using any program or code. This research has enabled me to expend the possibility in the idea development stage as I know I can make something which needs to be powered.

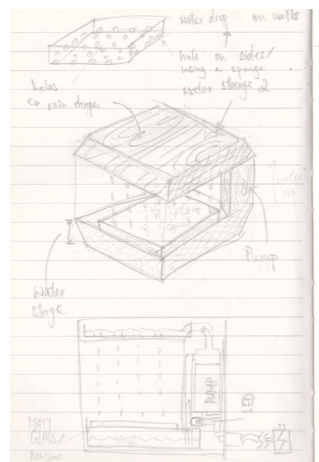
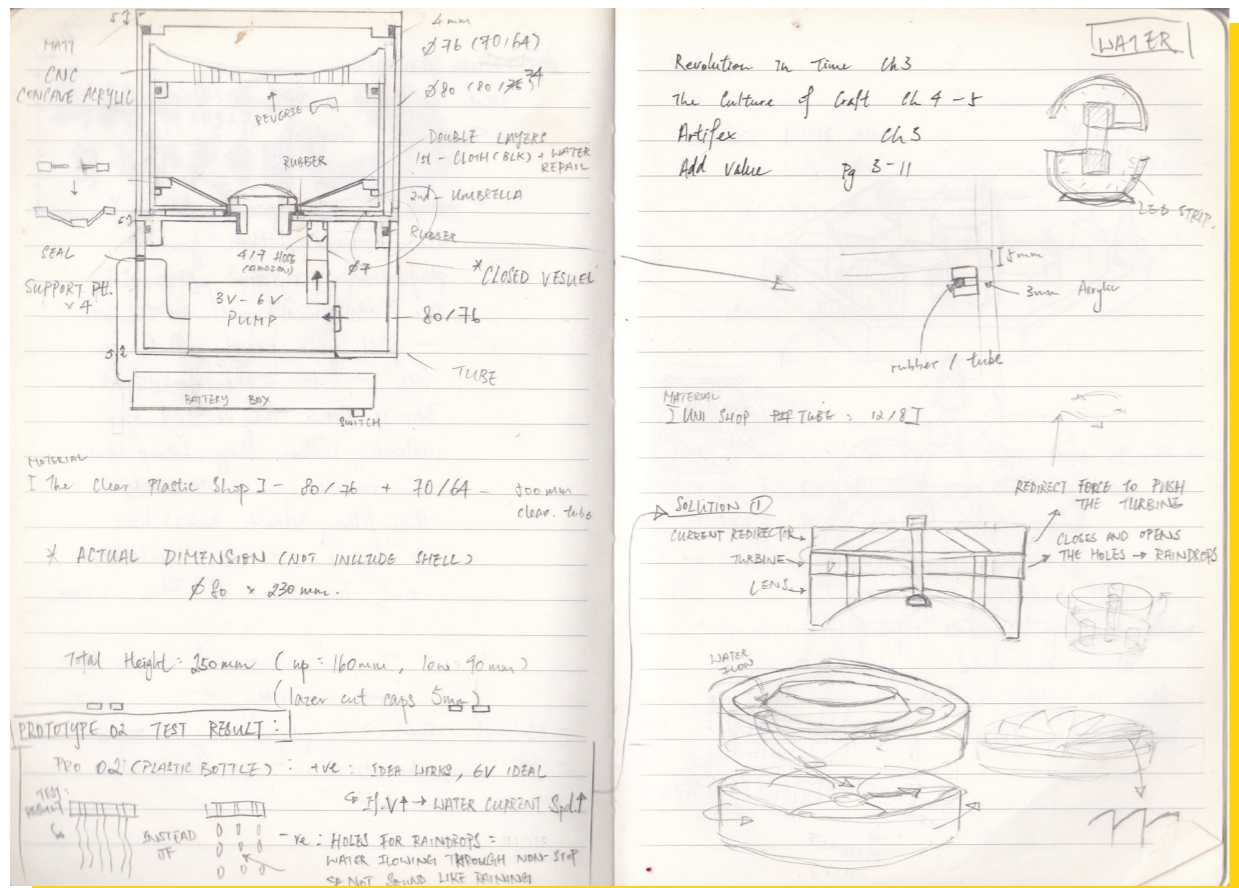
Background+  
Lennon walls can be found everywhere in Hong Kong. Some of them has large scale pixelated art made of memo paper.



# IDEATION

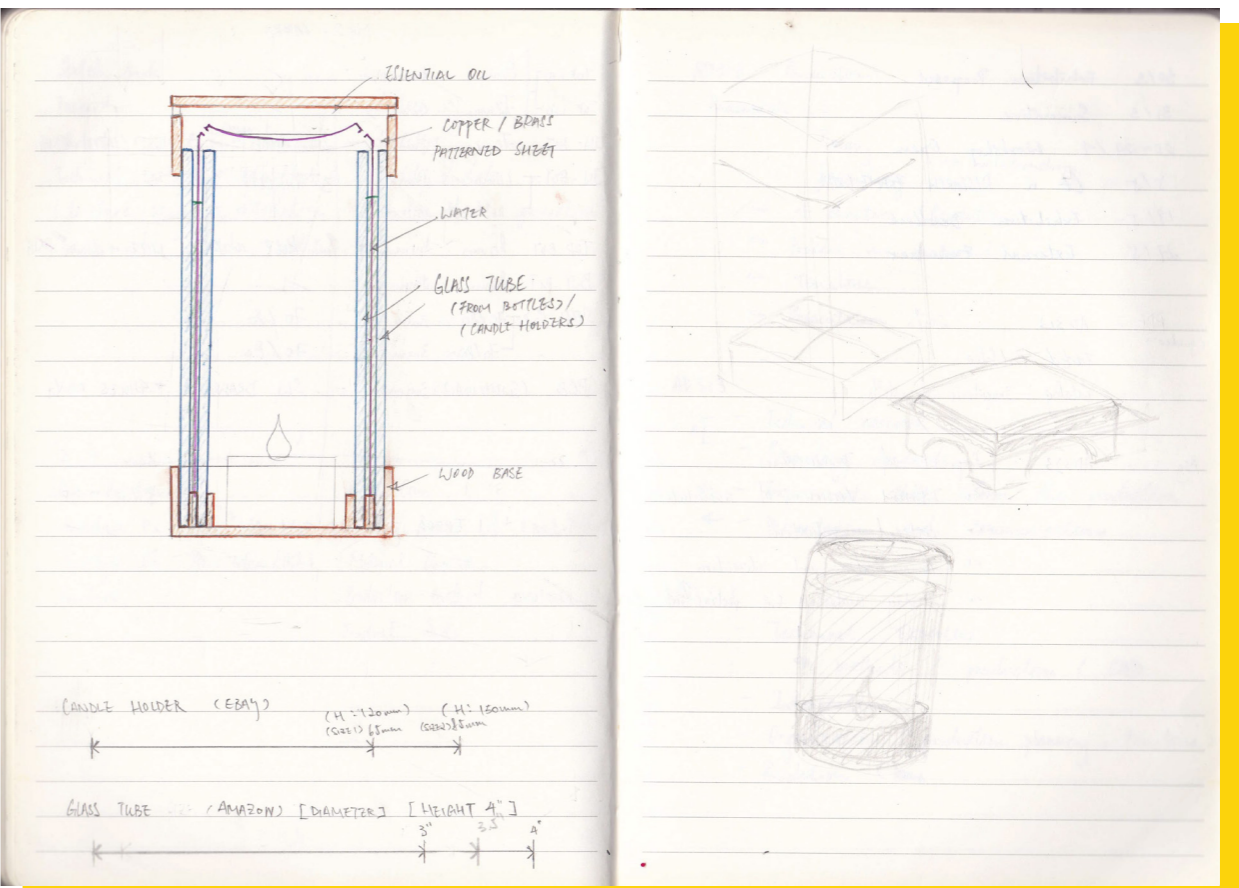
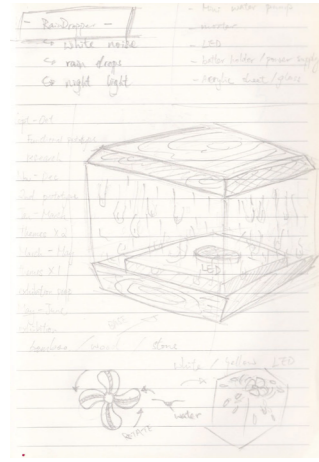
(Image from Twitter@poison22ivy)

# Sketches



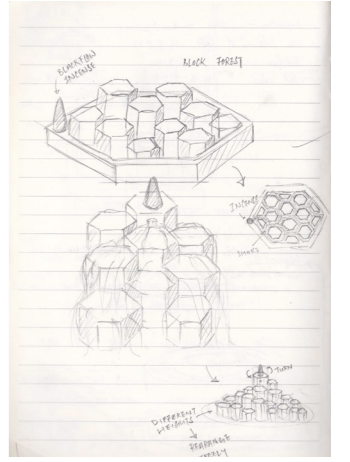
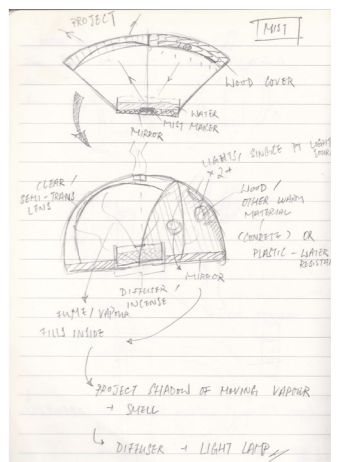
In the beginning, I was planning to do a series of 3 lighting device using the 3 forms of water: liquid, vapor and ice. Each of these products will utilize the property of different form of water to achieve different visual effects. However, despite this idea is interesting and meaningful, the time didn't allow me doing 3 quality designs with such variations.

In the idea generation stage, one of the methods I record the ideas was by sketching. These sketches record the most completed ideas. Some of them are for the 3-forms-series idea and I have also recorded them. This approach widens the thinking and create more possibilities for the future.



Later on, I have decided to narrow down the designs and just use liquid water. The idea of a rain tower lamp and a rotating candle holder have become the backbone of the current version designs. I also use sketching as a way of thinking. Using cross section drawings and notes worked the best for me. When I have to move onto CAD modeling, I can always refer to the sketches and visualize these idea with 3D models.

The rain tower lamp idea is about simulating the water cycle of raining with a bump. The two-layer structure of the body of the lamp allows water to be bumped up without using an obvious pipe. When the water travels up, the water works as a magnifier and diffuser for light. For the rotating candle holder, it utilizes the property of water to float a pattern plate attached to a piece of cork. When the candle burns, hot air raises and push the fan to rotate the patterned plate. The fire projects the moving shadows onto walls and table surfaces.



# Sketch models

In the early stage of ideation, a wide range of ideas were represented by making sketch models. These ideas may not be practical or feasible yet. However, these ideas should not be limited. Instead to sketch them out and investigate the possibilities of them. The followings are the sketch models and the pros and cons of them.



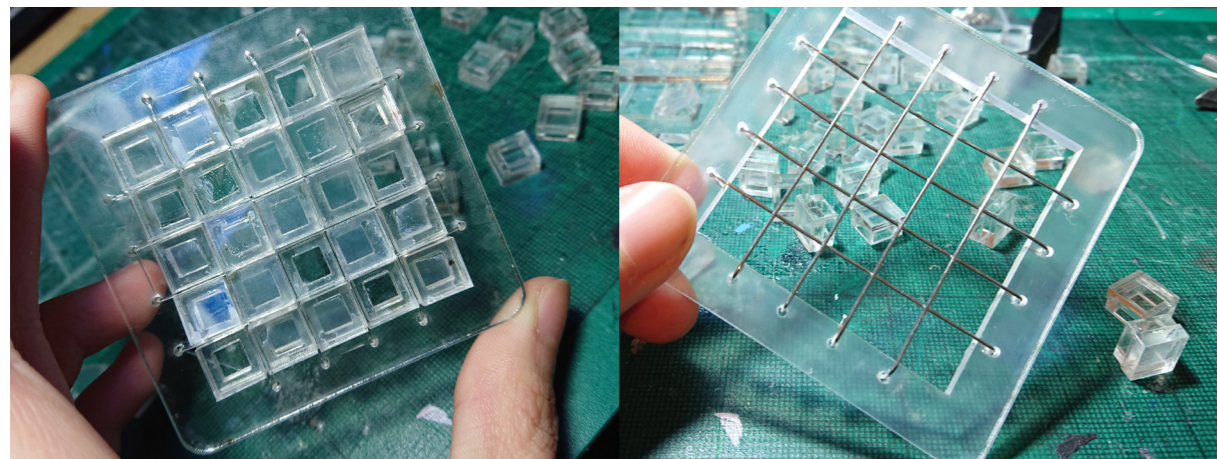
Rearrangeable backflow incense burner

**Pros**

- Customisable
- Relax with scent
- Visual effect of smoke flowing

**Cons**

- Material choice, using wood with burning incense
- The form or function does not change after rearranging



Pixel image making board

**Pros**

- Low limitation in expression of ideas

**Cons**

- need template or skills for making pixelated art



Decorations inspired by theme

**Pros**

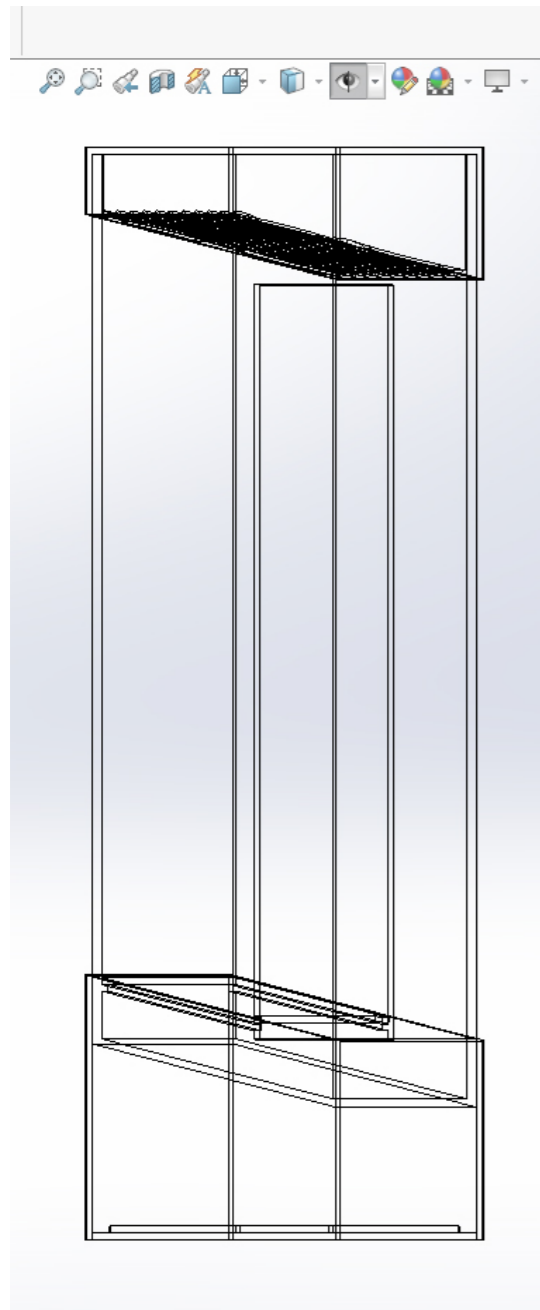
- Rendering atmosphere with lighting and shadows
- Incorporating message in the piece

**Cons**

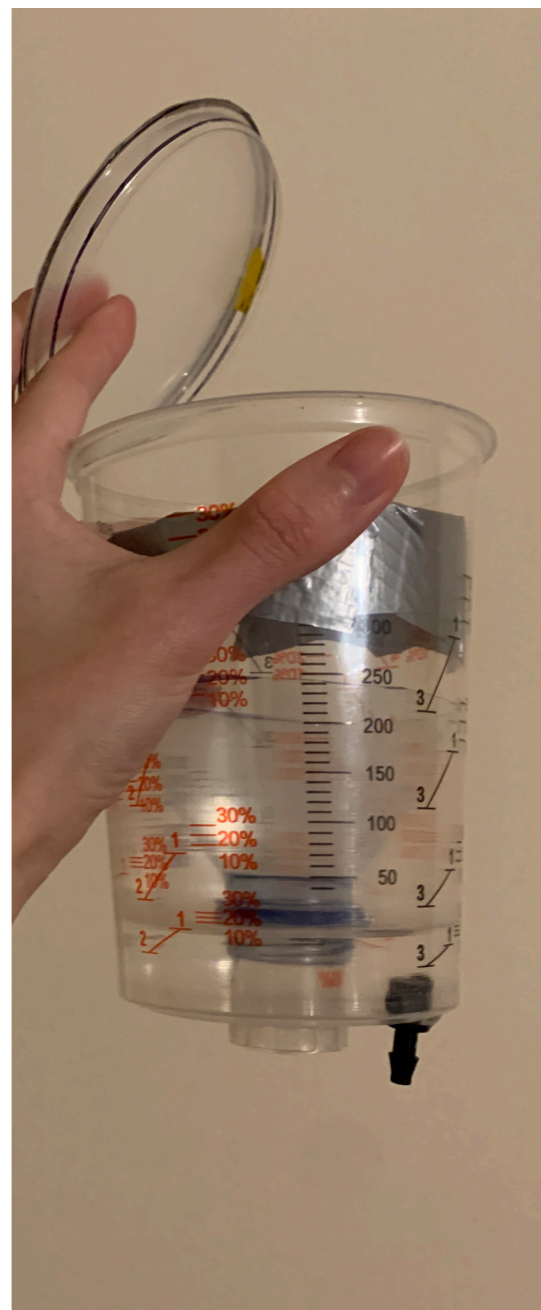
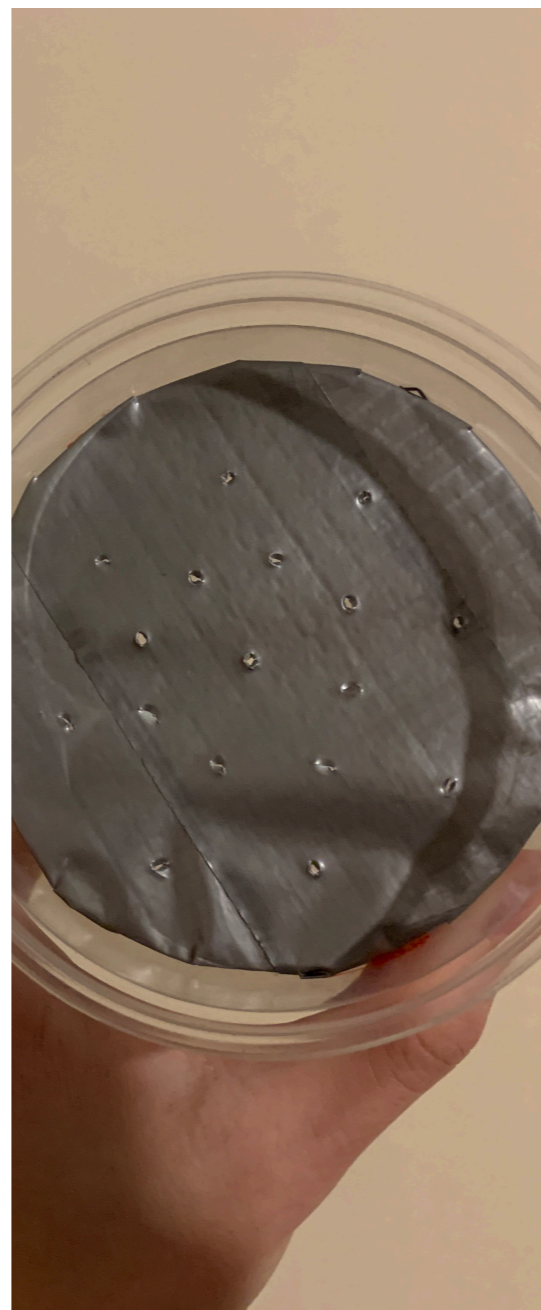
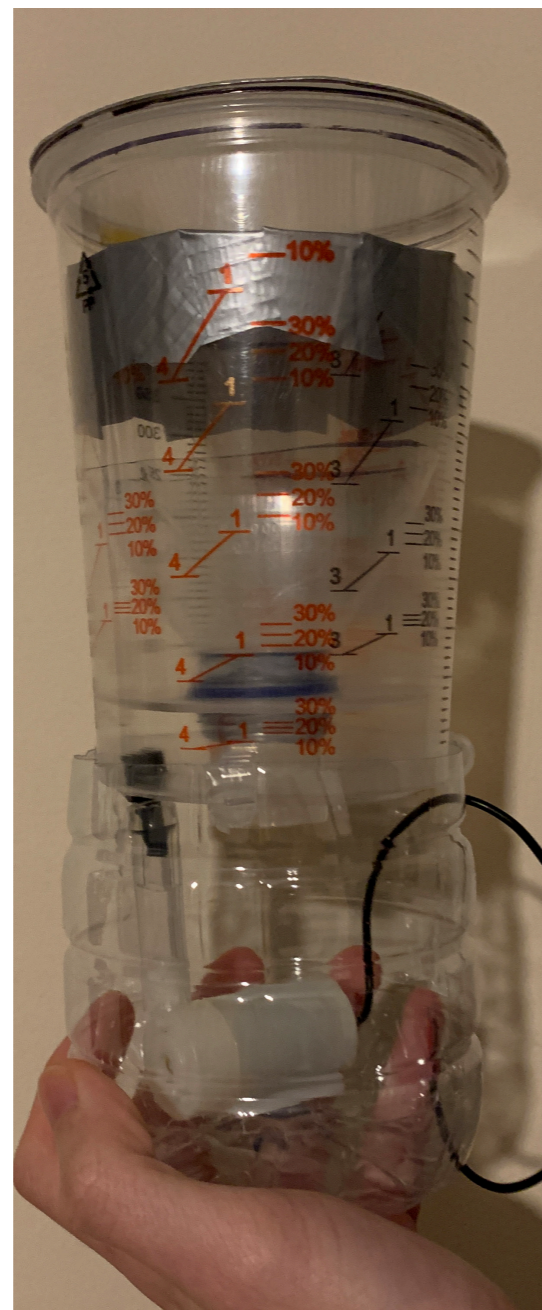
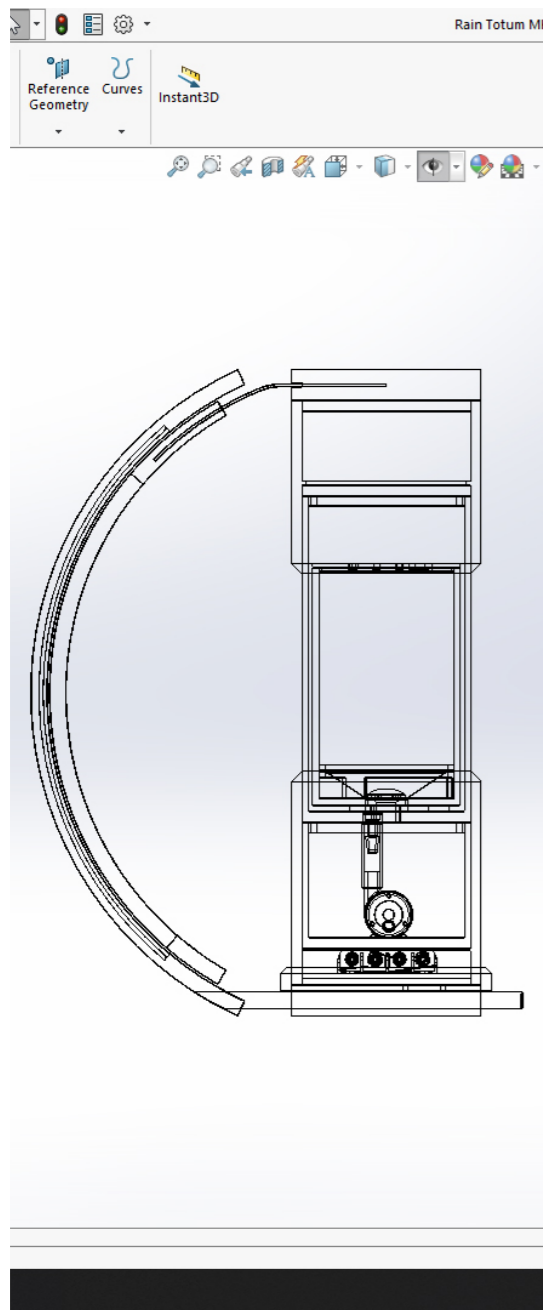
- Direct expression, lack of depth
- Spoon feeding information to audience instead of provoking thoughts

By combining with primary, secondary researches and the initial ideas, I was able to narrow down and to refine the ideas. I have decided to make a device, or a series of devices, which helps the user relax by using lighting and nature elements. The design should also include elements from the theme, the Hong Kong pro-democracy protest. The device may include electronic parts to operate. For the form and appearance, the device should look simple and plane with a touch of "zen".

## Prototyping - Rain Totem



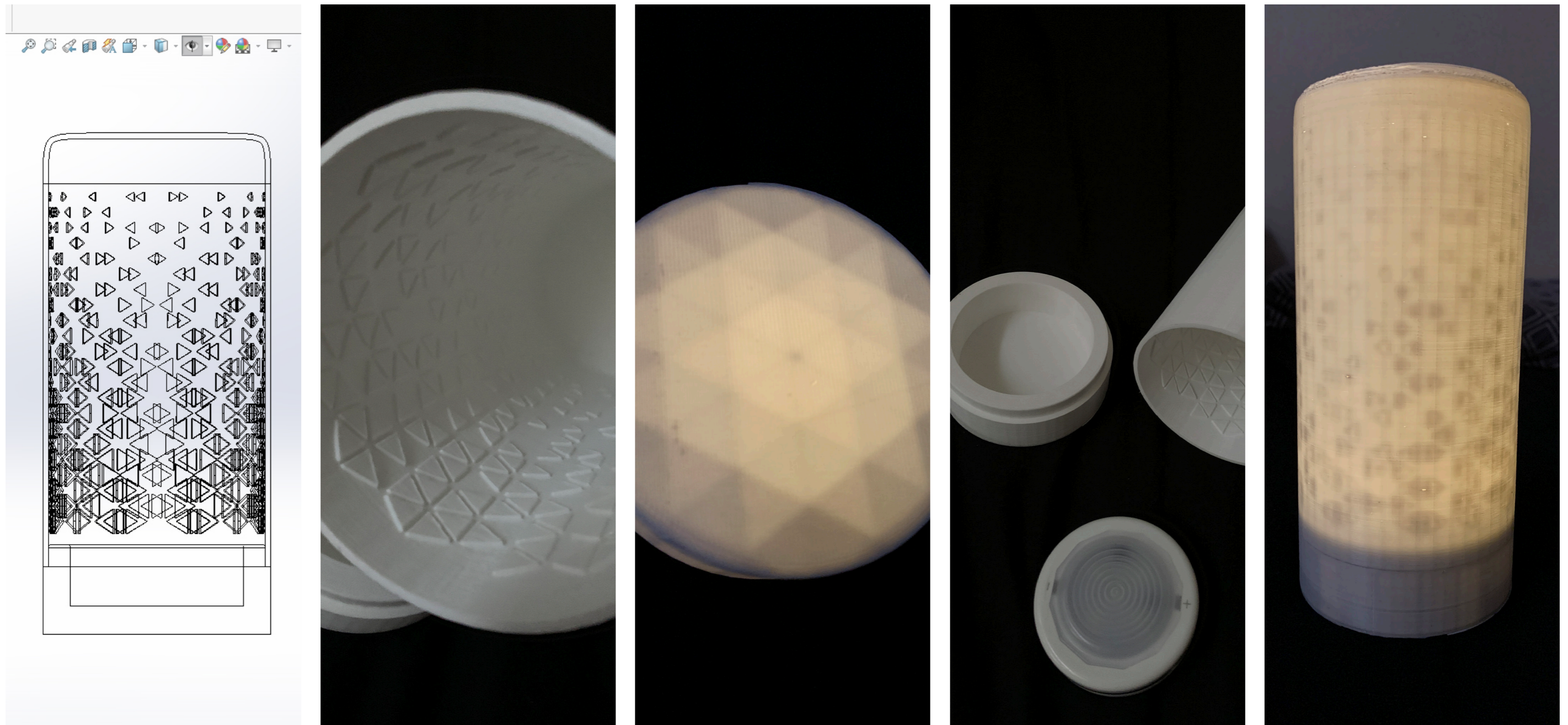
I found building a CAD model before doing any physical prototype saves a lot of time for testing. From the CAD models, I can examine the dimension and sometimes the mechanism before working on making a prototype. Furthermore, I can also use 3D printing and laser cutting to make any scale model or prototypes. While the machines are working, I can still carry on working on other things such as researching and idea developments.



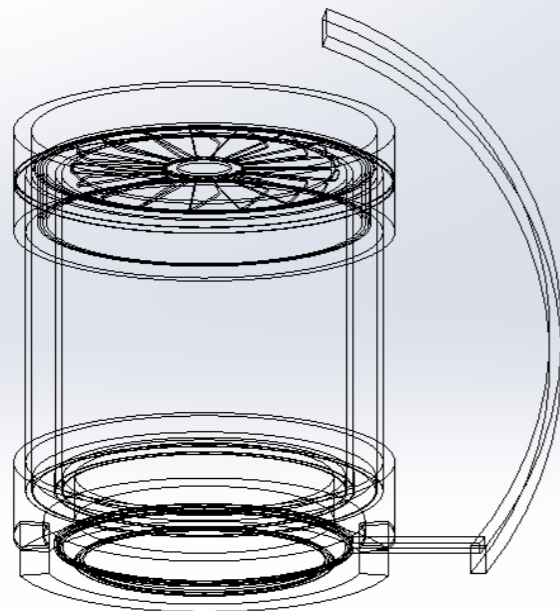
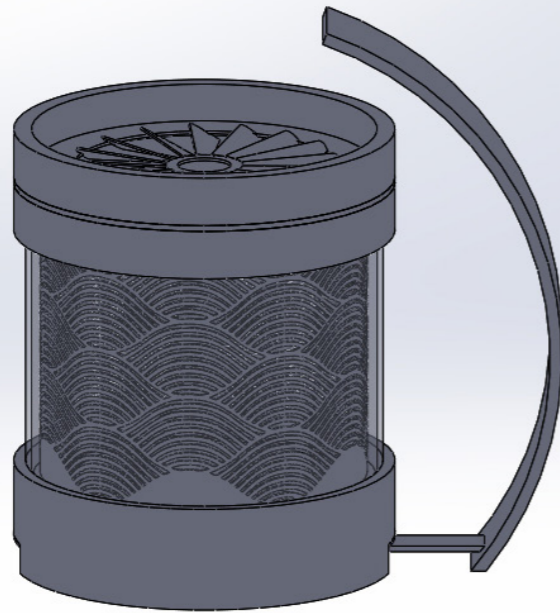
After observing from the first prototype, I have changed the method of water circulation and water collection. The second prototype is a rough functional prototype. It's structure is almost the same as the CAD drawing but is made of easy to process materials. Afterwards, I have used digital rendering software Keyshot to apply materials to it and preview its appearance. Also, I have found the problem in the arms when I tried to position the model. Finding the problem in a CAD drawing save me a lot of time making a fault prototype.



# Prototyping - River Lantern



The initial idea was to make a candle holder which contains water and a solid shell with pattern inside, just like this prototype. When testing with the prototype, I thought this design will be much more interesting if it rotates. Then I thought of using the property of water and the heat from the candle.



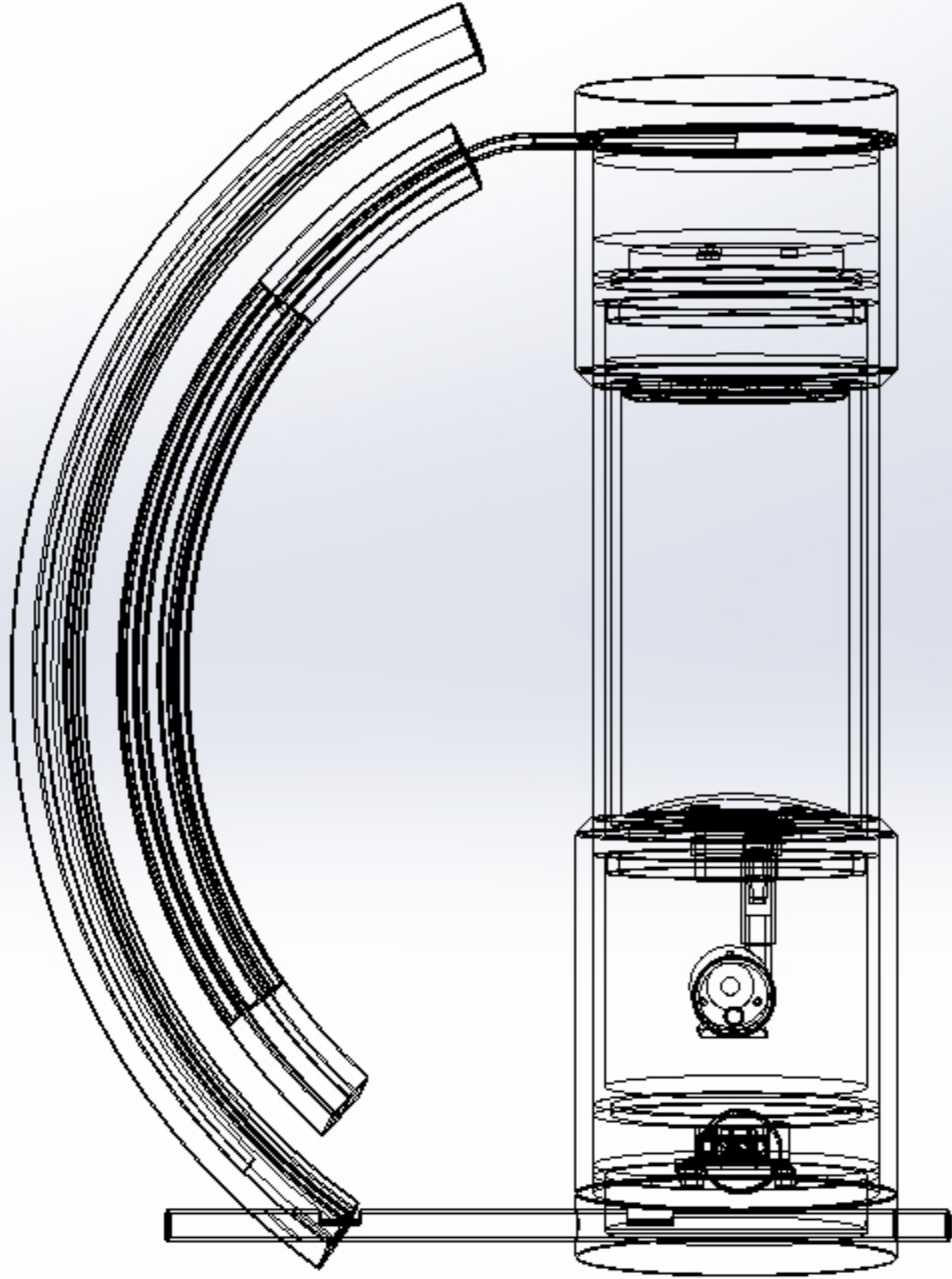
During the making of this prototype, the school is closed, and courses are cancelled because of the coronavirus. The progress of making are all frozen and therefore there is only a half-finished prototype of the River Lantern. There is only a completed CAD drawing of that, which will be used for digital rendering.

Background+  
*Financial Times UK named the protest  
"Water Revolution" because of the "be water"  
philosophy demonstrated by protestors.*



# IDEA DEVE LOPMENT

(Image from Apple Daily HK)



## Rain Totem

Researches shows that the sound of nature, especially sound of water, can be effective in reducing stress. Rain Totem is a table lamp aim to achieve relaxation by combining water and lighting. When it is switched on, a small-scale rainfall is created inside the lamp. The view of waterdrops running down the window and the sound of raining is recreated.





By repositioning the projection light on the outside ring of Rain Totem, the shadow of water and the rain can be casted on to walls. The warm light, the shadow of moving water, and the sound of it make any room into a relaxing place for meditation, thinking or resting.



River Lantern is a candle holder which utilize the property of water and fire to project a pattern on its surrounding floor and walls. It is a double layer candle holder. The candle can be filled with water in between the layer. The patterned aluminum plate attached to two pieces of cork floats on the water surface. When the candle burns, hot air raises and push the fan connected to the patterned plate. The projected shadow will slowly rotate until the candle goes off.

The pattern on the plate is a wave pattern, associating to water and water flow. The moving shadow and the warm fame light make the room visually warm and relaxing. By choosing a scented candle, the relaxation effect can be enhanced.

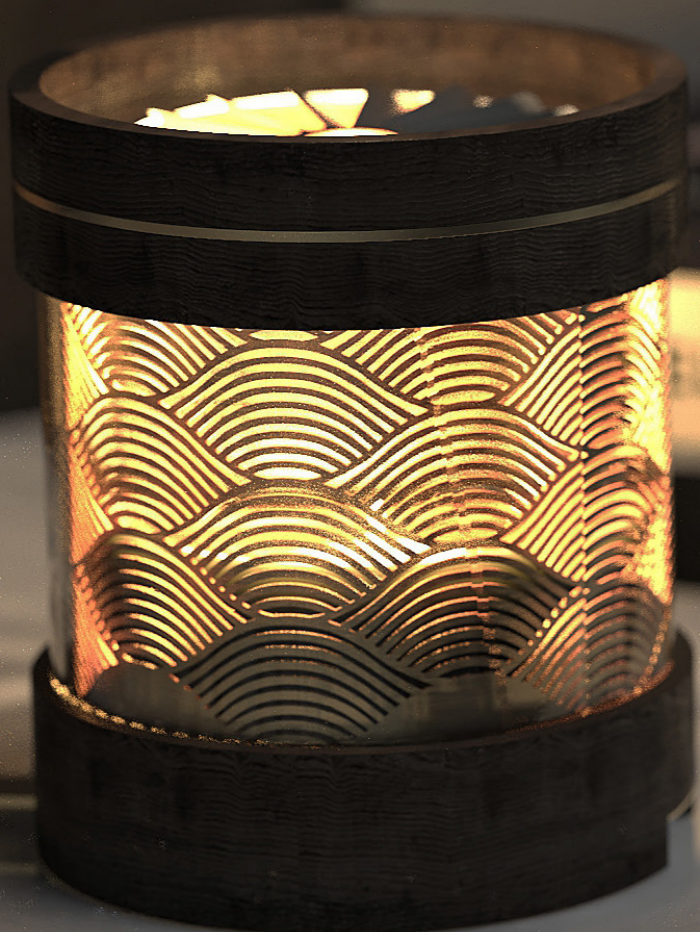






# DIGITAL RENDERINGS





THE VOCABULARY OF STYLE  
GARDENING AS A WAY OF LIFE

# REFLECTION



## Reflection on research methods and process

This project is a design project which aims to suggest a solution to a problem. In this case, to relax the target user with a product under the theme of water. The research on the background and psychology knowledge have contributed in indicating the needs of potential users and supported decision making. On the other hand, this project is closely related to the users feeling and emotion. More primary research with people should be done. Such as prototype testing and review on product after using. Yet, it is noticed that different people may have different effect using the product, as mentioned from one of the research papers, the effectiveness varies according to the participants' preference. Considering the length of this project and accessibility to potential users, the quality and quantity of primary research cannot be guaranteed. To prevent the project from being affected by over subjective opinion from a narrow sample group, researches and experiments done by larger organizations were studied. To improve the research process, more primary research should be done to collect feedback from users and thus to improve or modify the design according to their feedback.

In the idea development stage, CAD modeling has contributed a major role in planning and criticizing my own designs. I can evaluate the 3D models then modify them, so the designs are more practical, feasible and technically achievable. With rendering software Keyshot, I can apply different material to the model and have a preview of the finished pieces. This has greatly reduced the time I need to spend on choosing the combination of material. Digital rendering also contributed in communication and presentation. This technique can visualize abstract ideas into photorealistic images. For example, I can render several versions of Rain Totem with different materials or colours when presenting further possibilities of this project. CAD and digital rendering will be two of the most essential skills I will need in my future design practice.

“You must be shapeless, formless, like water. When you pour water in a cup, it becomes the cup. When you pour water in a bottle, it becomes the bottle. When you pour water in a teapot, it becomes the teapot.

Water can drip and it can crash. Become like water my friend.”

– Bruce Lee