

This assessment is based on a now-expired version of the achievement standard and may not accurately reflect the content and practice of external assessments developed for 2024 onwards.
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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 1 Design and Visual Communication RAS 2023

**92002 Develop product or spatial design ideas
informed by the consideration of people**

EXEMPLAR

Merit

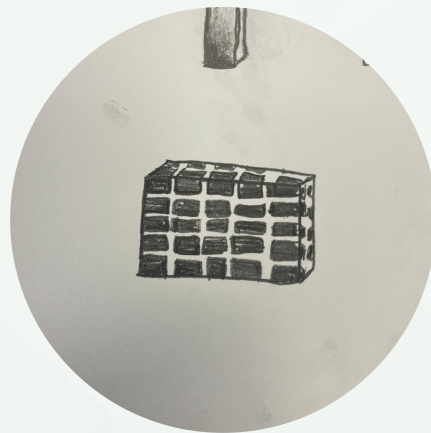
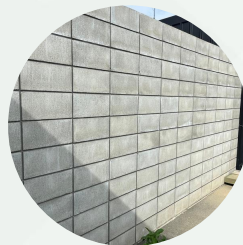
TOTAL 05



My Chosen Location

Fleetwood Waiheke Island

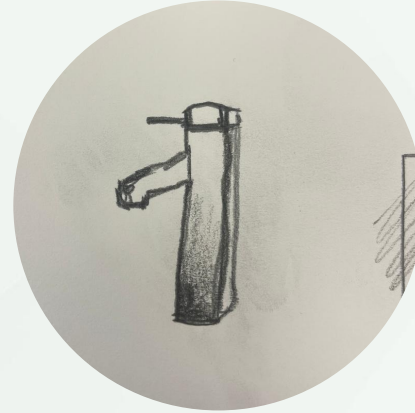
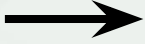
Located in the rural parts of Waiheke Island, Fleetwood is a bespoke accommodation as well as a family batch, and my location where I will put my Final chair design.



Preliminary

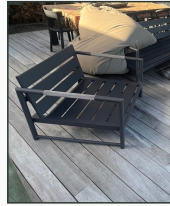
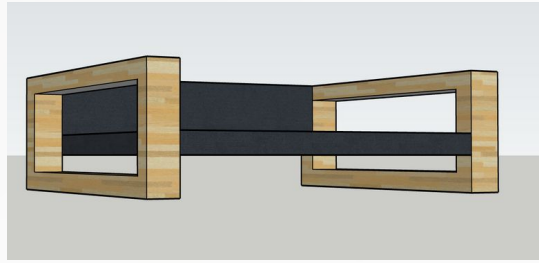
Forms Pt1

Preliminary Forms Pt2



Initial Idea 1

This chair is found in the same house as my final chair location, the use of matte black metal and the wood accents materials was the main inspiration for this first initial idea.

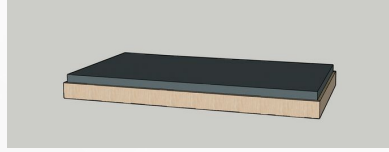


Colour Paltette

Using Wood From withinn
my chosen location
as well as matte from
the sink tap helped aspire
my chosen materials for
all my initial designs



Initial

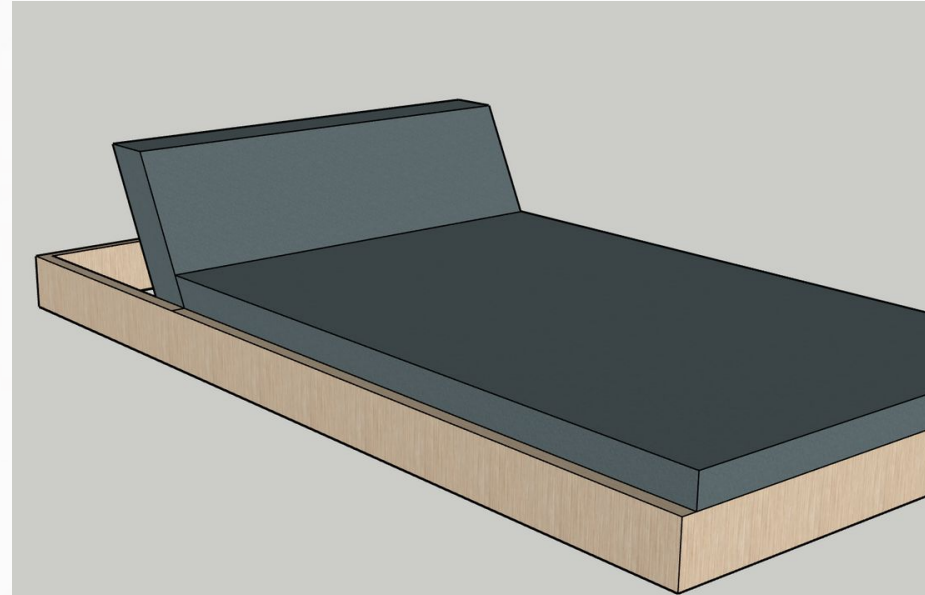


Idea 2

This is an outdoor Bed/lounge chair, This multifunctional chair provides many purposes, the chair uses outdoor cushions

Link to preliminary forms:

The wood pillars next to the bath



Initial Idea 3

Taking inspiration from the Gazzda Dedo lounge chair I created this chair with a comedically back rest. This Gazzda chair can be found in my chosen location therefore reason for my inspiration.



Inspiration

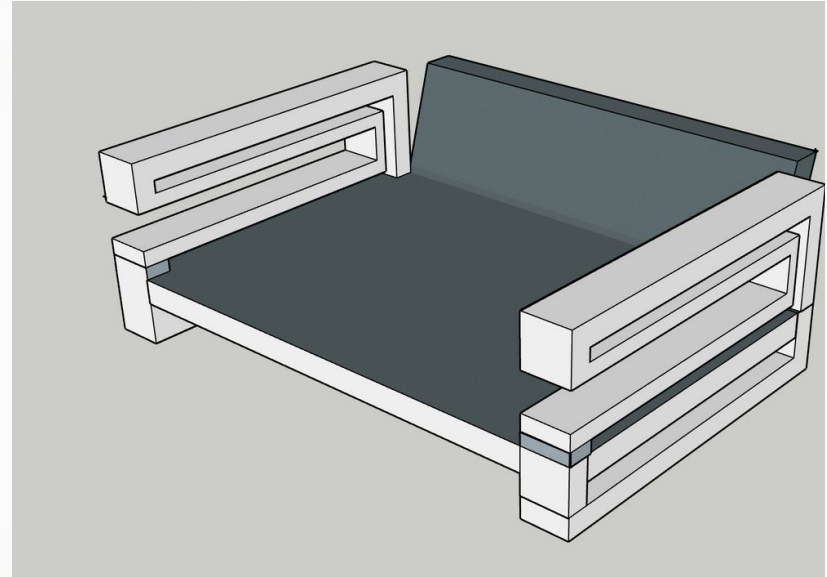
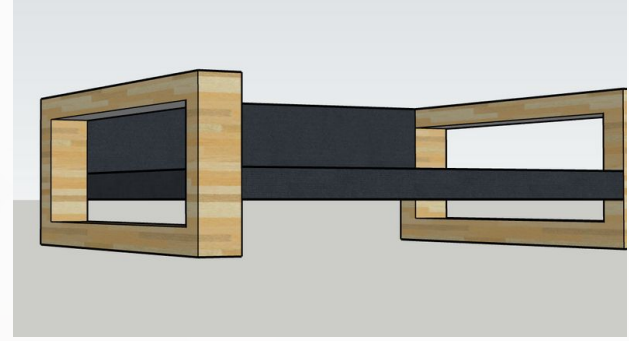


Developing Overall Form

Why?

These sharp corners in the armrest not only are for looks but also can provide stability due to more holding points. Taking inspiration from my surroundings like the sharp corners and straight lines to finish off my chair's overall form.

Taking Inspiration for my initial idea I have started to develop the arm rests for my final design. I have chosen initial idea 1 as it fits most at my chosen location with shape and materials.



Materials



Timber

I wanted to use timber for two main reasons. The rest of the property you can see timber implemented everywhere so to blend in I wanted my chair to be built out of timber. Timber is also a more sustainable material to use compared to other woods when mass producing a product.



Black Cushion

For the comfort of the seat I have chosen to use an outside black cushion for my chair as well as comfortability having this cushion be water proof ensures the practicability as you do not have to bring the cushion in each time it rains unlike chairs with non water proof cushion.



Black Metal

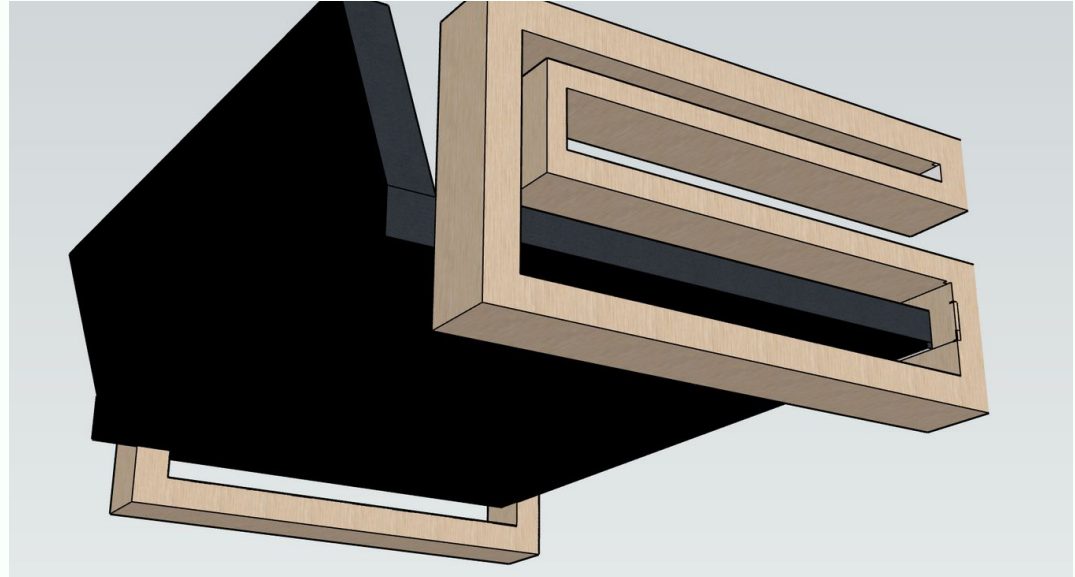
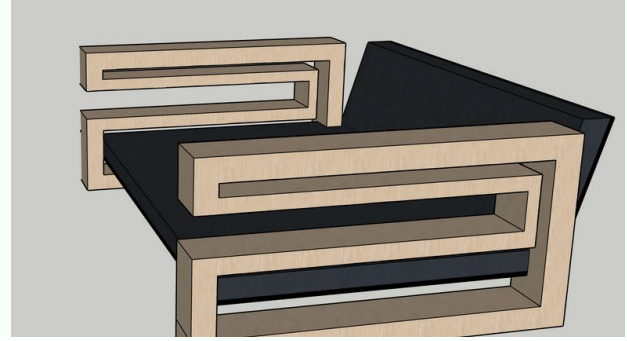
Black Metal will be the base of my chair proving support as well as looks for my chair. As the the rest of the property is consistently made of black metal I knew I wanted to include this material within my chair.

Developing Overall Form pt 2

To make the seat softer and more comfortable to sit on I have had to add a metal base in order to hold up the cushion. This will be a black metal highlighting the black metal used to build the houses on the property

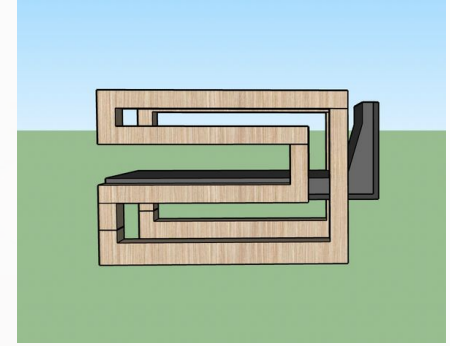
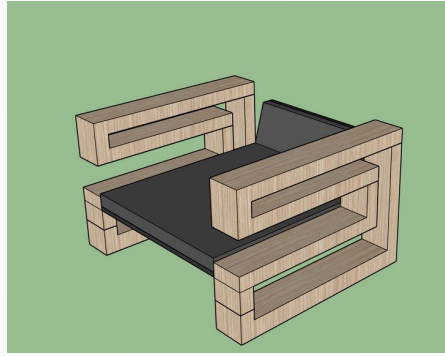
Finally adding my materials to the build you can start to see the chair nearing its final form

Adding Materials



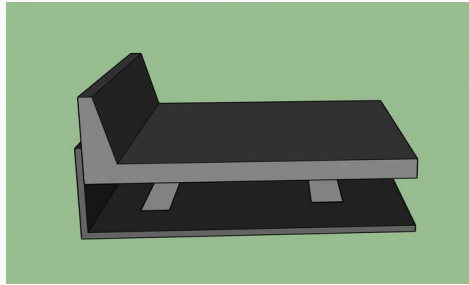
Developing Backrest

After getting close to my final model I realized my backrest was too short so I expanded the height to ensure the ergonomics were still good. This meant not just making the backrest longer but changing the angle half way up to make it more practical and comfortable

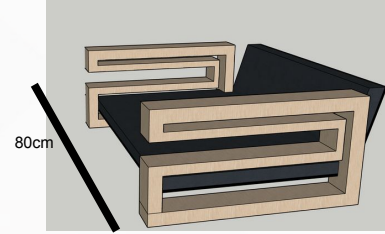
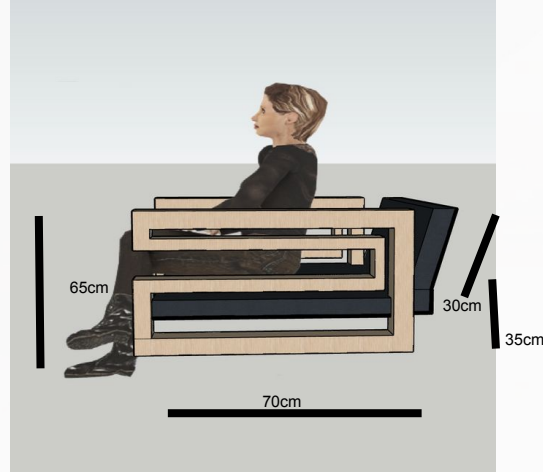
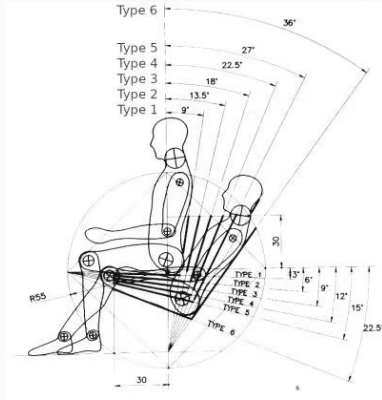


Putting Together

To connect my cushion to metal plate I'm using to big velcro strip so in case damaged such as water damage it can be easily removed. Therefore this seat can be comfortable and practice



Ergonomics & Measurements



The ergonomics of a chair is the most important part of a chair so figuring out the perfect angle for the back rest was very important for the overall design of my chair as well as comfort.

Construction

Details

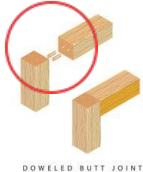
Screws

- To hold metal together
- Reusable therefore environmentally friendly

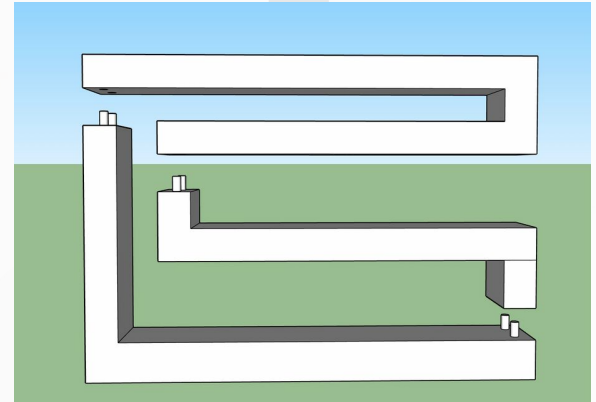
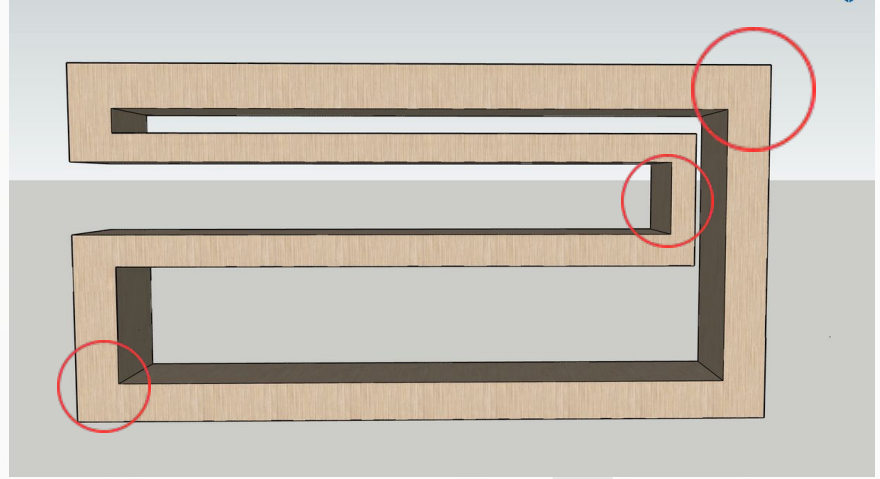
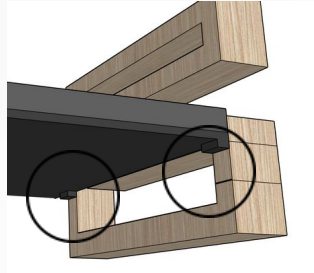


Doweled Butt Joint

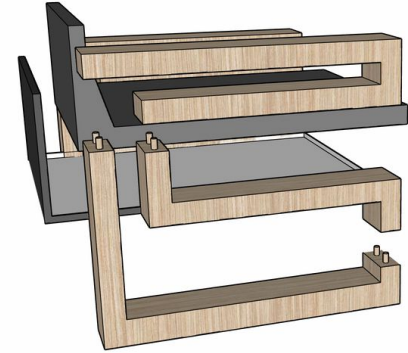
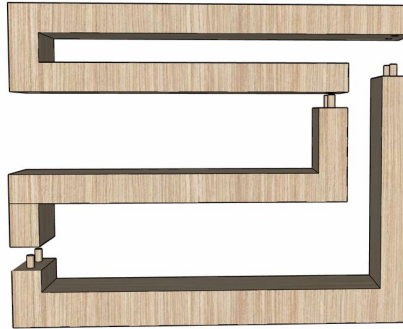
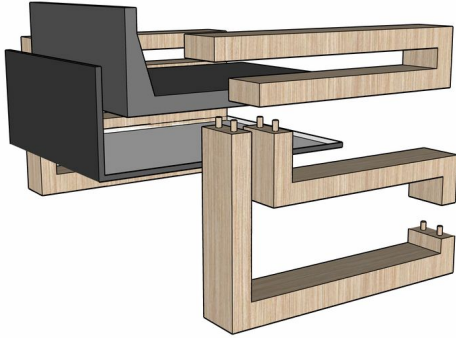
- This joint will be used to construct the arm rest and put together the wood.



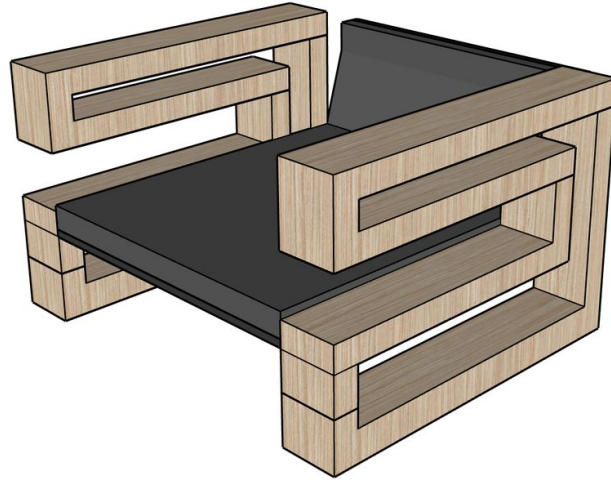
DOWELED BUTT JOINT



Exploded Forms



Final



Merit

Subject: Design and Visual Communication

Standard: 92002

Total score: 05

| Grade score | Marker commentary |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M5 | <p>This submission involves designing an outdoor chair for a bach on Waiheke Island. The context is clearly shown. Three ideas are shown visually with notes explaining a connection to the context. The development pages show some change to both the armrests and the seat. The changes are related to improving the experience for people. However, the visual relating to ergonomic fit shows that the design is not well suited to human measurements. The assembly of the armrest parts of the seat have been shown in detail. However, the way the seat connects into the arms is not considered.</p> <p>To shift to Excellence, this submission would need to show more progression that improves the ergonomic qualities of the seat as well as showing details of how the seat is integrated into the whole design.</p> |

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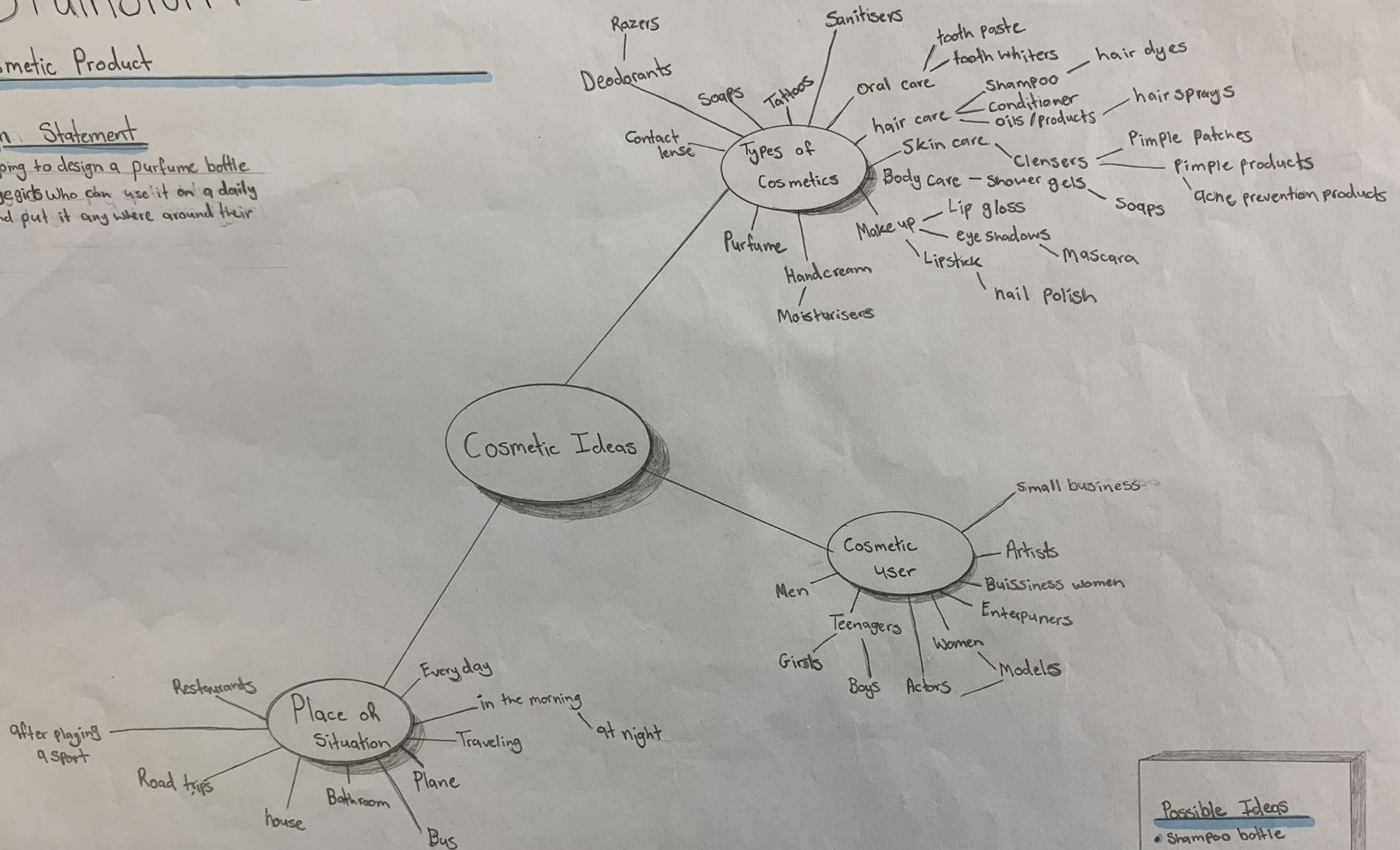
TOTAL 05

Brainstorm Ideas

Cosmetic Product

Design Statement

I am going to design a perfume bottle for teenage girls who can use it on a daily basis and put it anywhere around their house

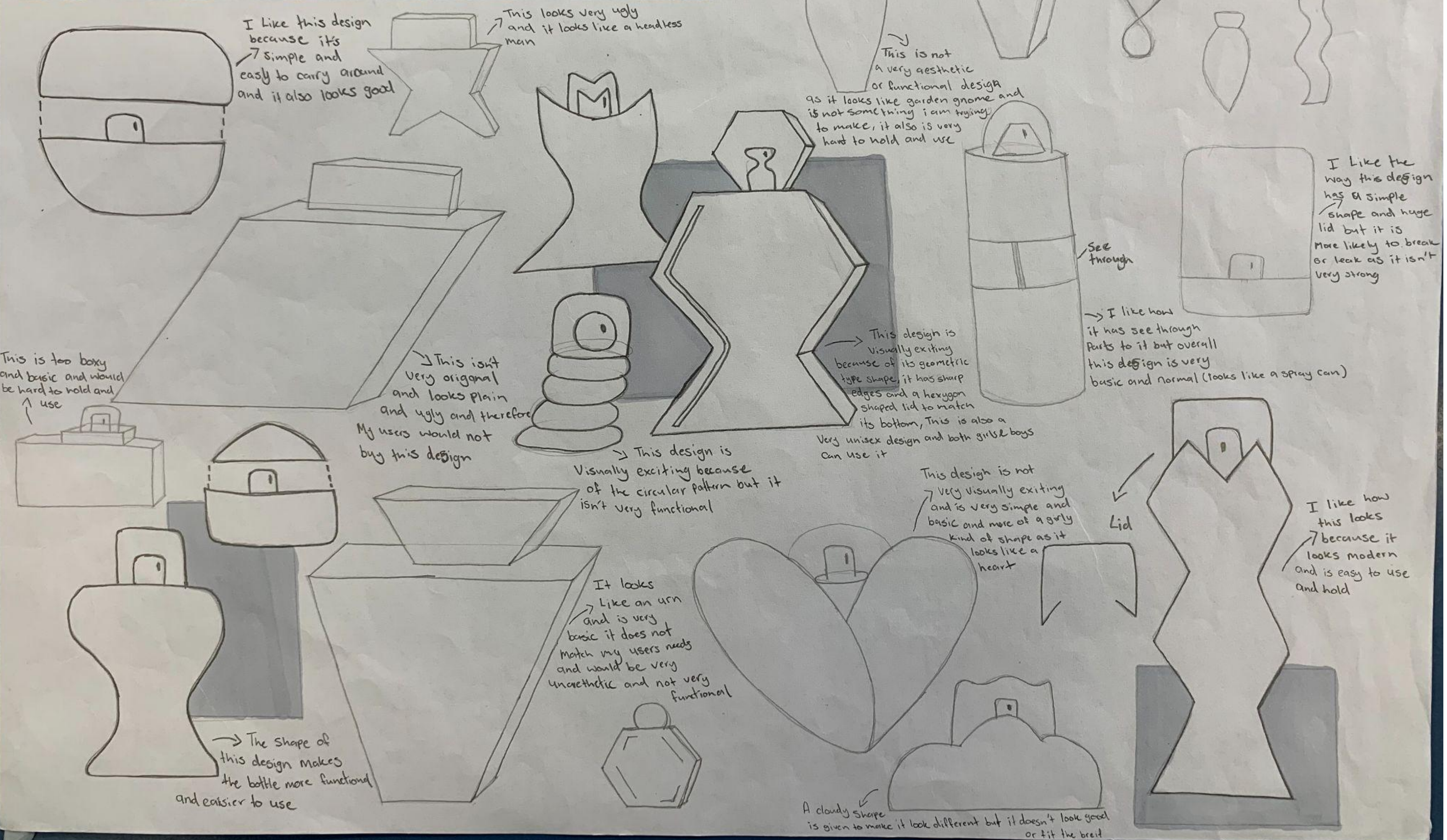


Possible Ideas

- Shampoo bottle
- Perfume bottle
- lip gloss
- Moisturiser bottle

Initial Ideas

Perfume bottle ideas



Developing Ideas

Perfume bottle ideas, Aesthetics of the bottle & see through cutout / Lids

I Like the tall curvy kind of design tho it is not very stable

The stability of this product is improved by a flat bottom

I Like the see through aspect to the design as it makes the design more aesthetically pleasing

I Like the sharp curvaceous looks on both of the designs it makes it look more modern and a bit different, The dips in makes the bottle design more functional and easier to use and hold

I don't like how the cut out is too big and

I like the shape of the lid it matches with the body of the bottle and makes it visually appealing, the spray works by pressing down on it

I don't like how small the lid is, also don't like how round it is

This looks very plain and boring

The big cut out looks good but if someone drops the bottle it will break easily and therefore isn't very functional

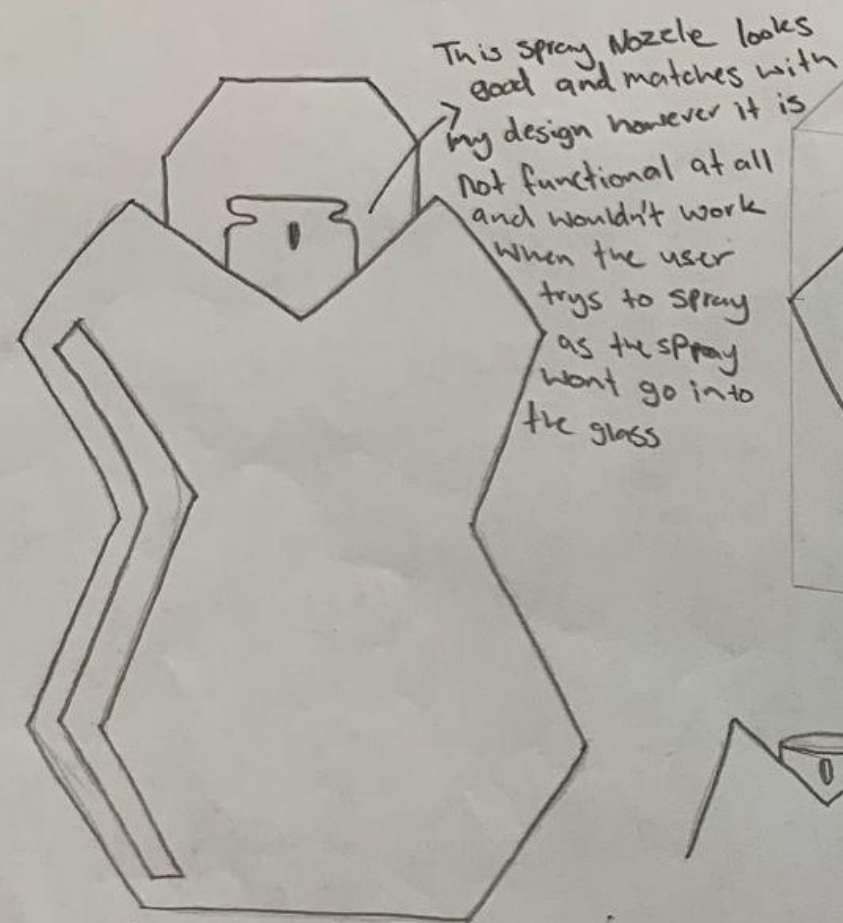
don't like how this lid is rounded and small but I like how it looks alone

I Like the shape of the bottle and the way it has a see through cut out that matches the bottles shape, but the lid wouldn't be very functional and would break easily, The geometric shape of the bottle makes it look expensive and therefore would be fit for my users, The body will have a smooth texture making it easy to grip

I like the shape of the lid & how it looks on the bottle

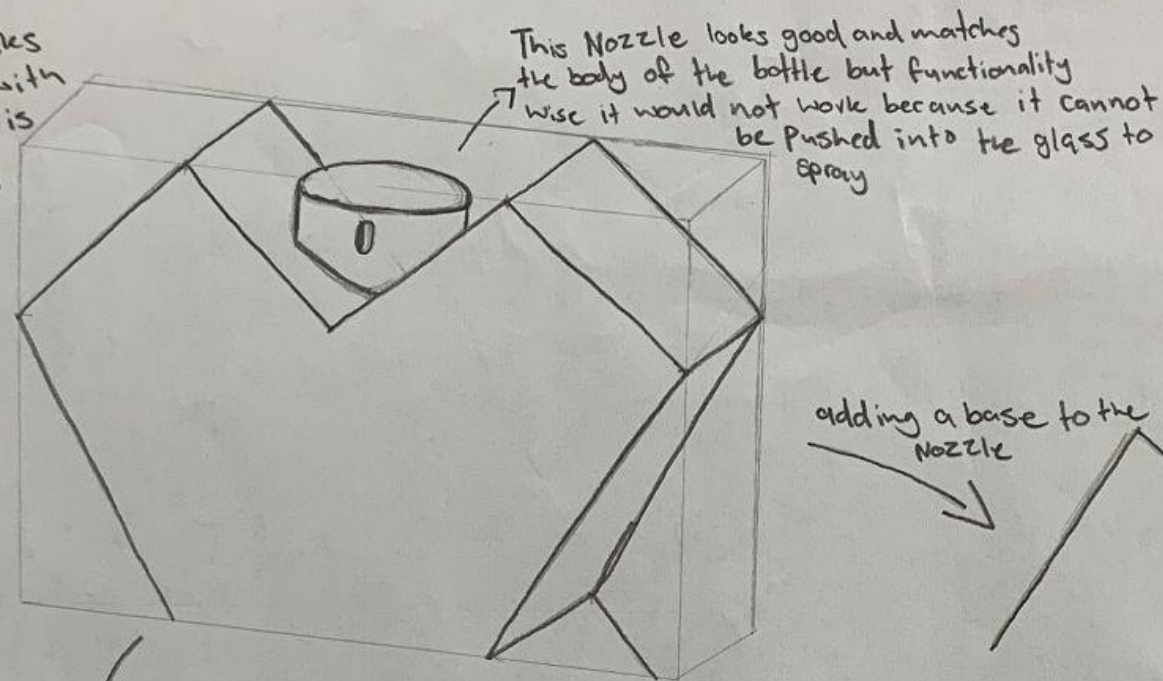
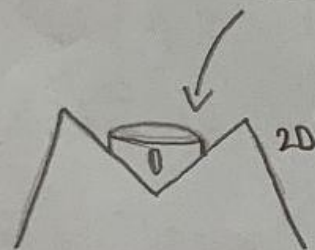
Developing Ideas #2

Perfume bottle ideas, 3d and 2d look and Spray Nozzle



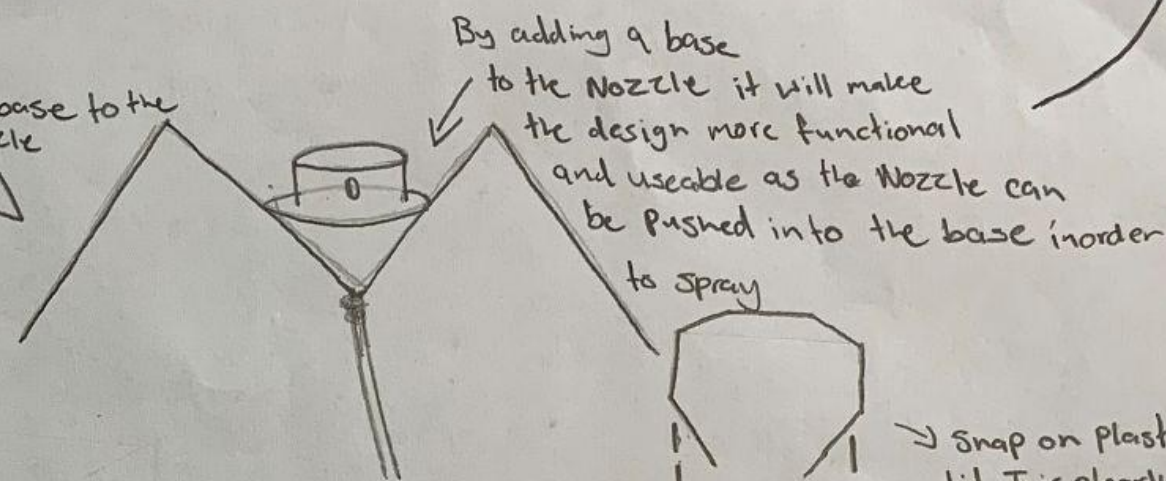
This spray Nozzle looks good and matches with my design however it is not functional at all and wouldn't work when the user tries to spray as the spray won't go into the glass

The window in the body will be glass while the rest of the body will be tinted glass to give the heavy feel making the product feel and look more expensive and attract my intended users



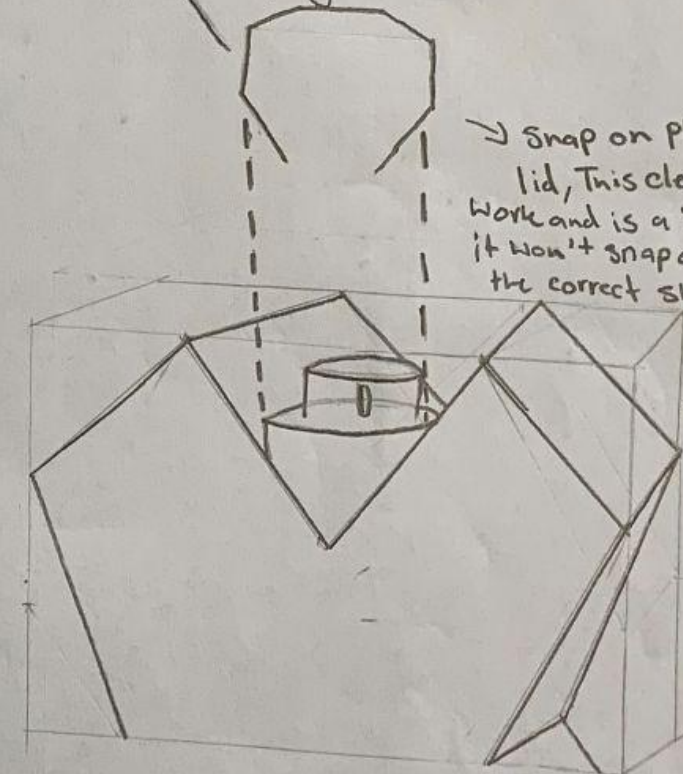
This Nozzle looks good and matches the body of the bottle but functionality wise it would not work because it cannot be pushed into the glass to spray

adding a base to the nozzle



By adding a base to the Nozzle it will make the design more functional and useable as the Nozzle can be pushed into the base in order to spray

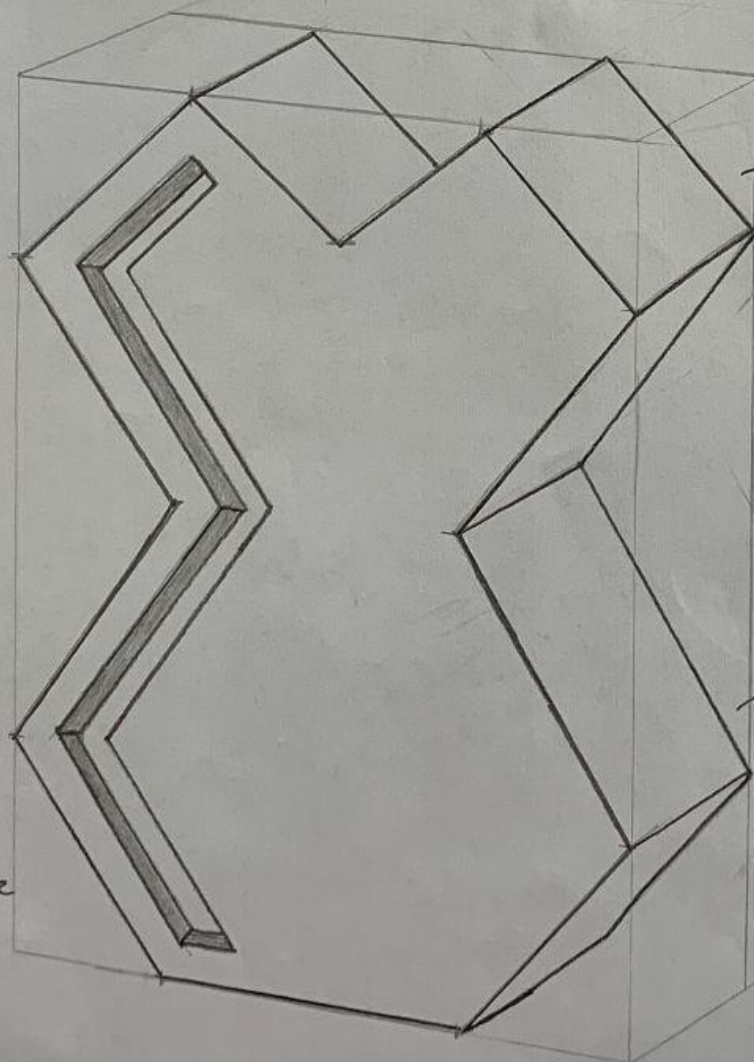
→ Snap on plastic lid, This clearly wouldn't work and is a bad idea as it won't snap on and isn't the correct shape, but im going to try it out in my next page



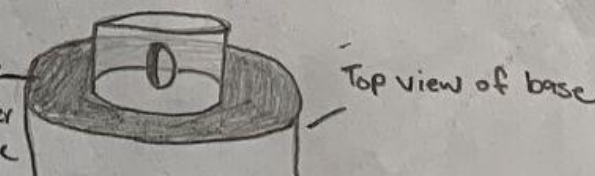
This is too thick for the user to hold and wouldn't be able to grip it properly,

The body of the bottle will be thick tinted glass and

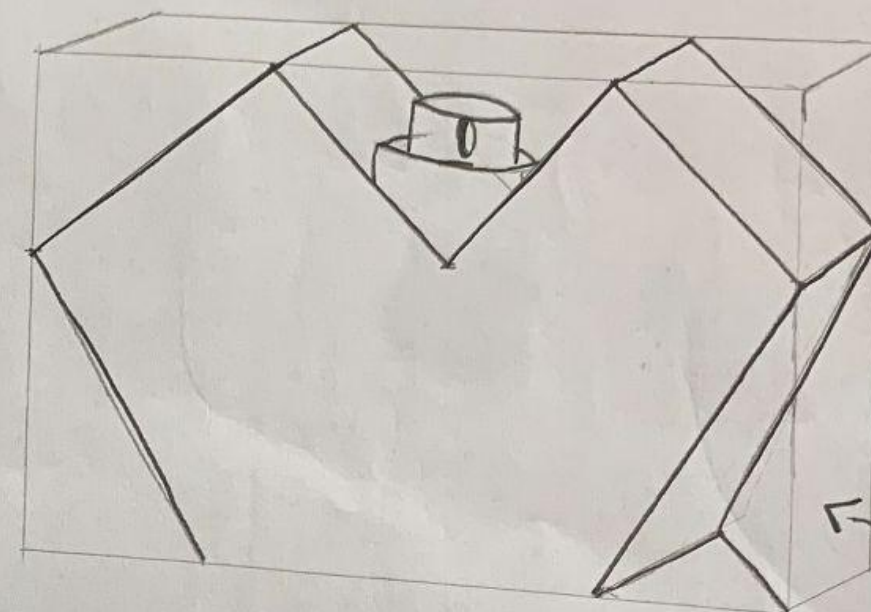
The window has thick heavy glass which is see through



There will be a hole under the spray nozzle allowing it to go in when pressed, the surrounding will be solid plastic



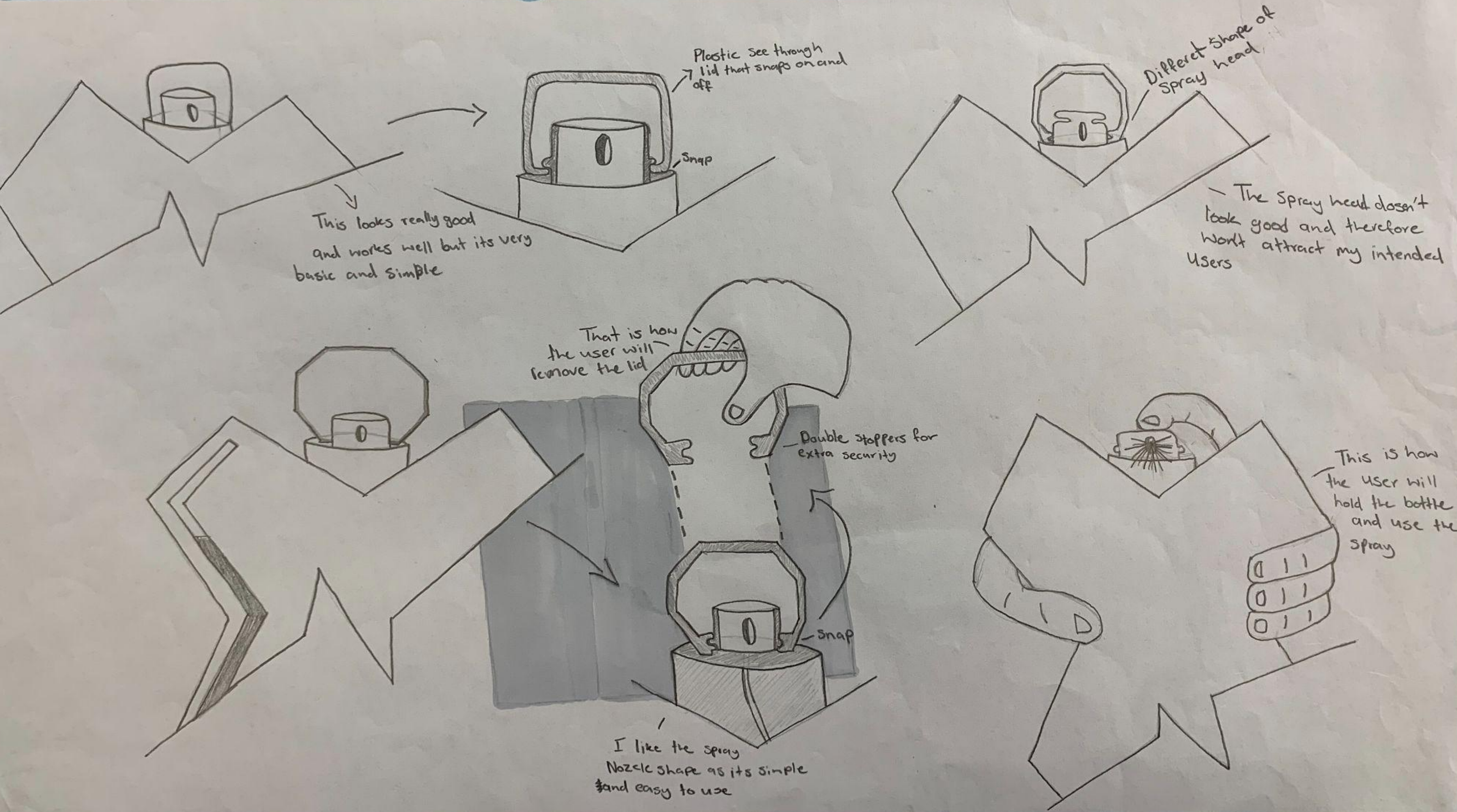
Top view of base



3D Version with base to Nozzle

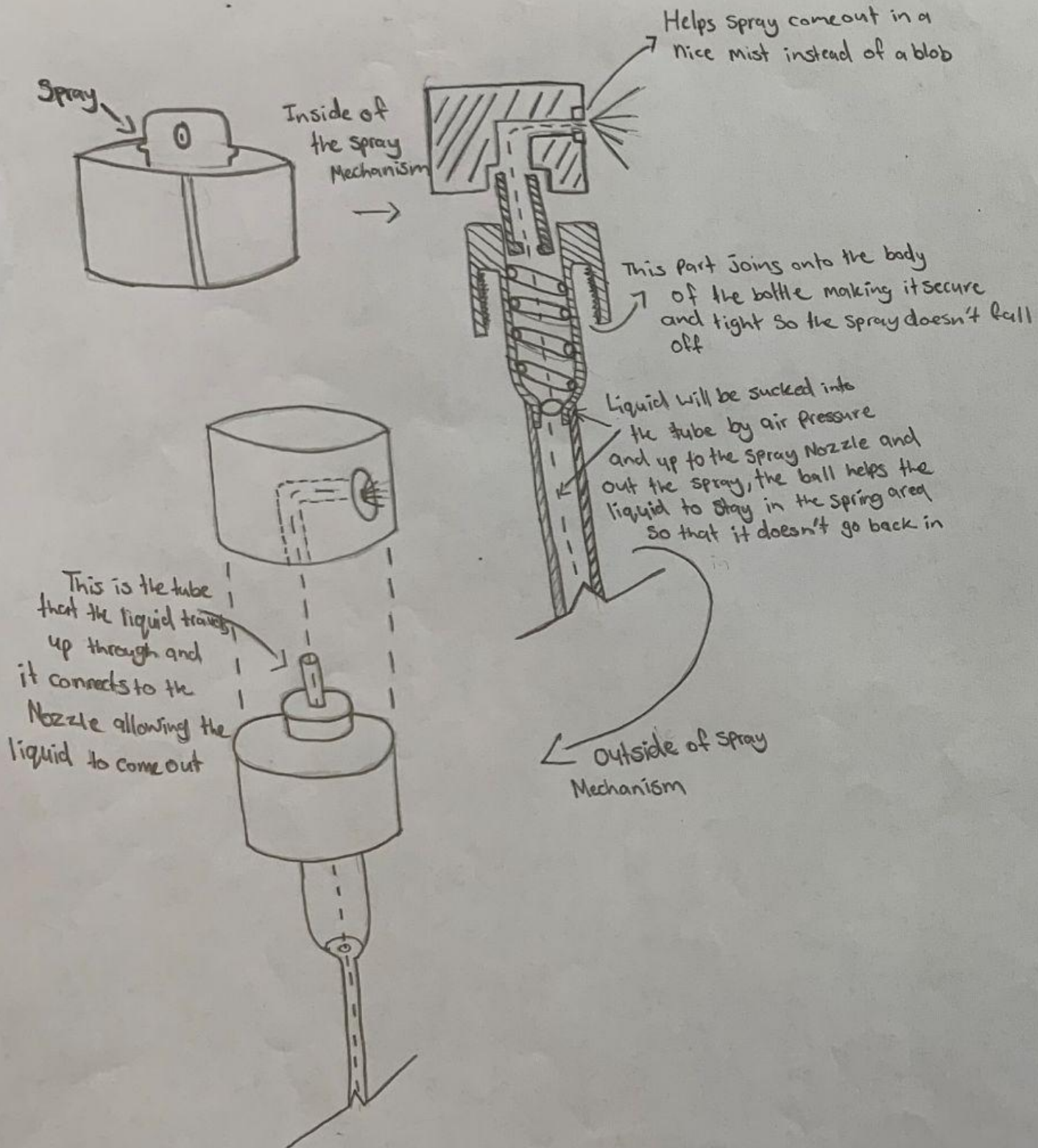
Developing Ideas #3

Perfume bottle ideas, lid development

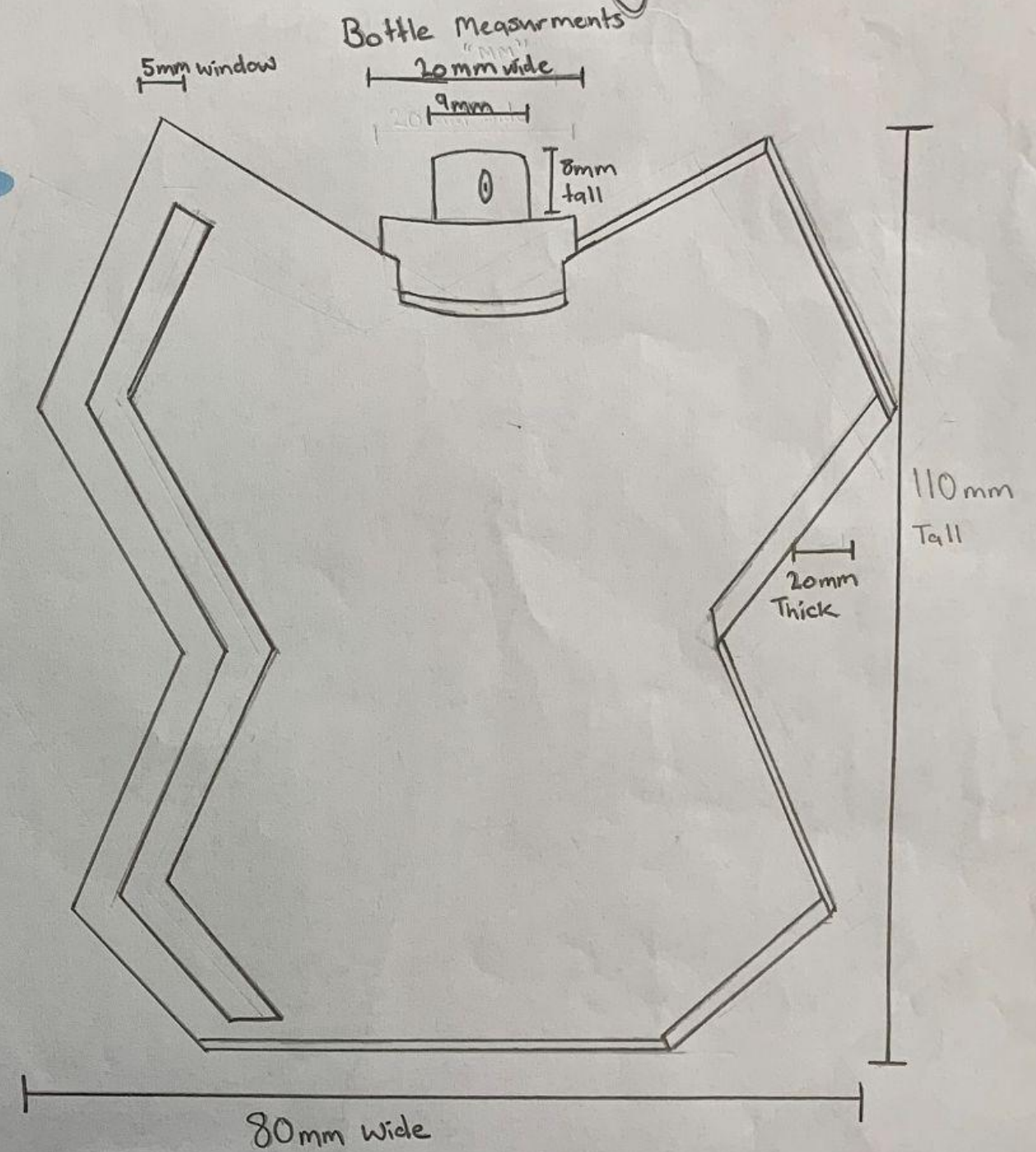


Developing Ideas #4

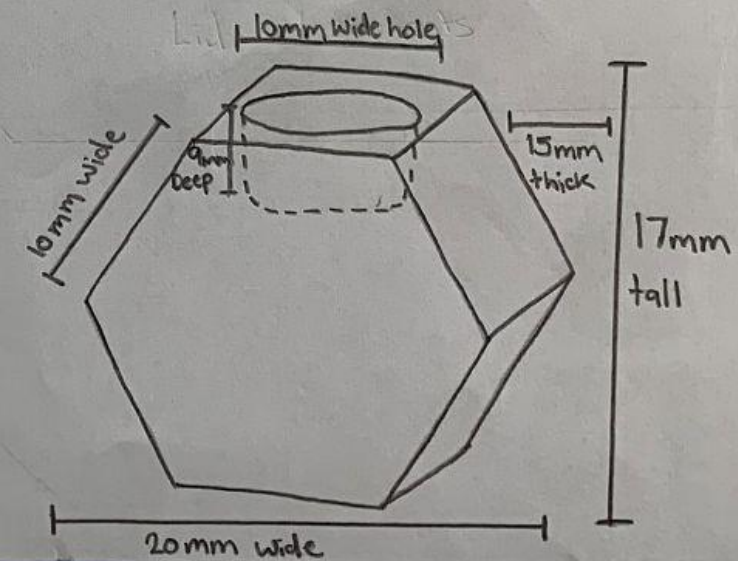
Perfume bottle Ideas, Spray Mechanism and bottle Sizing



Sizing



Lid Measurements

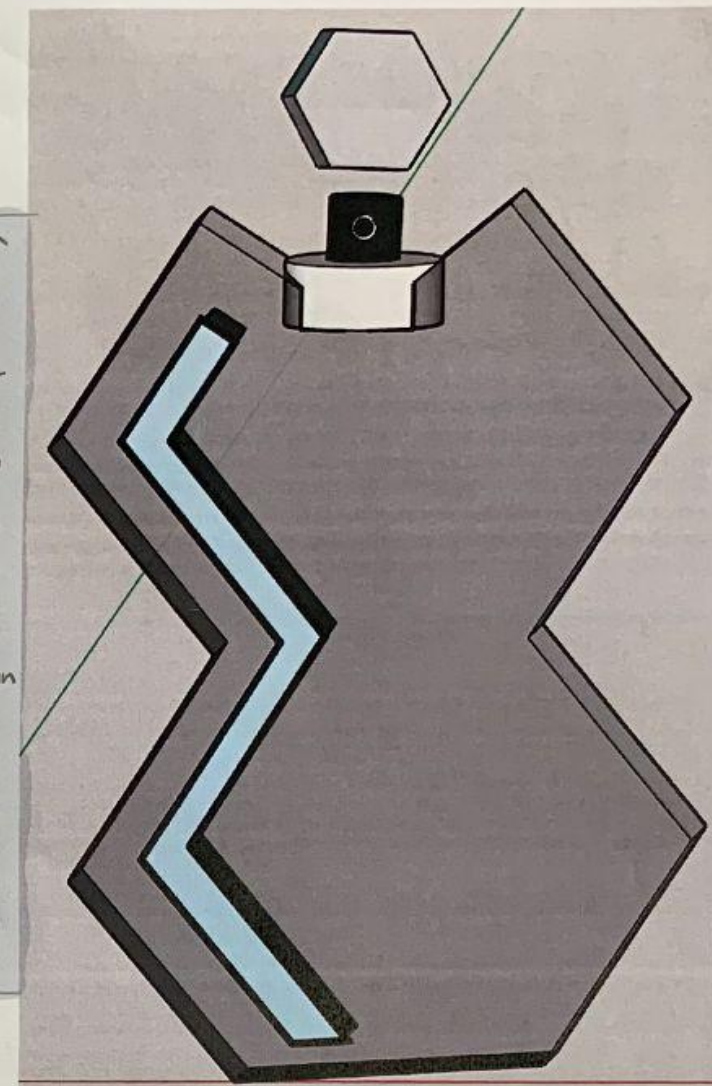


Materials and Colour

Exterior of my Perfume bottle (Aesthetics)

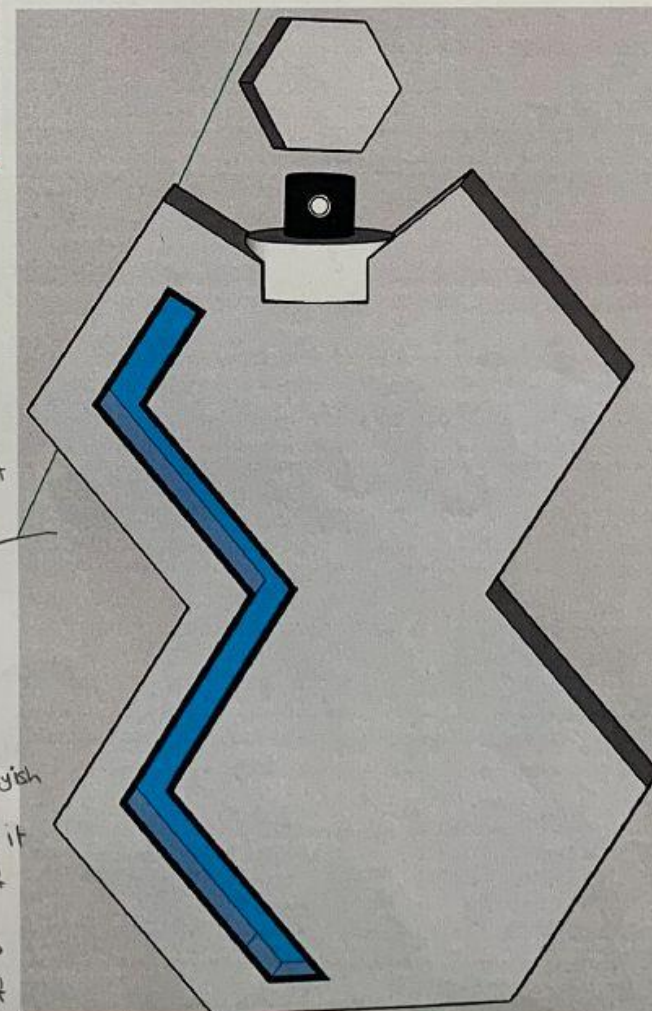


This design has a grey plastic lid with a black plastic spray head and a white plastic base. The body of the bottle is 5mm thick glass that is tinted to look dark grey, this gives my bottle a heavy feel and a modern look. The window of the bottle is normal transparent glass only 2mm thick allowing the user to clearly see through the glass. The heavy feel and glass texture will give my design a rich and modern look attracting my users. This bottle is the best out of all of them because the body has a darker grey tint, it's not too black and not too light making it just right.

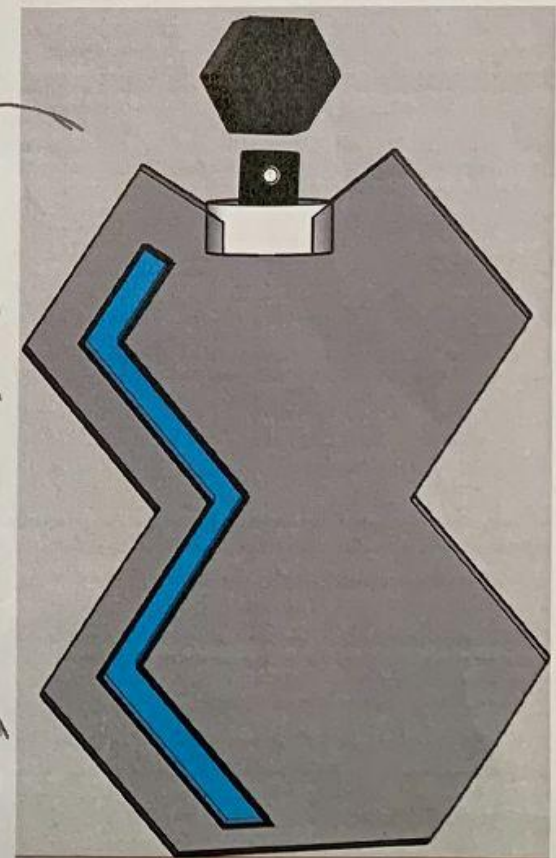


This design has a grey plastic lid and a black plastic spray nozzle with a white plastic base. The body of the bottle is black plastic with a small area of glass for the window, the plastic makes my bottle very cheap and ugly and therefore won't attract my end users. The spray also matches with the bottle making it look very bad.

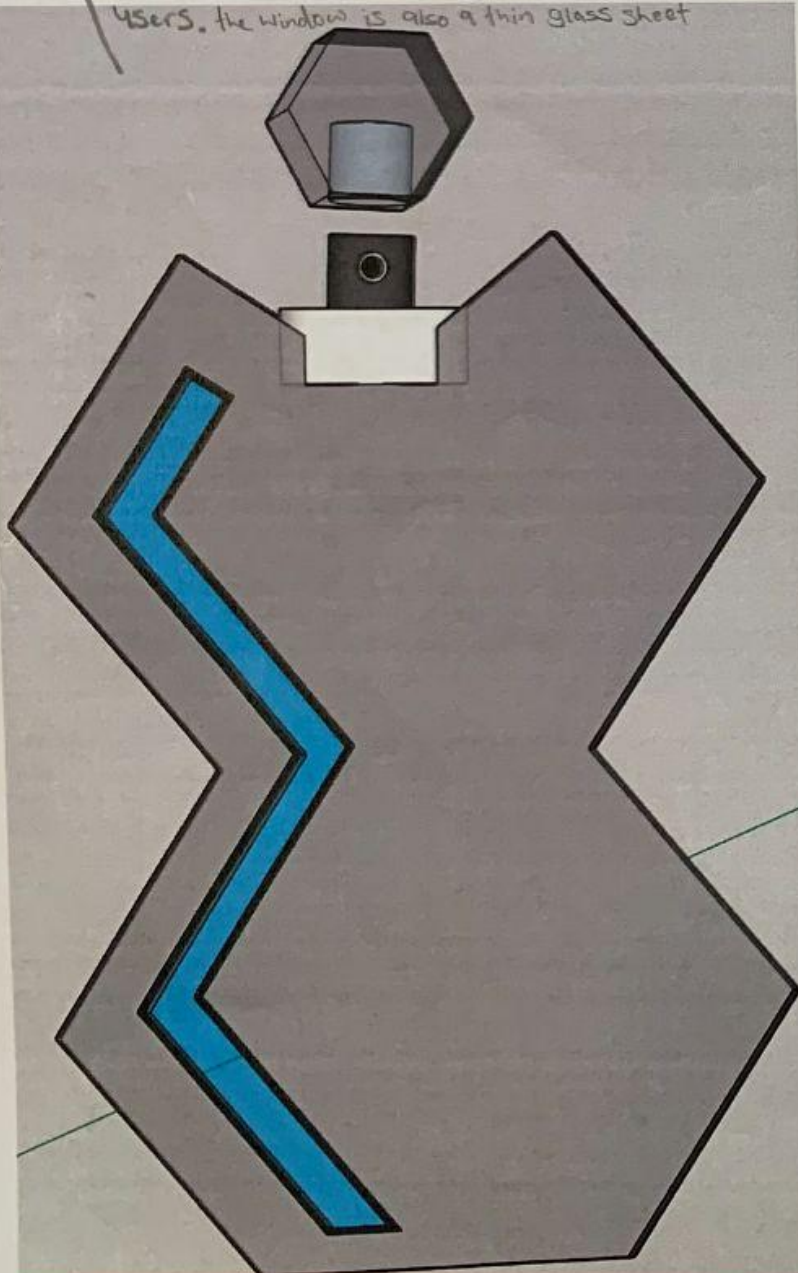
This design has a grey plastic lid with a black plastic spray nozzle and a white plastic base, the body of the bottle is light tinted glass giving it a greyish look, the window on the bottle is also glass but it is see-through allowing the user to see the level of liquid in the bottle. This bottle looks nice and has a matching body and lid which might attract some of my end users. The glass also gives my bottle a rich look and heavy feeling making it look modern and expensive.



This design has a black plastic lid and a black plastic spray head with a white plastic base. The body of my bottle is see-through glass (just a bit tinted). The glass will be 5mm thick giving it a heavy feel. The window on my design is also glass, it is thinner than the body and more see-through. This is a good design and looks very aesthetic and modern which will help me get my end users.

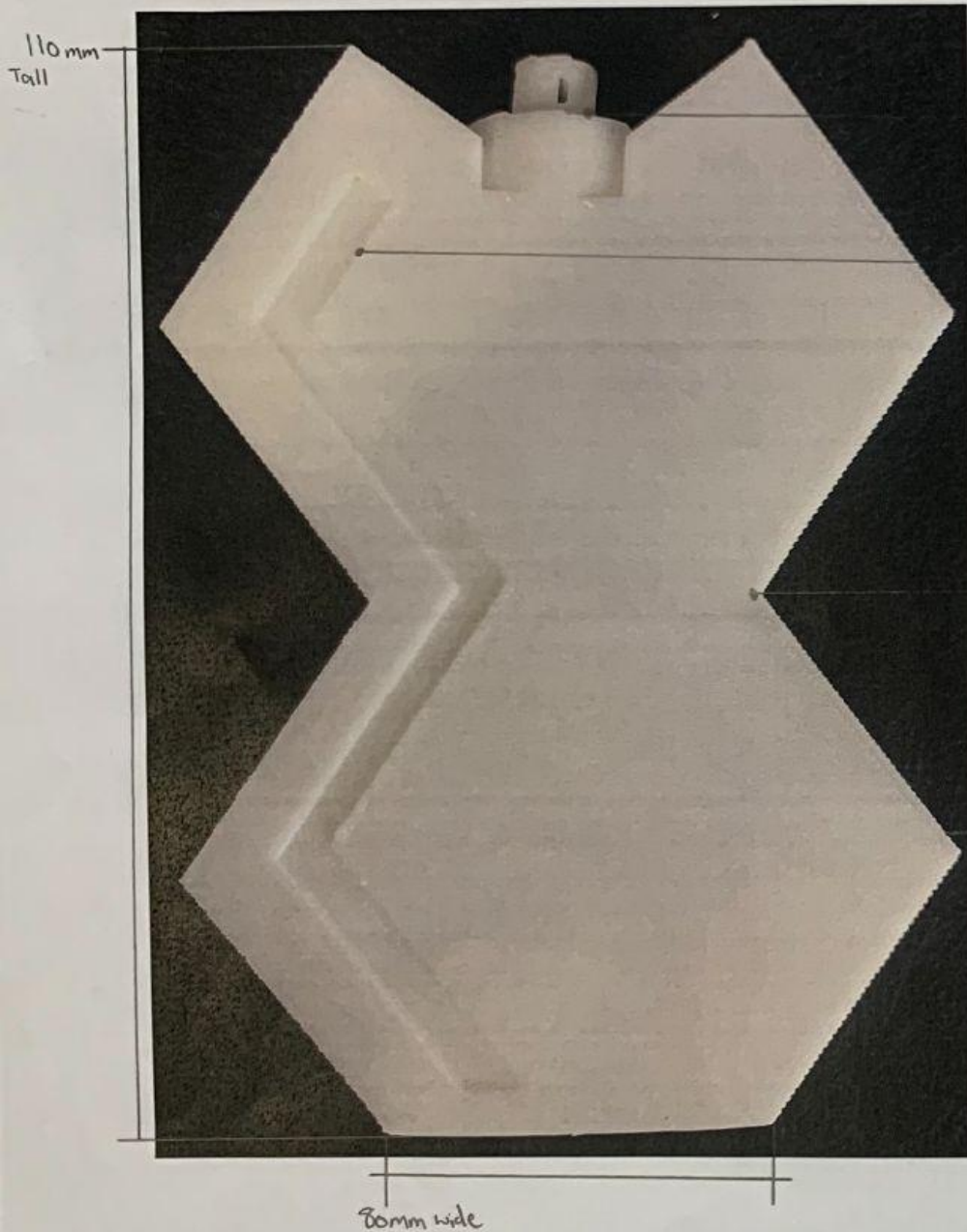


This design has a transparent lid with a black spray nozzle and a white base. The body of the bottle is heavy glass that is kind of tinted so you can't see the inside, the base and nozzle are plastic and the lid is glass. The glass gives the bottle heaviness making it feel more expensive. This isn't the best design because the glass lid looks very ugly and won't attract my users. The window is also a thin glass sheet.



3D Printed Model

Sketch up design



The neck of the bottle has a indent where the spray and body of the bottle join making the base of the spray visible.

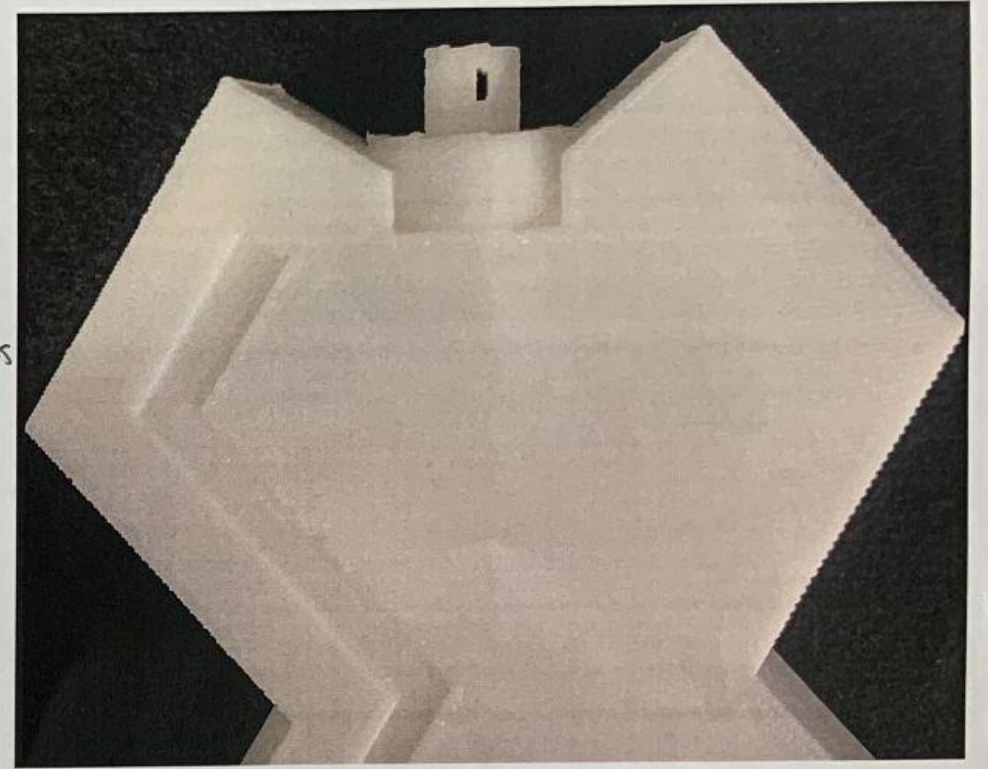
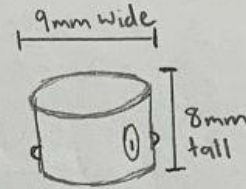
This is a window that shows the level of liquid left in the bottle. But the window is a bit too narrow making it harder to see, so I will make the window 2mm wider making it 7mm wide intotal.

This indent helps the user to hold the bottle, it gives grip and comfort so the user can rest their fingers on it.

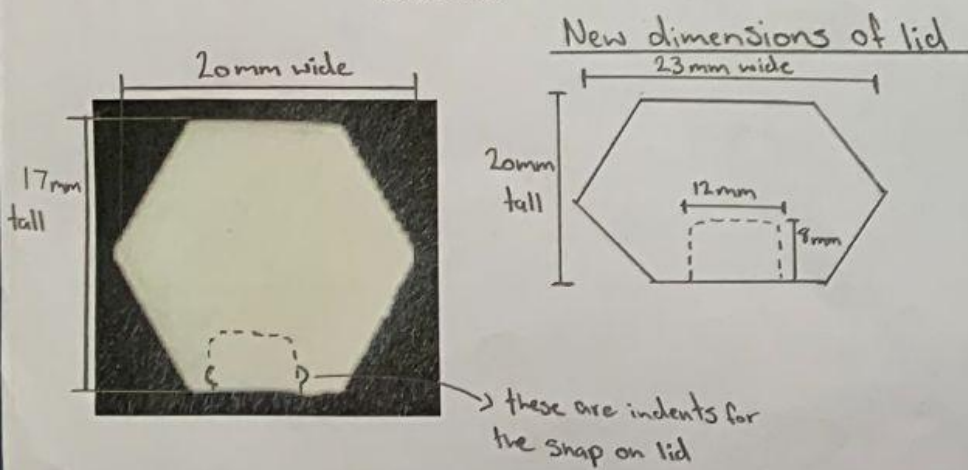
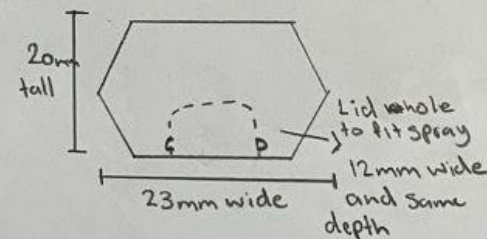
The length and width of this bottle is just right as it fits perfectly fine into the users palm, though some users may have bigger palms it is still easy and comfy to hold.

This is the top half of my design showing the spray and how it connects to the body of the bottle.

Spray head dimensions



When I 3D printed my design the lid was too small and therefore didn't fit onto the head of the spray properly, I will need to make my lid wider and taller.



The thickness of my design is just right as it is comfortable to hold and use while holding, it can also stand still on its own without falling and breaking.

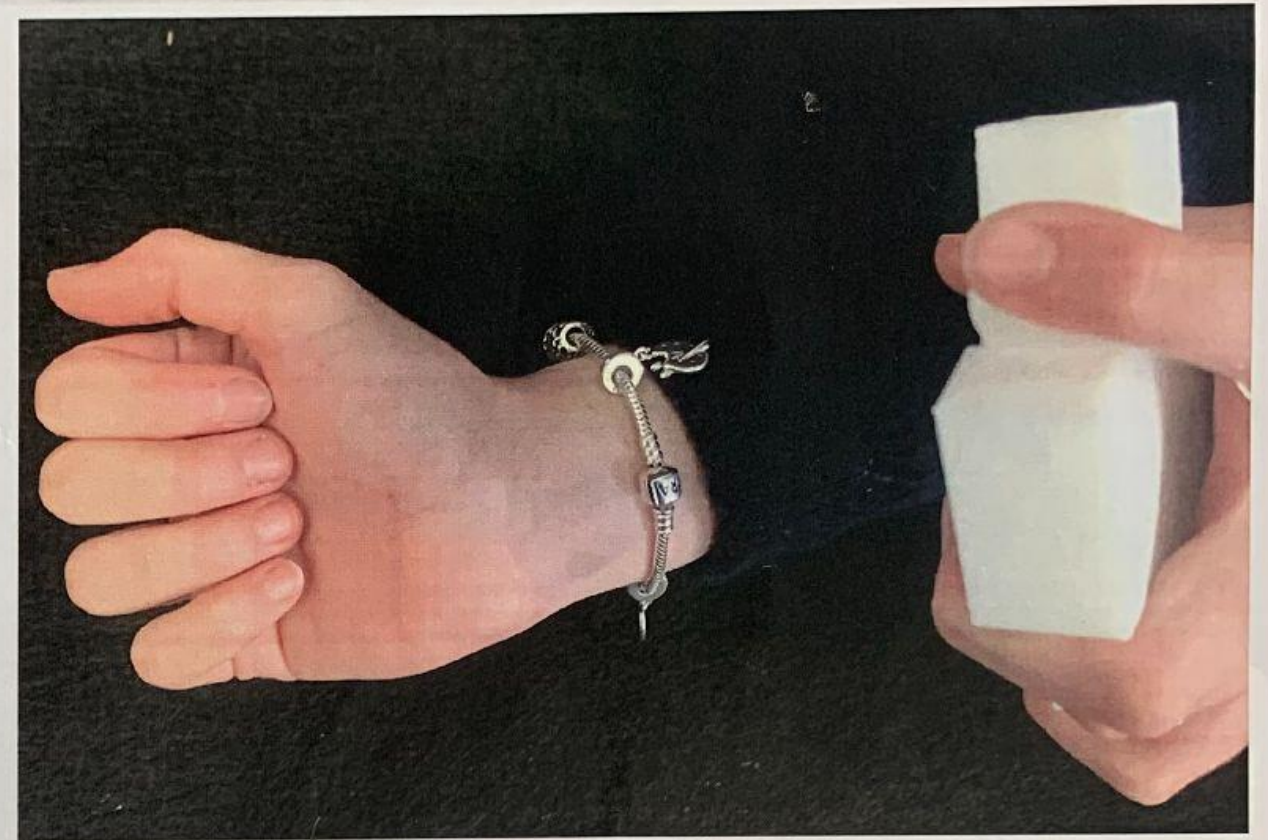
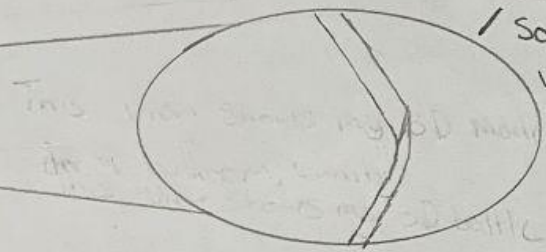
Modelling and Testing

User interaction and Bottle placement



This shows the user holding my bottle, it fits well into their palm and the spray is easy to reach with one finger making it more comfortable and easier to use, But the sharp pointy edges dig into the users palm while they hold the bottle, I can fix this by rounding off the edges to make it more comfy to use

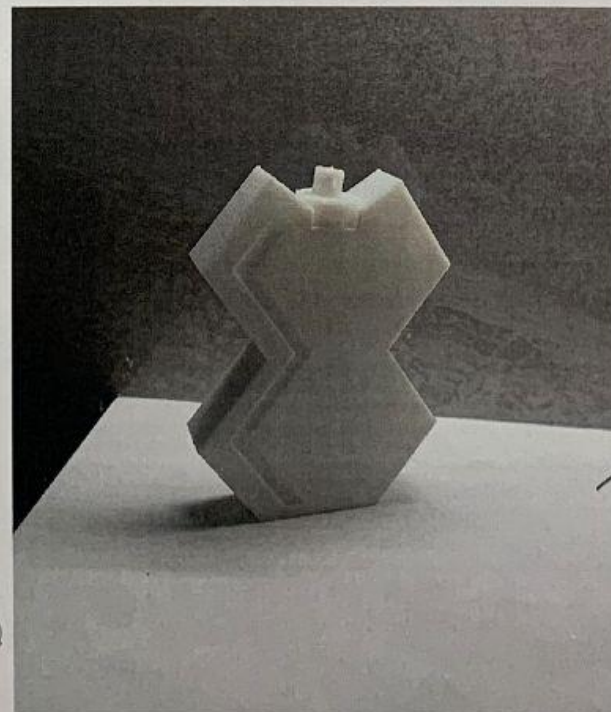
Round all my edges by 2mm / So it is easy for user to hold



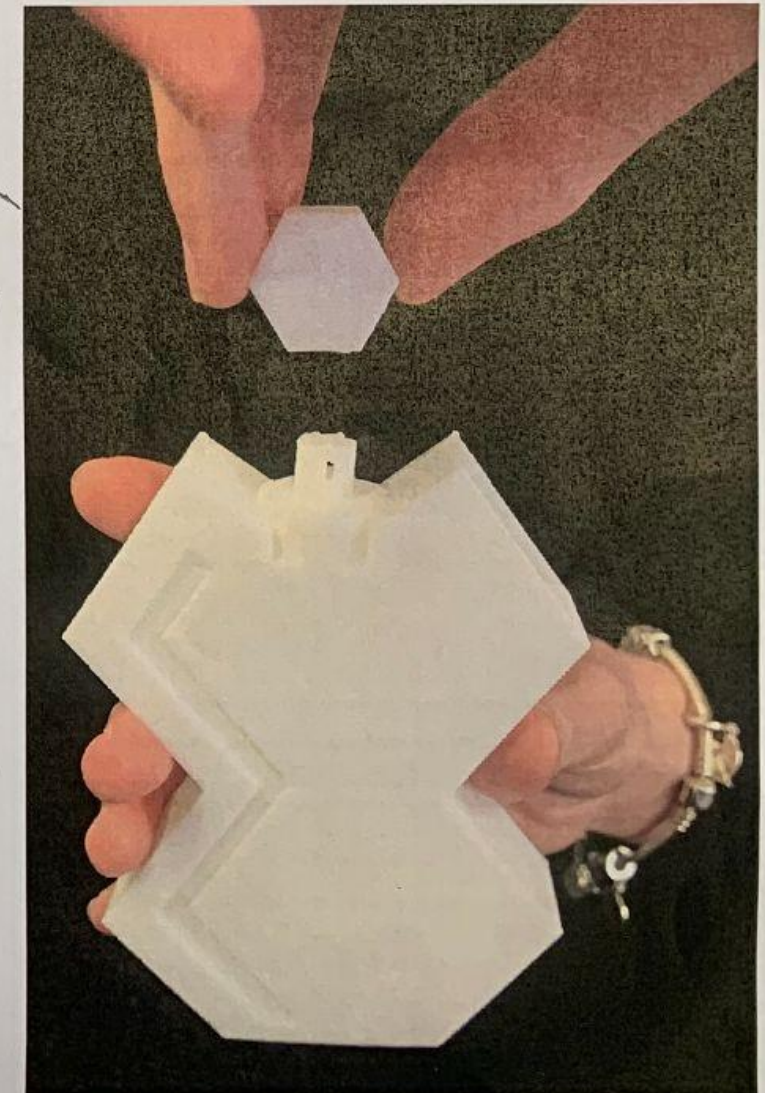
This is showing the user spraying the perfume on her wrist, showing the bottle is easy to hold while using



This view shows my 3D Model in a Wardrobe Cabinet alongside a few more bottles, It shows that the bottle is perfect size for a cabinet and fits in correctly, its not too small or not too big. It also shows that the bottle can be used daily and be placed around the house



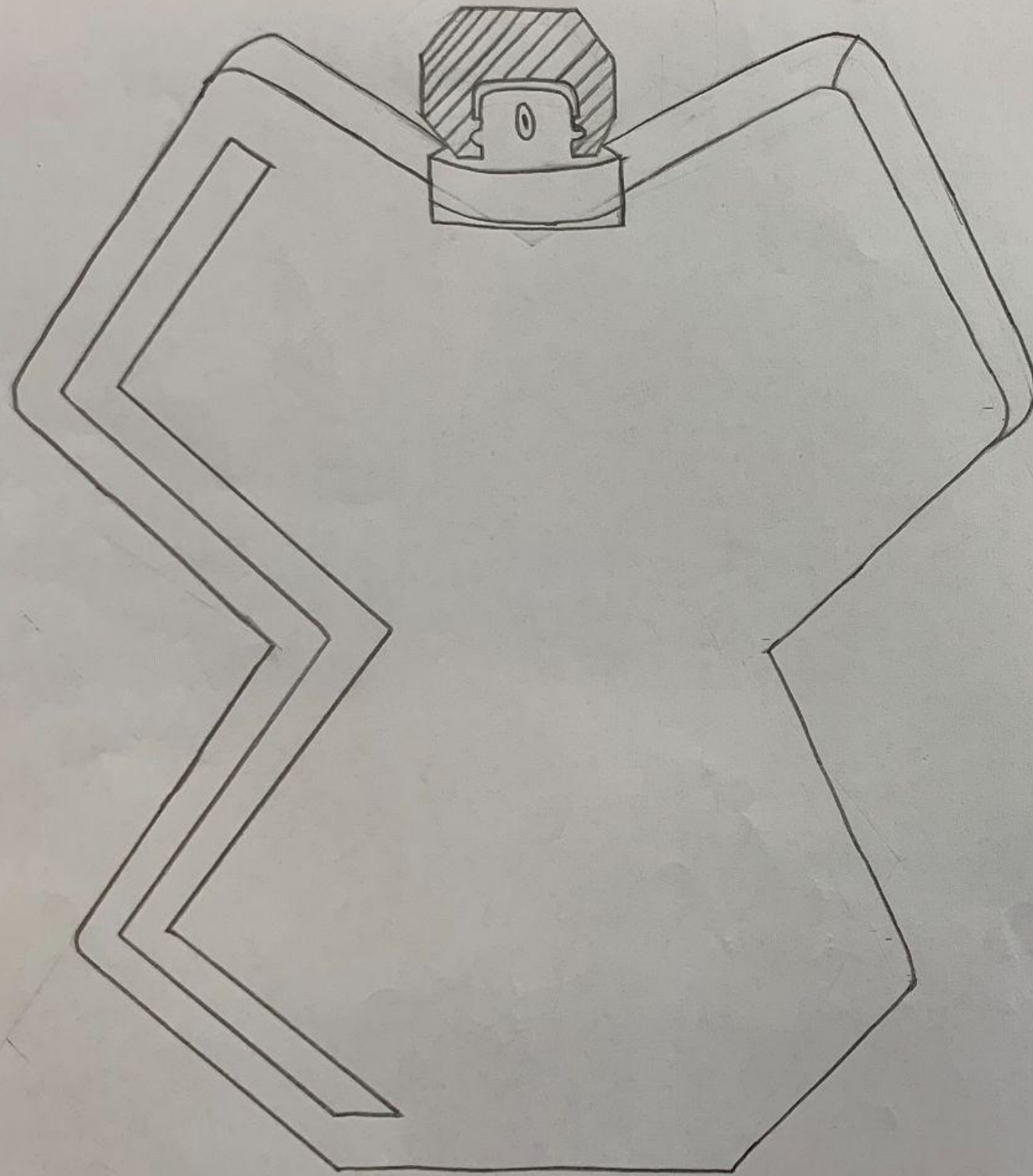
This view shows my 3D Model on a bathroom Vanity and shows how it can be placed anywhere around the house



This shows the user removing the lid off the bottle to use the perfume, it shows that the lid is easily able to snap on and off the bottle

Changes to 3D Model

Improvements to design to make the design user friendly

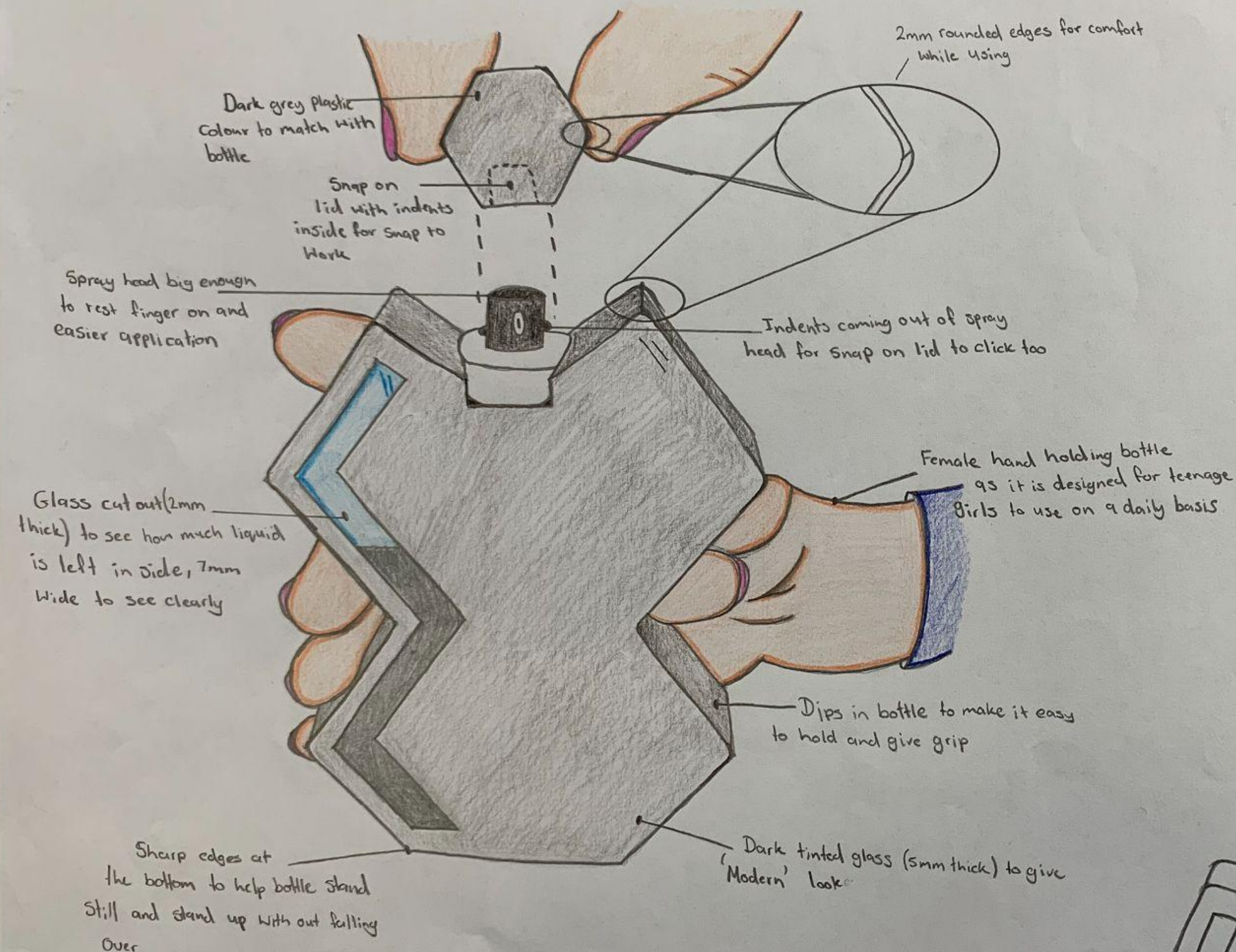


Changes Made

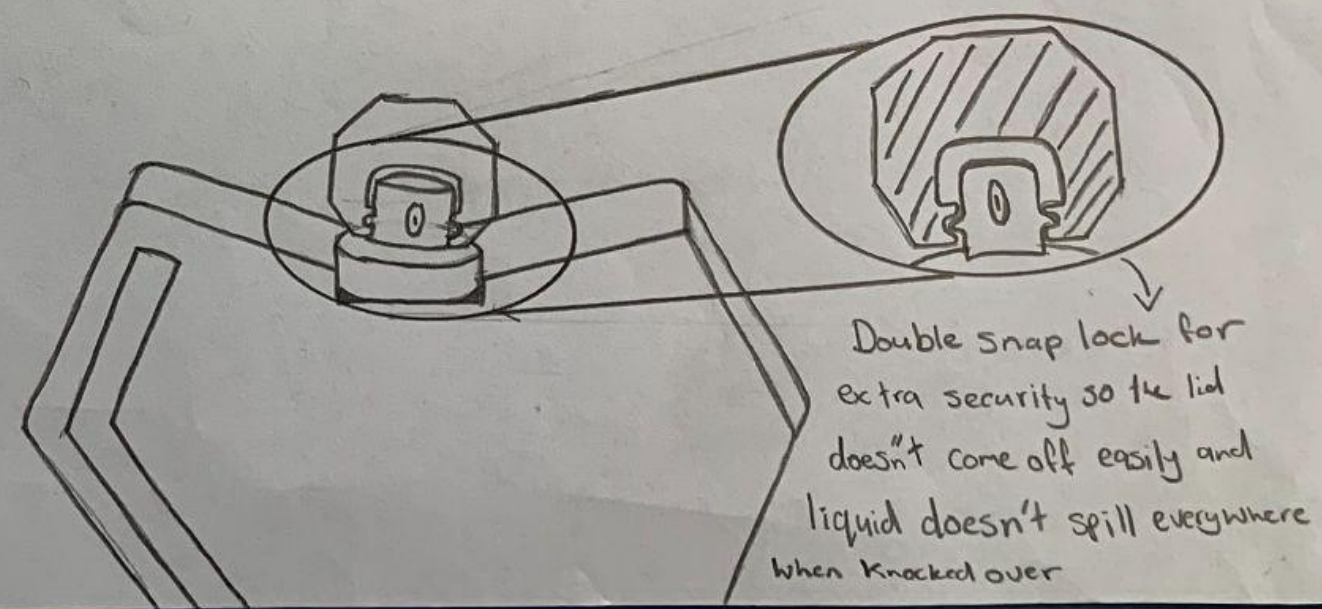
- I have added rounded edges to my design to make it more comfortable to hold and use and therefore making it more user friendly. The bottom two edges are not rounded in 2mm so that the bottle can stand on its own without falling over (keeping it stable). All of the sharp edges are rounded 2mm in so the user can hold the bottle without it digging into their skin.
- I have made the window 2mm wider making it easier for the user see the level of liquid left in their bottle, the window is now 7mm wide in total.
- I have changed the neck of the bottle for aesthetic purposes, the neck of the bottle now has an indent between the body and the base of the spray head making it more visible.
- The lid of the spray nozzle also has double stoppers for extra security to prevent the lid from falling off or breaking easily.

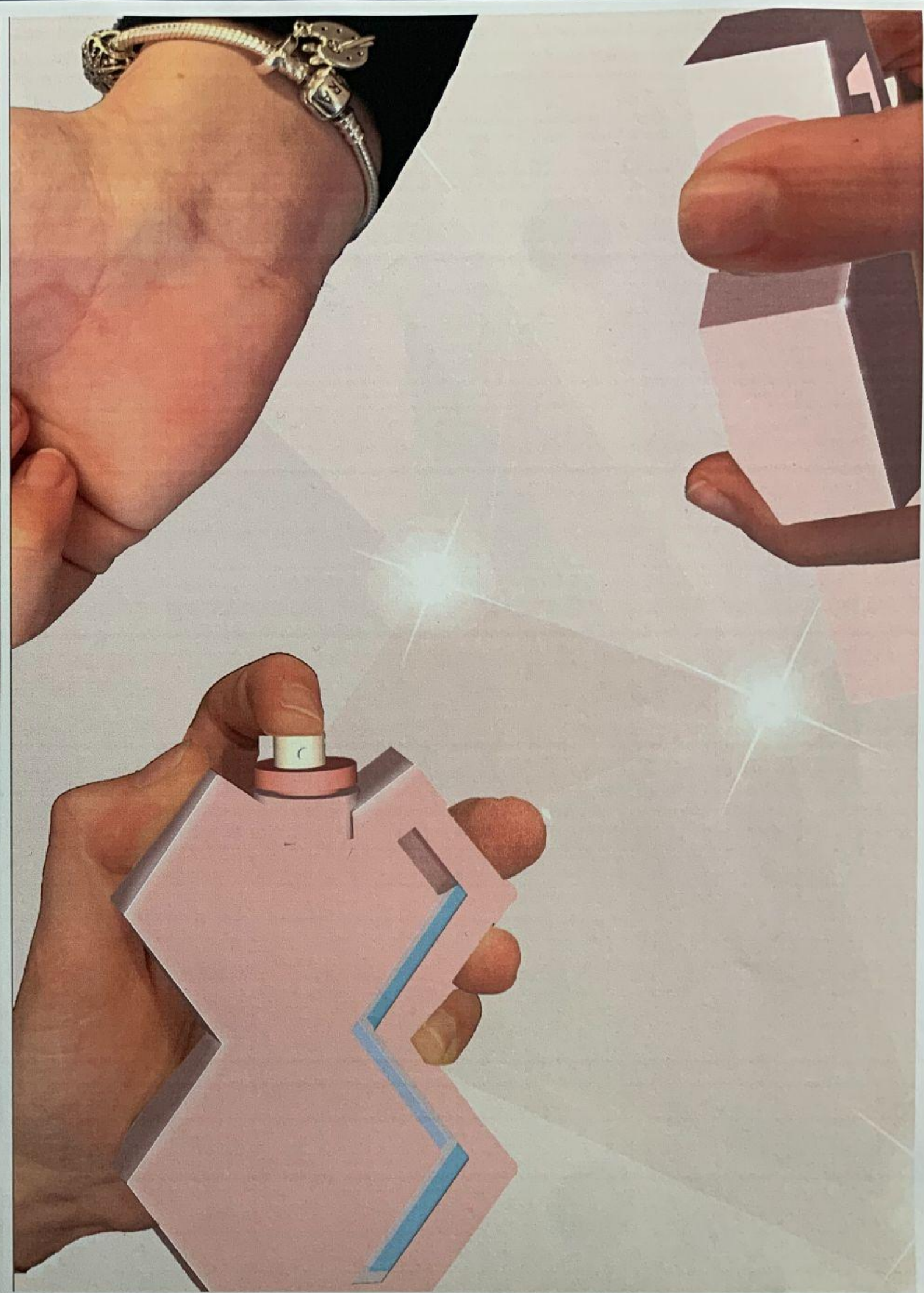
Final Concepts and Detail

The final design of my product and small details I have included



Overall my perfume bottle fits my brief and specifications, it is subtle for teenage girls to use on a daily basis and put it anywhere around the house. My design is simple and modern, its colour combination of dark grey and black make the bottle look modern and simple. My bottle is made out of strong/sturdy materials such as 5mm thick glass and plastic making my bottle durable and long lasting, meaning it is also harder to break. My bottle also has a great symmetrical shape that allows the user to carry around and fit into small places around their house, My design also has rounded edges making it more userfriendly and functional. My bottle has specific detail to help the user such as a window to see the level of liquid left inside and a double lock for the lid to prevent leaks and ensure extra security, it also has dips so that the user can easily rest their fingers while using the product. The spray nozzle allows the liquid to come out of the bottle quickly and effectively. My bottle also fits a teenage girls aesthetics. The material used from my bottle gives it a rich and expensive look attracting a lot of users. Therefore my bottle is fit for purpose and is detailed specifically to match my users needs and function properly.





Merit

Subject: Design and Visual Communication

Standard: 92002

Total score: 05

| Grade score | Marker commentary |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M5 | <p>This submission begins by showing a range of ideas for a perfume bottle for teenage girls. Features that have aesthetic and functional qualities can be seen clearly and some of the notes relate the ideas to people.</p> <p>Development includes a series of sketches where some change is made to the form of the bottle and the lid area. Notes make some connection to improving the experience for users. Some detail relating to the spray nozzle and the lid of the bottle is shown. However, the details are not shown clearly integrated into the whole design. A 3D printed model and CAD images show the user experience of the bottle very clearly.</p> <p>To move to Excellence, this submission needs to use visual techniques to show how the features and details of the spray nozzle are integrated into the design as a whole. The exterior form of the bottle has been expressed well but the functional details have not been refined as clearly.</p> |