# JADE BRUINS

# PORTFOLIO

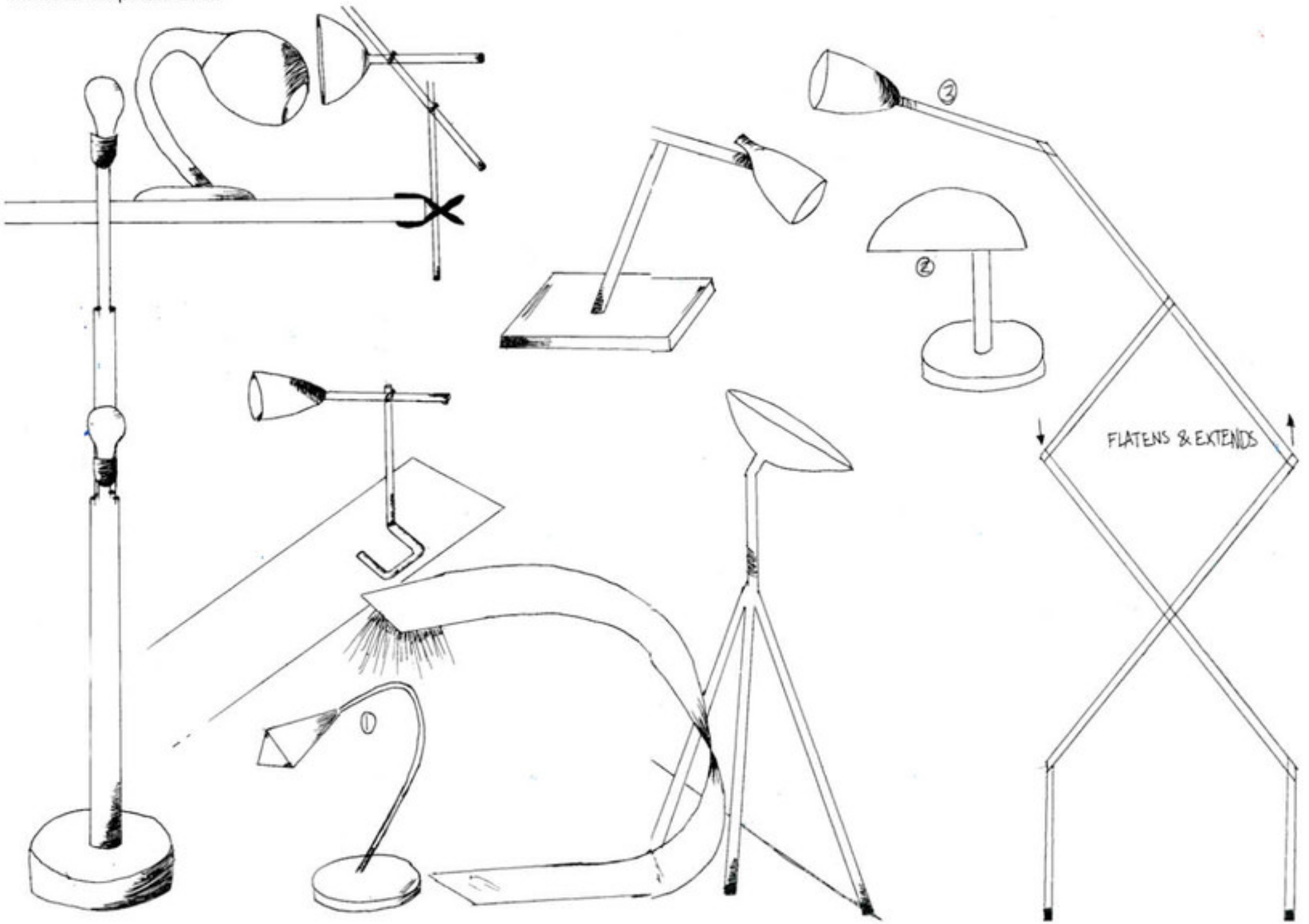
# BAUHAUS DESK LAMP

The design brief was to design and fabricate a lamp based on a recent design movement.

I based my lamp designs off the Bauhaus movement as I was drawn to the minimalistic and functional style.

I explored many iterations of both floor and desk lamps.

Initial concept sketches

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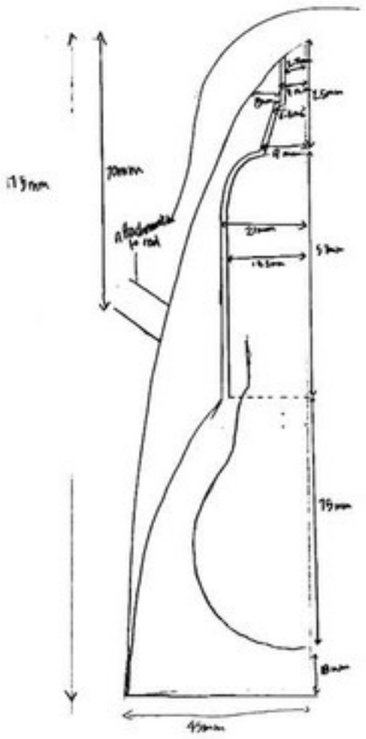
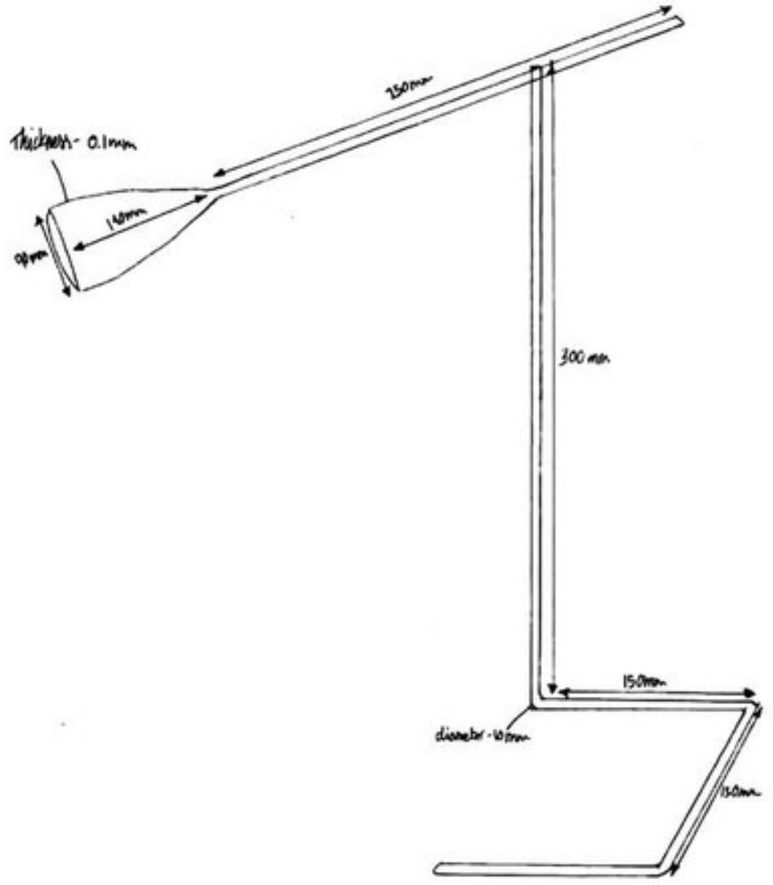
# BAUHAUS DESK LAMP

I was drawn to this design option, an adjustable desk lamp, as it is simplistic, minimal and clean. The primary material was metal pipe commonly found in Bauhaus furniture. I envisioned the shade to be made out of pressed metal.

The most challenging aspect throughout the design process was the asymmetrical base. To improve the lamp balance, I altered the design with the metal tubing attached on the side of the lamp shade. This better distributed the weight over the base. I also inserted weights into the base pipe.



Chosen concept sketch

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# BAUHAUS DESK LAMP

The lamp shade was a challenge as I envisioned all the wiring and lamp fittings enclosed within the shade.

In order to get the required shape, I 3D printed the lamp shade out of plastic. This took several rounds of refinement to incorporate the bulb and wiring effectively. I investigated metal 3D printing but due to time constraints I resorted to painting the plastic shade silver. This developed my problem solving skills and knowledge of 3D printers.


Physical model


CAD rendering created in Autodesk Fusion 360.

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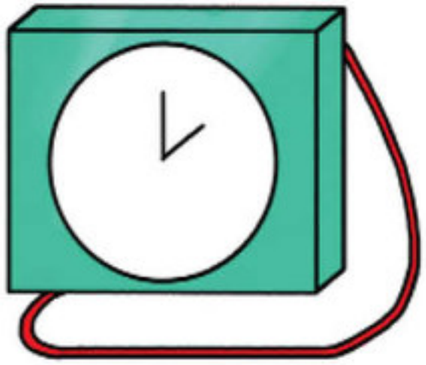

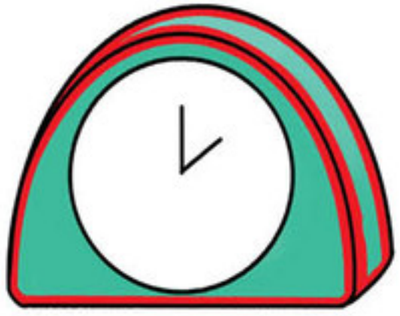

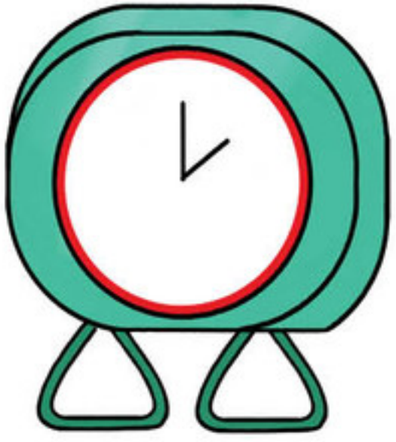

# ALARM CLOCK REDESIGN

The project aim was to redesign a product to increase its longevity.

I chose to redesign an inexpensive plastic alarm clock. The clocks main design flaws were that it was difficult to access the clock mechanics, therefore making it difficult to replace components, and the casing and battery closure was flimsy and could easily be broken.

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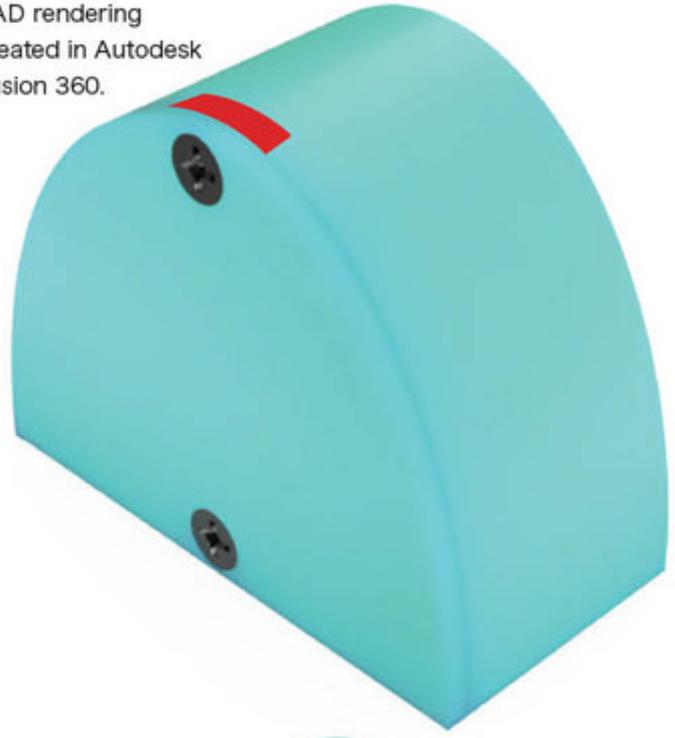
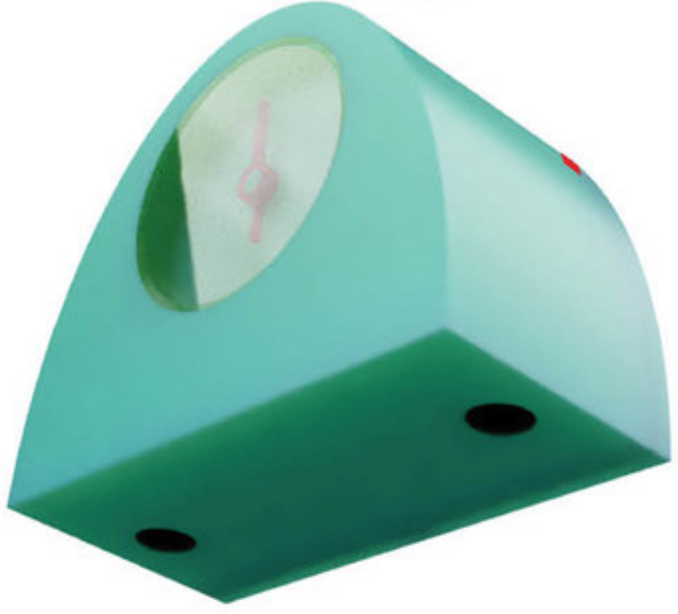
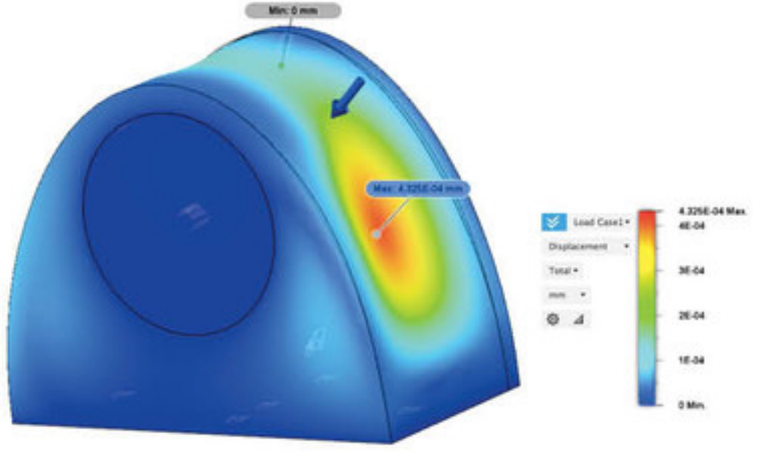
# ALARM CLOCK REDESIGN

CAD rendering created in Autodesk Fusion 360.

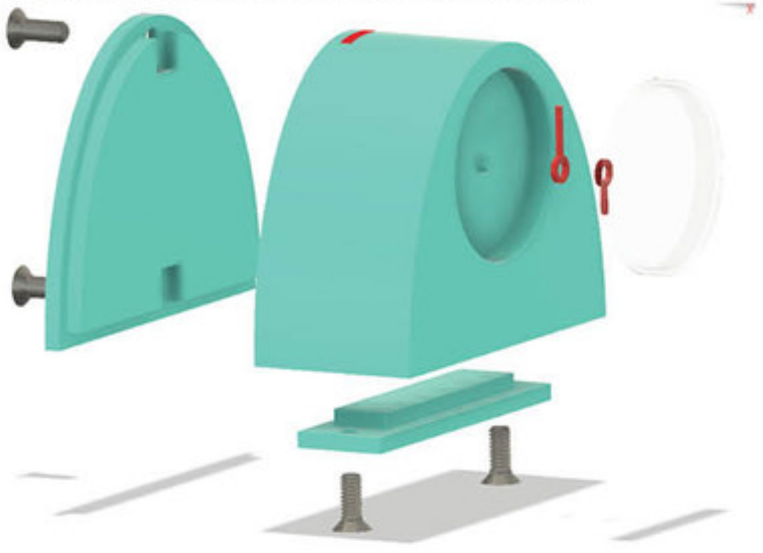




FEA testing performed in Autodesk Fusion 360.



Exploded drawing created in Autodesk Fusion 360.



In the redesign, I included a removable back panel with mechanical screw fixings to allow easy access to the mechanics. Additionally, I reworked the case form to a dome shape to improve strength to the top of the alarm clock which receives the most contact.

By performing FEA testing I was able to test the young's modulus of the ABS plastic and compare it to the original product. The testing shows that my redesign significantly improved the strength of the alarm clock.

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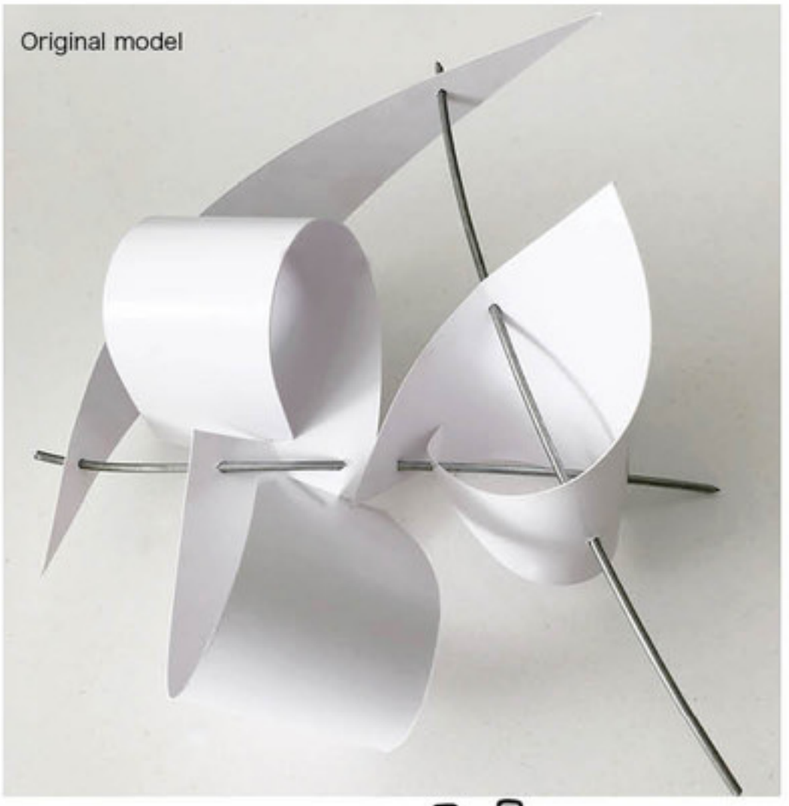
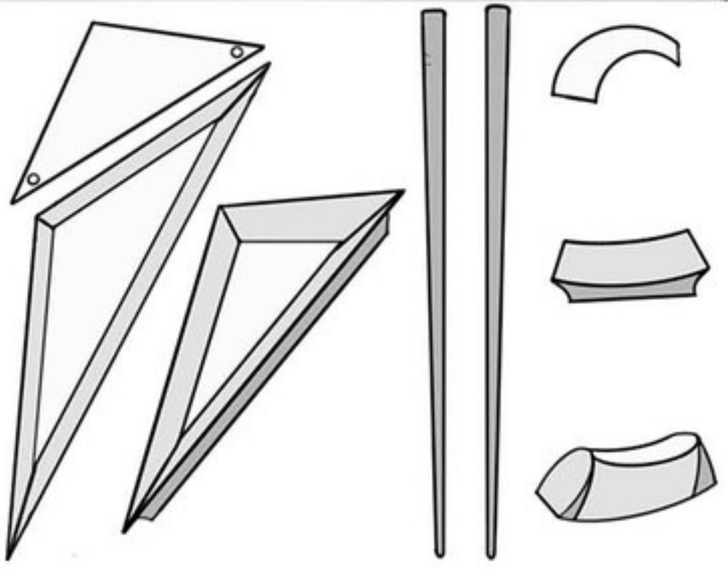
# FORM OVER FUNCTION

The challenge was to create a product inspired by a sculpture first constructed out of metal wire and card.

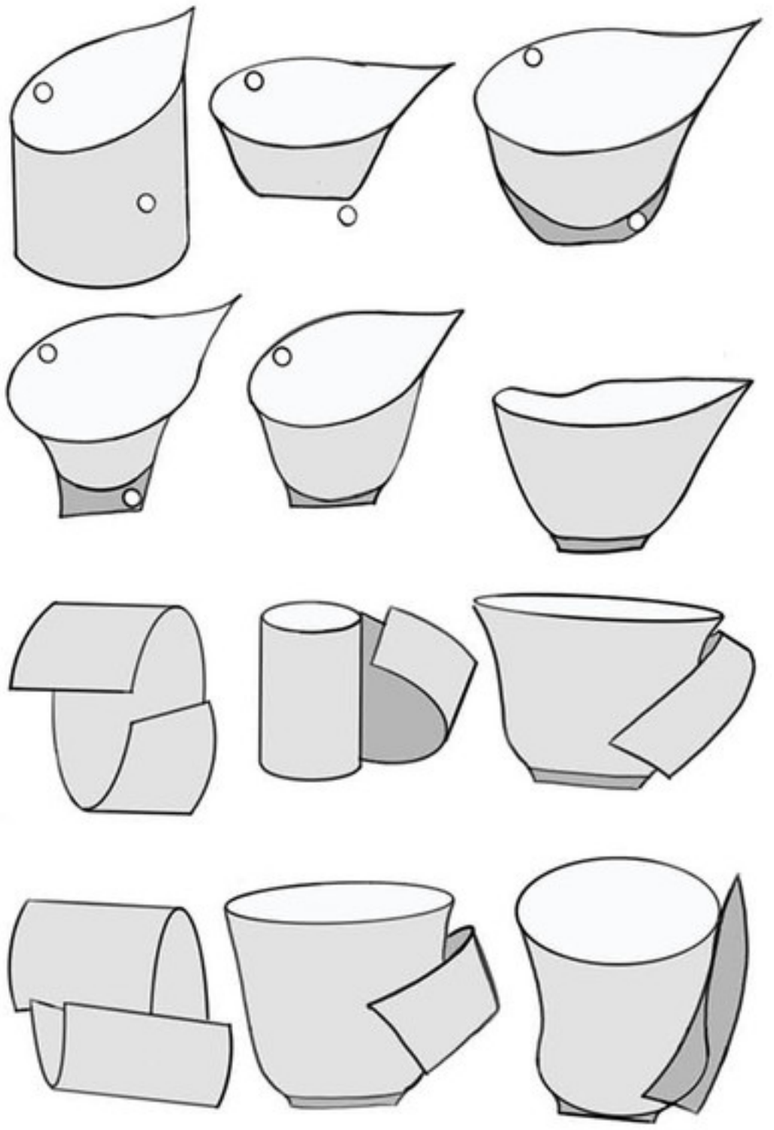
My sculpture resembled eating vessels, including a cup, bowl and plate. The two metal wires were reminiscent of chopsticks. Thus, I decided to create a tableware set inspired by my sculptures form.

Original model





Initial concept sketches



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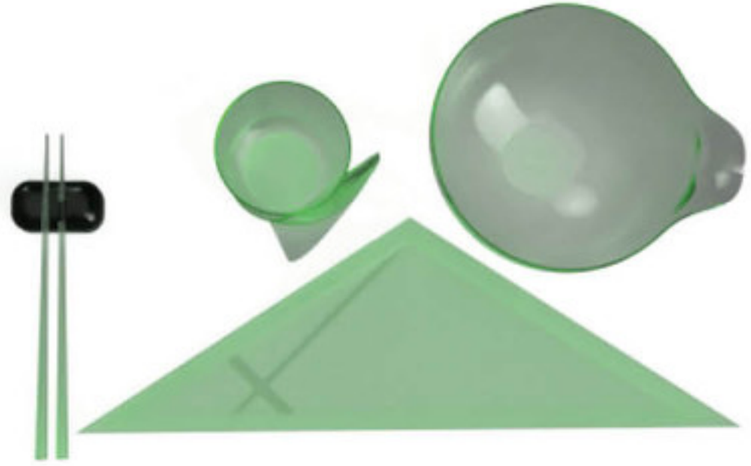
# FORM OVER FUNCTION

This project developed my CAD and rendering skills significantly. It allowed me to explore new tools and learn how to create curved and fluid objects as well as how to apply lighting to translucent materials when rendering.

CAD rendering created in Autodesk Fusion 360.



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# KEY SKETCHES

My goal was to demonstrate variety and beauty in mundane objects, while developing my sketching skills.

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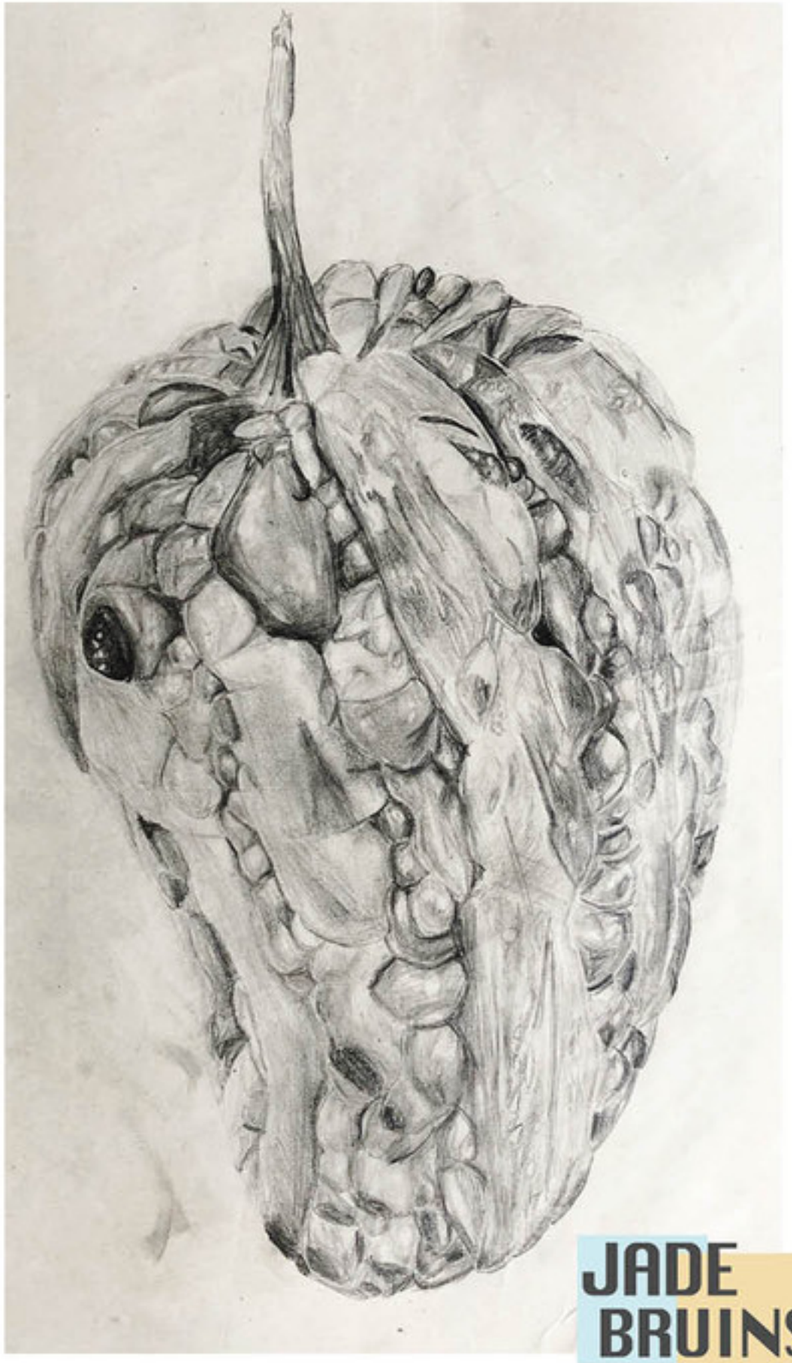
# NATURE EXPLORATION

I experimented with black and white photography of vegetables and plants. To develop my work further I then sketched the objects using ink and graphite.



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# LANDSCAPE EMBROIDERY

Inspired by my travels to Phuket I created several embroidery pieces of the tropical landscape during my visit.

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# LANDSCAPE EMBROIDERY

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# DISTORTION PHOTOGRAPHY

After discovering Suzanne Saroff's photography I was inspired to photograph images with everyday objects distorted by water and glass.

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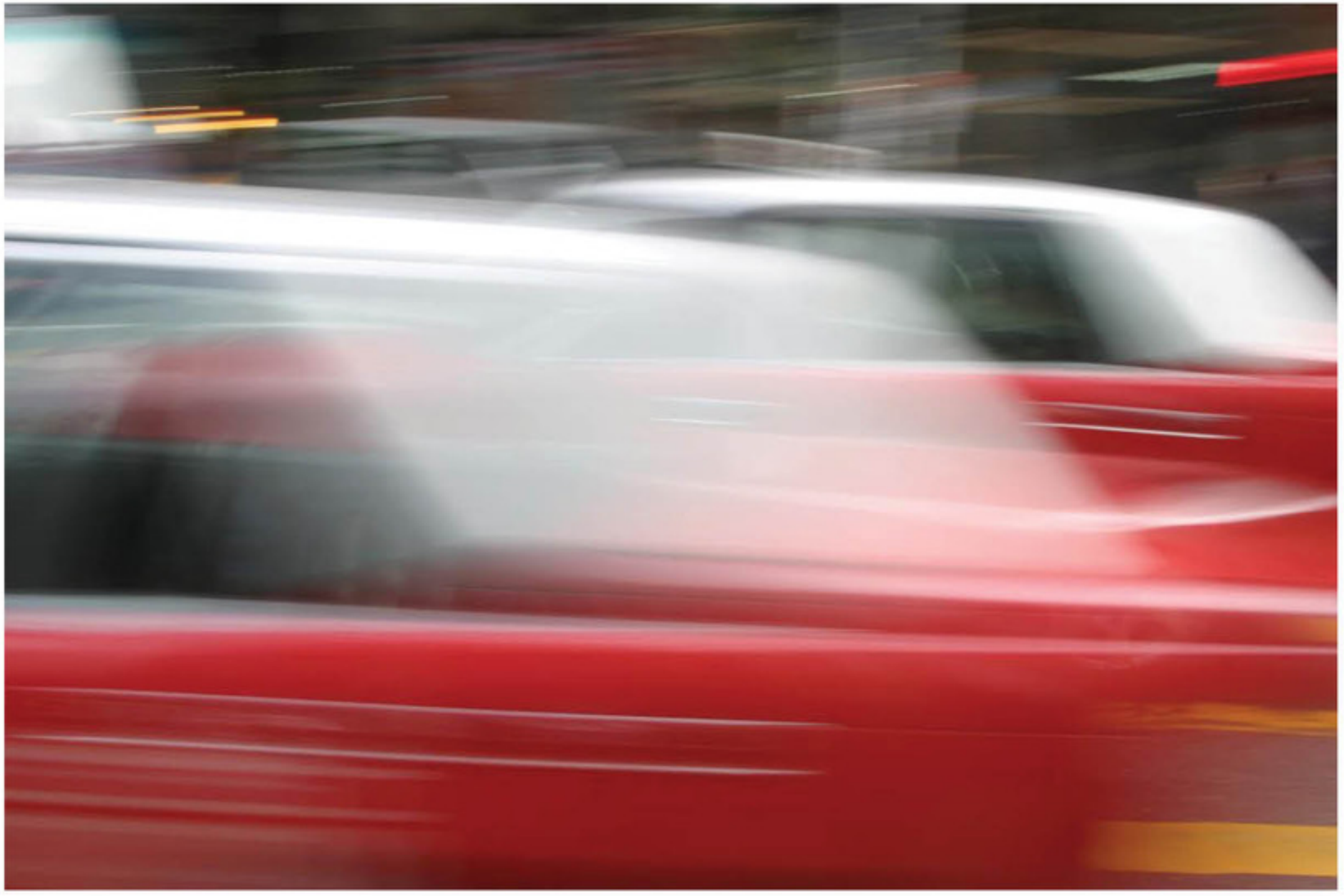

# TAXI PHOTOGRAPHY

In my quest to become more familiar with my camera, I explored how shutter speed can be used to create visual effects in photography.

I feel this photograph captures the fast paced, energetic nature of Hong Kong.

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# SILICONE MICROWAVE MITTEN

The challenge was to create a product that can aid someone with a physical limitation.

My Grandma has arthritis and struggles with removing hot plates from the microwave. I decided to design a silicone glove that's easy to use, compact, heat resistant and easy to clean.

I initially used play dough and polymorph to create a comfortable glove shape before creating prototypes which I 3D printed out of plastic.

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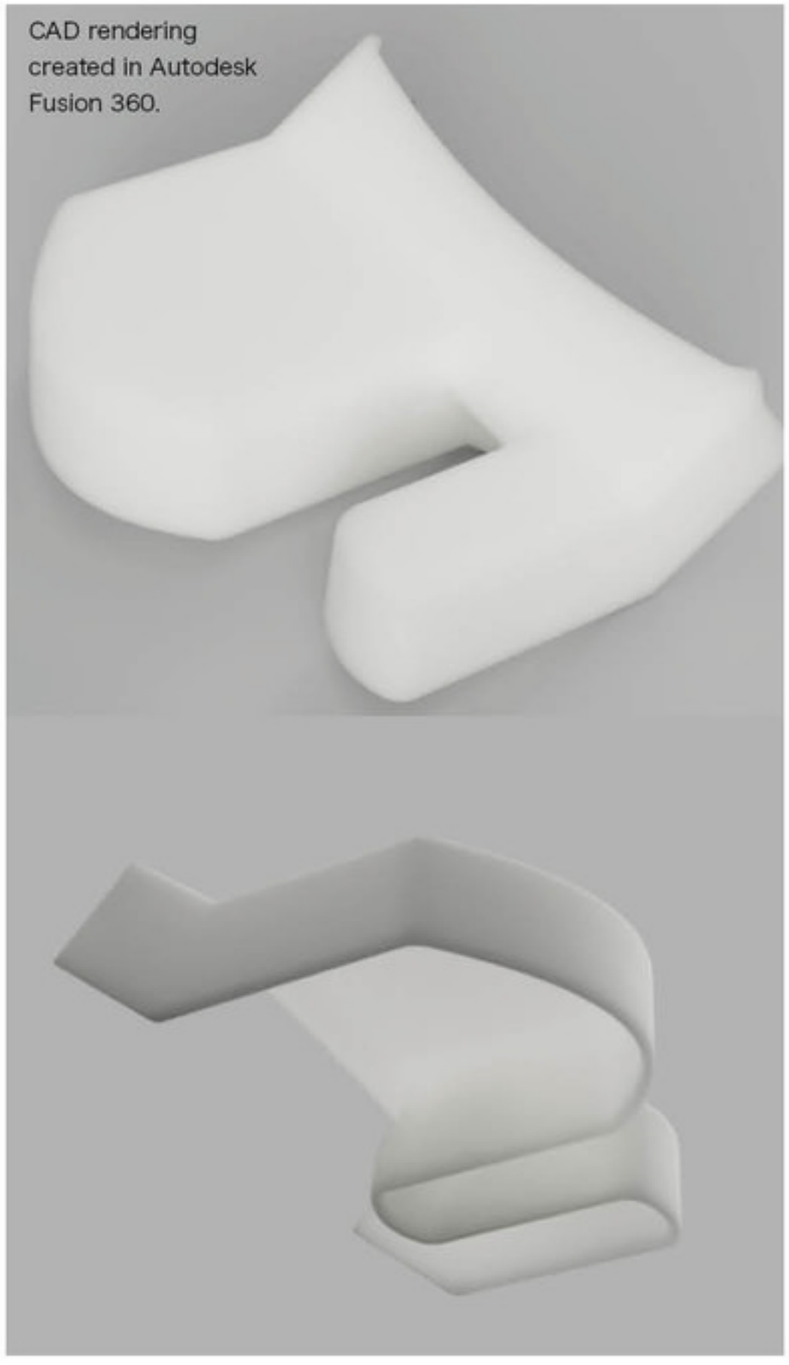
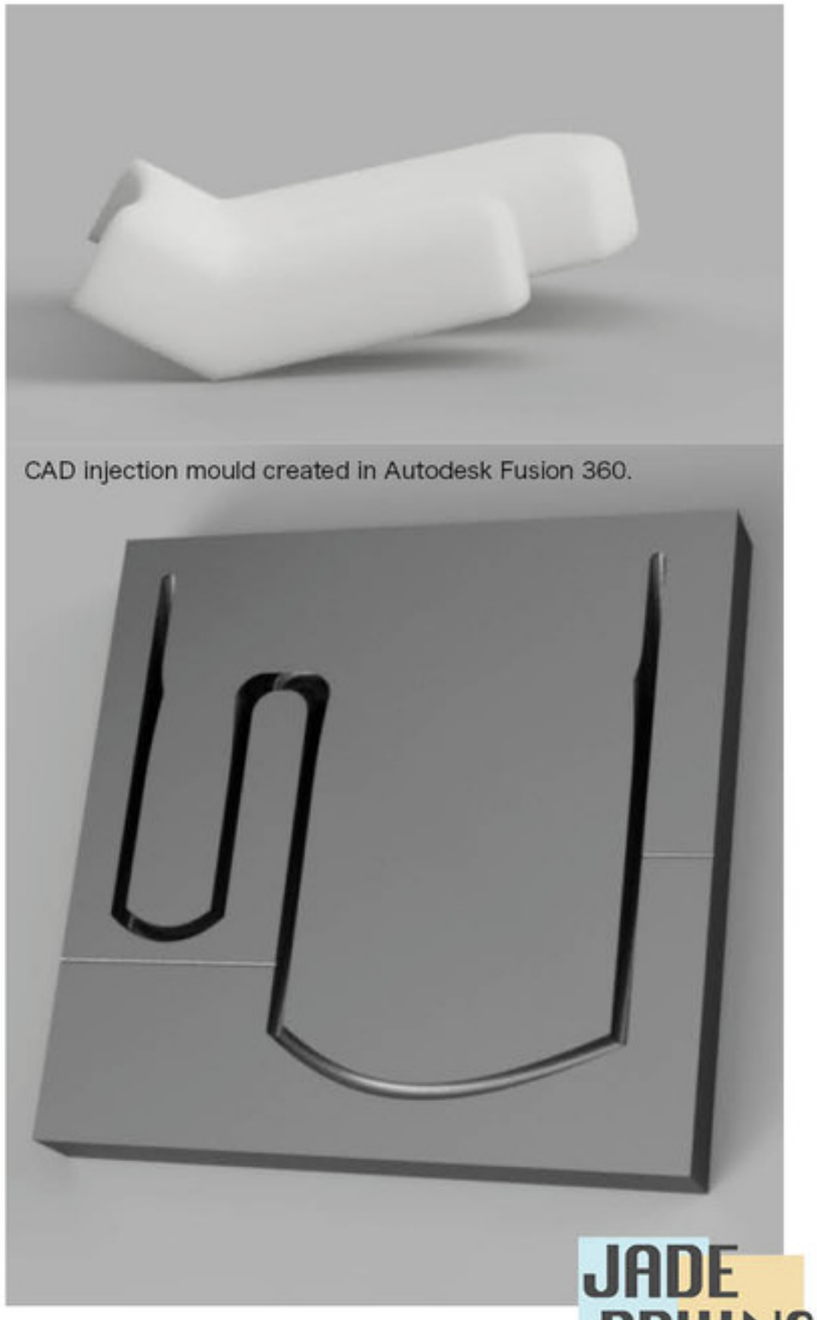
# SILICONE MICROWAVE MITTEN

The glove design was intended to be made of silicone but I did not have access to the required equipment. I wanted to further explore how the design would be commercially manufactured. After researching I used CAD to design a negative mould for injection moulding silicone.



CAD rendering created in Autodesk Fusion 360.



CAD injection mould created in Autodesk Fusion 360.

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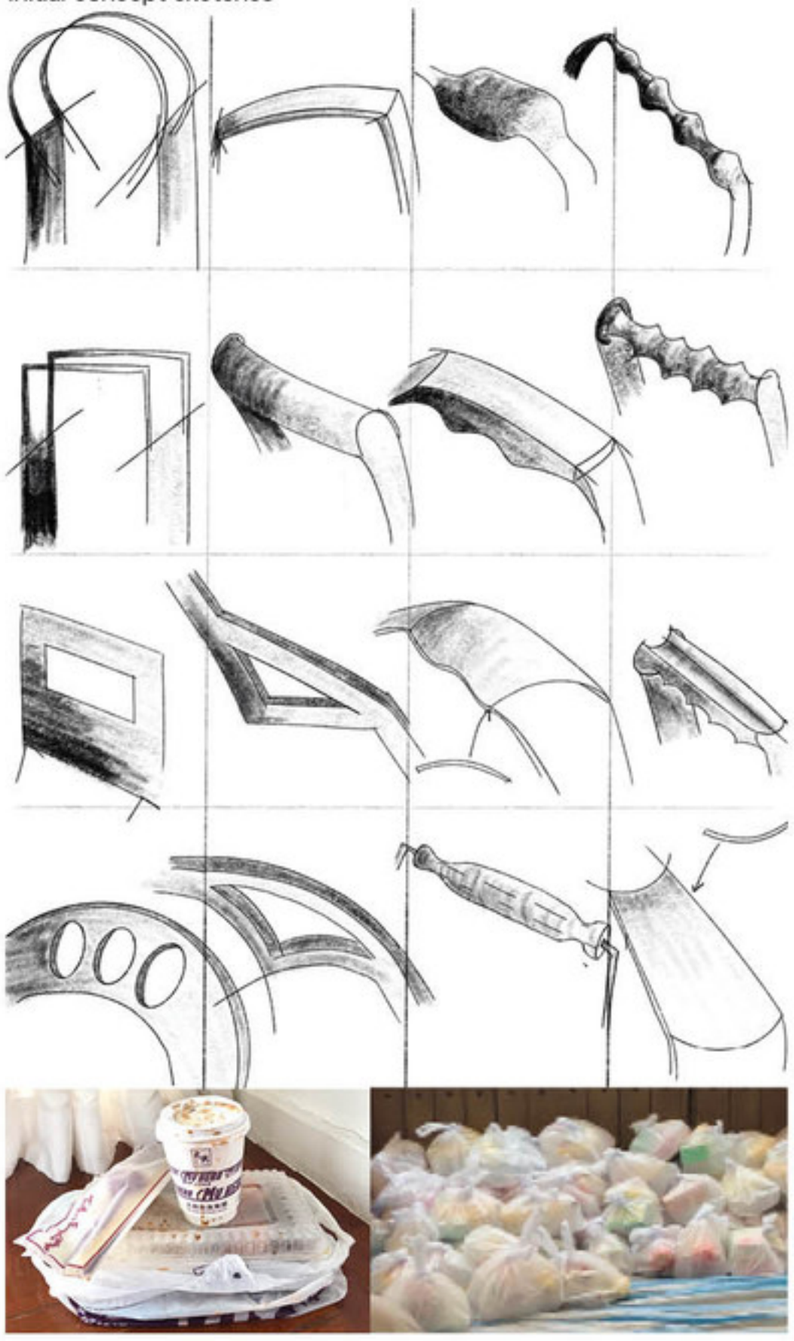
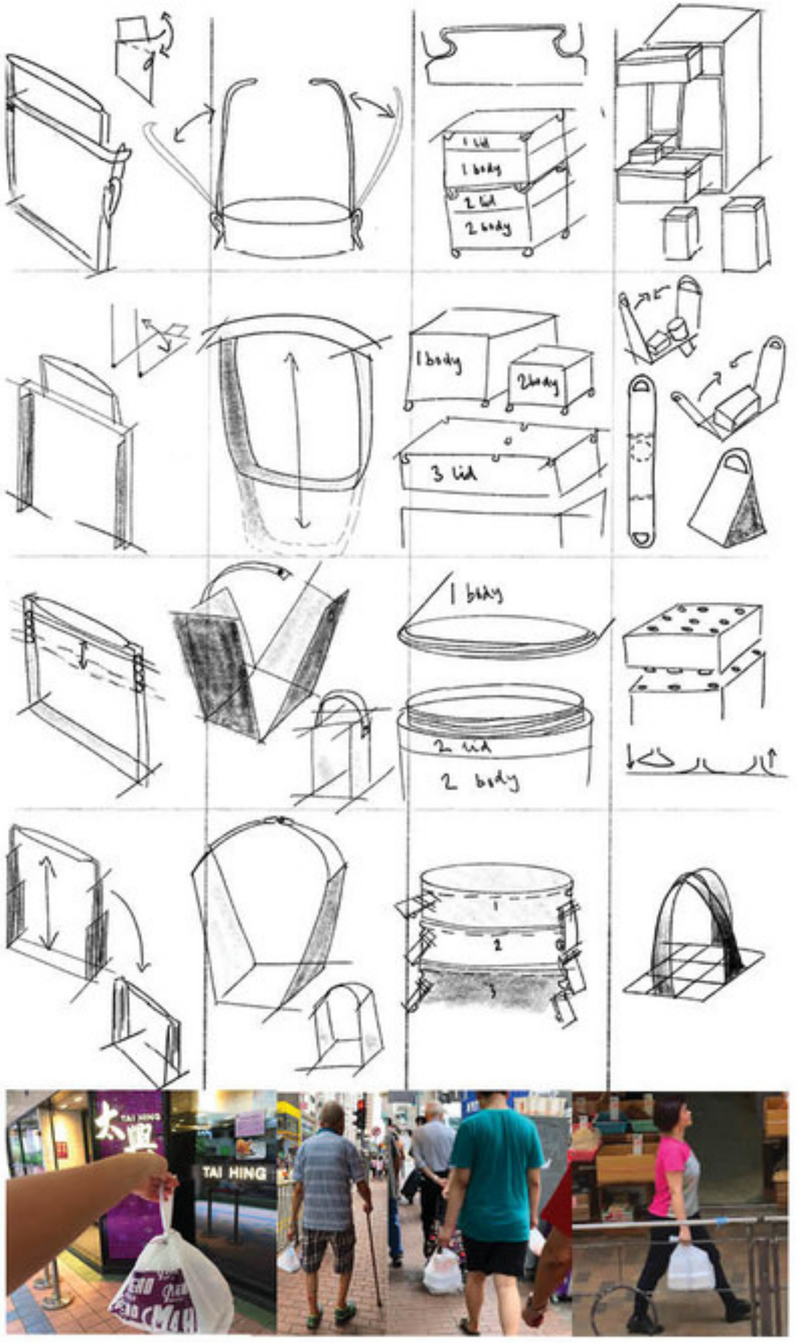
Initial concept sketches













# REUSABLE TAKE OUT BOX

For many people in Hong Kong buying a take away meal is a daily occurrence. Each take away meal is commonly packaged in single use styrofoam or plastic containers held together in a plastic bag. This produces a significant amount of unnecessary waste. I find this frustrating because when you eat the same meal inside the restaurant reusable tableware is used. I think this unneeded waste can be reduced with a straightforward solution.

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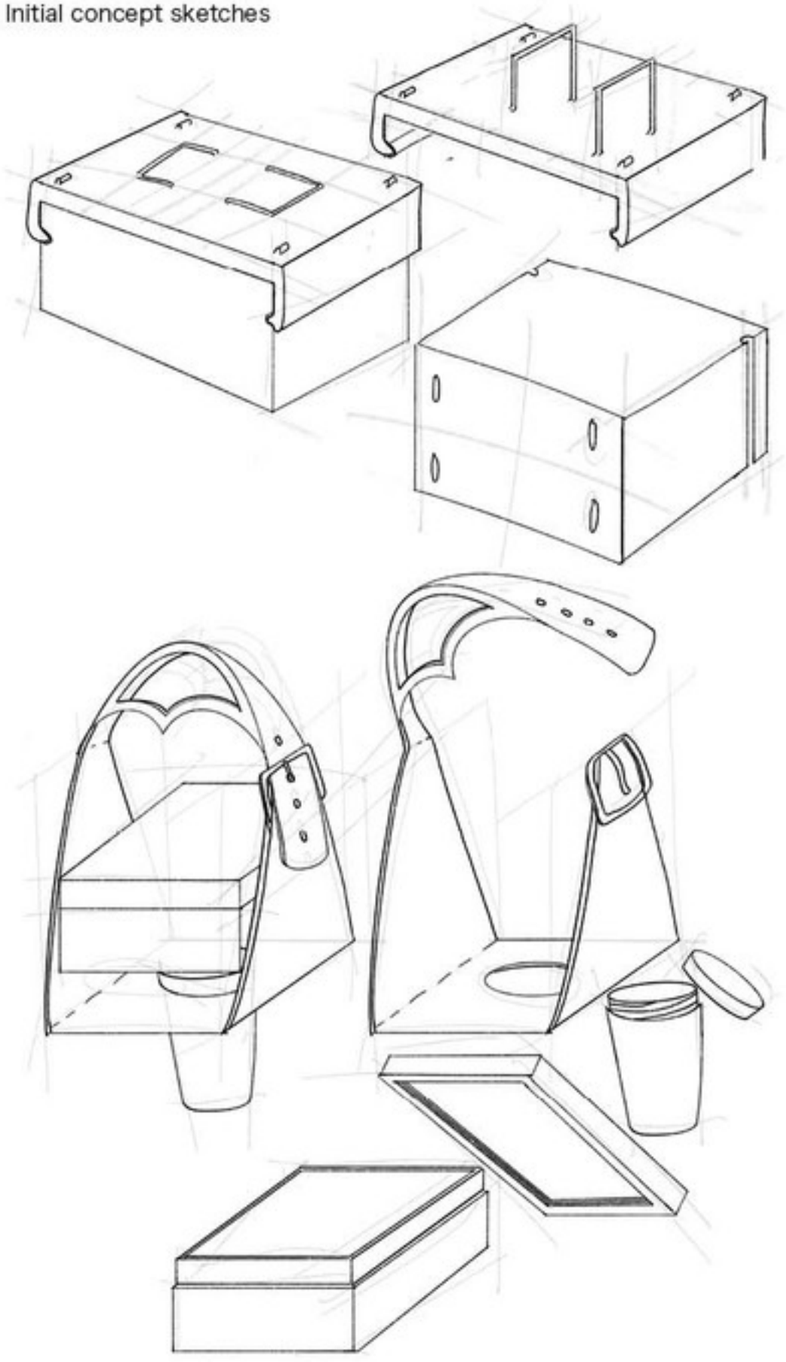
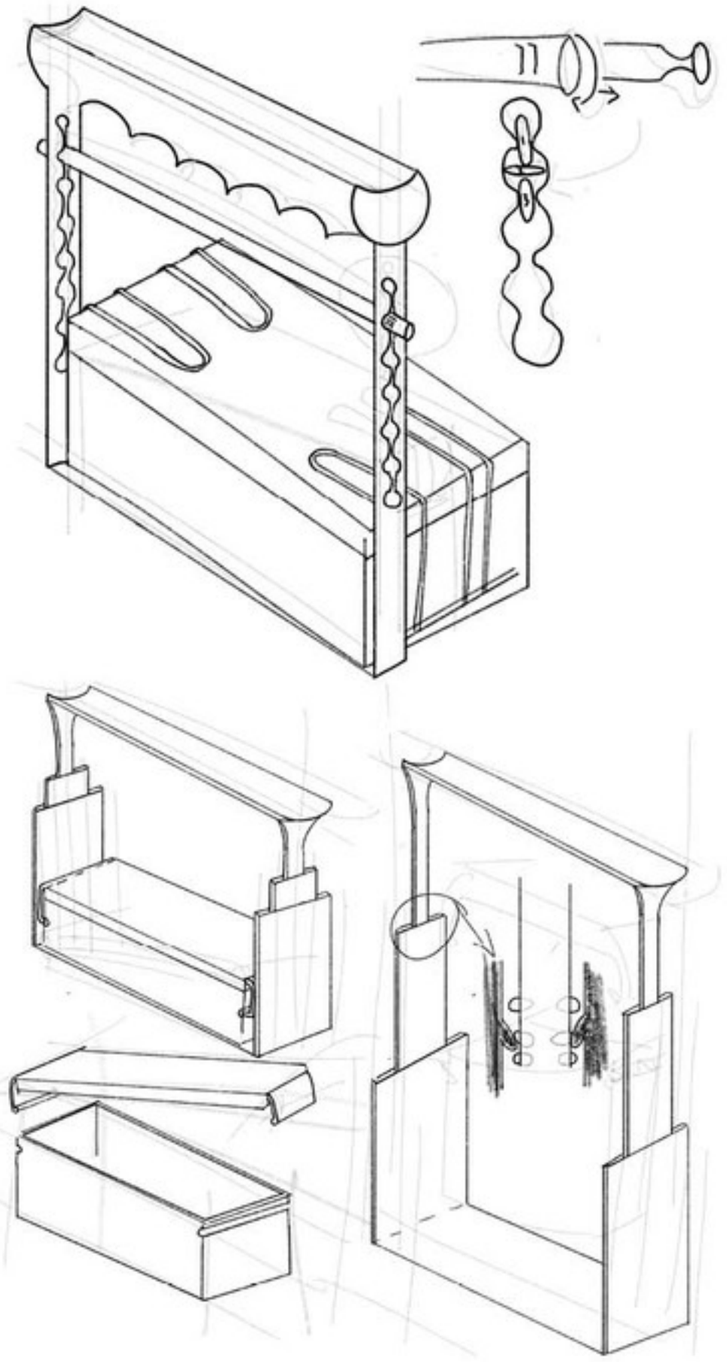
Initial concept sketches





# REUSABLE TAKE OUT BOX

To provide a potential solution to this issue, I set out to design a reusable takeout box for set meals. This box was specifically designed to be sold at a local chain restaurant Tai Hing. They sell Chinese style meat, rice and drink set meals.

My concept was that Tai Hing would sell the reusable boxes to customers. The box is designed to mimic the dimensions of the standard disposable items already in use. When customers bring the box to Tai Hing to fill with their meal they will receive a discount and reduce waste.

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# REUSABLE TAKE OUT BOX

The design is comprised of a holder frame, one or two boxes secured in place by a clamp and a drink which is secured onto the side of the frame. The prototype of all these components were constructed out of card, plastic and metal wire. The frame was designed to replace the need for a plastic bag, by ensuring all the components can be carried in one hand comfortably.

Additionally important items such as keys or ID can be clipped on the frame to ensure customers don't forget the box at home.

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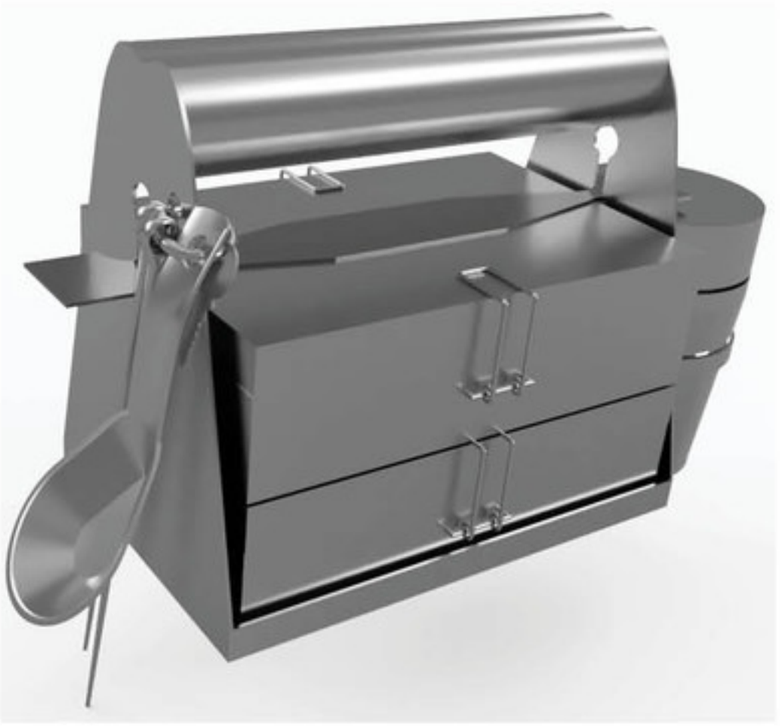
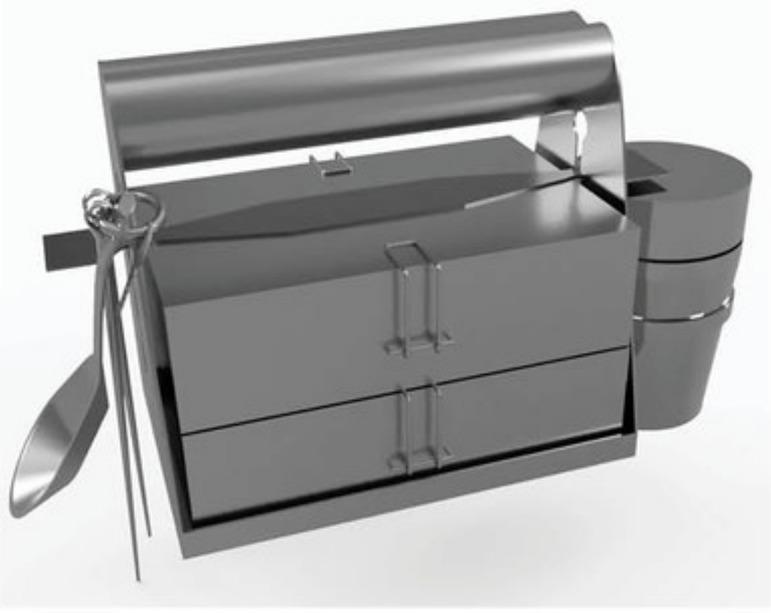
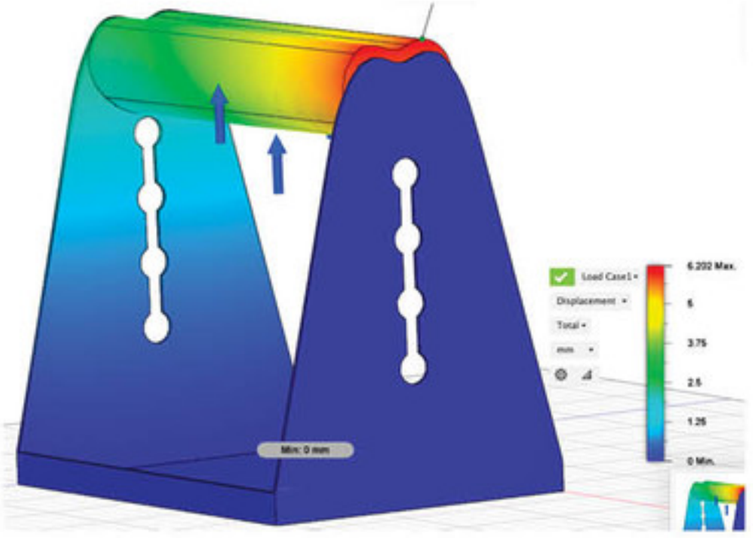
CAD rendering created in Autodesk Fusion 360.





FEA testing performed in Autodesk Fusion 360.




# REUSABLE TAKE OUT BOX

The final product will be constructed out of stainless steel for its strength, corrosion resistance and lifecycle cost. I am currently refining the design with filleted corners for cleanability and ergonomics as well as metal manufacturing.

FEA testing was used to test the components strength. There was limited deformation when normal load amounts were applied.

I am preparing to pitch this idea to the Tai Hing team in the coming months.

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