

Contextual Challenge

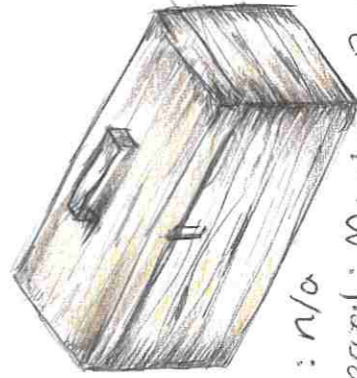
DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT



Sports and Leisure

Design and make creative solution to improve an individual or group sport or activity

Client: Sister  
Idea: Mobile nail storage box



Size: n/a  
Material: Maple or Beech  
Style: Modern/Classic  
Finished: Vanish + Wax  
Sales Price: £30+  
Research: - measurements  
- designer  
- clients opinions

Education and Development

Design and make something to improve children's education

Client: Friend's child  
Idea: Learning Toy box

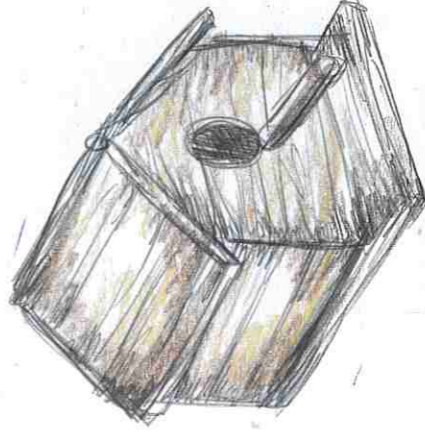


Size: n/a  
Material: Classic so Oak  
Style: Classic (old fashioned)  
Finish: Vanish + Wax  
Sales Price: £20  
Research: - measurements  
- existing products

Greener World

Consider the needs of future generations by developing a product with sustainability and the environment as central to its design

Client: Dad  
Idea: A bird house and feeder



Size: n/a  
Material: Mappingony  
Style: Natural/Classic  
Finish: Vanish + Wax  
Sales Price: £20  
Research: - measurements  
- Existing Products



## About My Client

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT

Northgate  
**D&T**  
Design and Technology

### How?

How much to purchase?: £50-£60

How long would it last?:

Approx 1 year+

How is it used?: It will be used to store her nail polished to take to her clients

### My Client



### Who?

India, my sister, is a qualified nail technician who needs this product to take her equipment with her for her work. She is 20 so she prefers the modern style, she would prefer a white clean scheme to it

*My whole business is based on AS based on Maternusu*

### What?

The product needs to be light weight and very mobile for my client, therefore I have some key requirements. This includes a light weight hard wood, handles and wheels

*As long as it's easy to travel with*

### Why?

The client needs the product for her company/ job for when she stores her equipment and taking them to different places. It will improve the way they store items and how they carry them around

*It needs enough space for polishes and equipment*

When? It will be used everyday due to the fact she works everyday or when ever necessary, therefore it should be very durable

*This is useful and will be a part of my everyday life style as a nail technician*

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT

Northgate  
**D&T**  
Design and Technology

### Size and Weight

Size may vary over time however, on average, the actual box should be about 42cm in width and 30 cm in height (which should provide enough space for my clients nail products) Weight should be around 5kg without shelves

*The box should be light enough to carry*

### Materials

Overall storage box will be made out of a hard wood preferably of a lighter tone in colour e.g. maple

*Any light toned wood will do*

Potential lettering and symbols will contrast in a darker coloured wood e.g. oak

Handles and trim will be shaped and cut from aluminium

*Any silver coloured metals*

### Cost to Make and Sell

Second hand knowledge states that my product will cost around £25 to cut, construct and finish, however selling the product will result in charging my client around £50-£60

*Repeatly would want the product to be as cheap as possible however still aesthetically pleasing*

### Storage

Storage wise I would approach this cheaply by using card board, polystyrene and bagging

### Designers and Style

Design and style will be modern and suited to my client

*As modern as possible to water my working space as well*

### Existing Products

Existing products include make up brands that have and sell their own mobile storage boxes suited to their makeup. Also, to make the elongated handle, I will base it off a supermarket basket (e.g. Sainsbury's)

*Handle does not have to be extendable as long as it's the right length on use*

### The Design Problem

(Leisure: Produce a creative solution to improve an activity)

### Needs of the User

My client is a professional nail technician who has various demands which will help to create a product suited purposely for her. Her furniture is mainly white therefore the wood preferably should be light in colour. There should be room for nail polishes and it should be mildly light to travel with

### Sustainability

Efficiency is key to producing a box and to make sure there is sustainability I will take great care in constructing this product whilst adding extra strength with an aluminium trim

*It needs to be safe to travel with and keep my equipment safe*



## Nail Polish Holder By BTSKY (Amazon)

**Materials:** Expand polystyrene with as nylon cover and a zip  
**Function:** The function of this product is to hold nail polished and carry them around enclosed in a case  
**Ergonomics:** This product is so simple all you simply need to do is close it with the zipper. It is fairly small and therefore can fit in a bag and easily stored

**Finish:** Self finish (no additional finish)  
**Safety:** Can be safely carried around and has no sharp edges  
**Manufacturing Method:** the product is moulded then cut on a hotwire to shape

**Style:** The style is very simple with only black and a blue zipper  
**Conclusion:** This product is great for its soul purpose and I am intrigued by the polystyrene, which I may use for my product

*I like this product due to how easy it is to carry, however I would need something a little larger to fit bigger equipment. I like the zip and use of plastic, it looks quite modern but a little cheap. I am interested in the way it grips each nail polish but it does not seem very durable*



Amazon:  
£16.99

"I wanted something to organise my nail polishes. This does the job fantastically"

## Analysing Existing Products

### Portable Costmetics Storage Box By SONGMICS (Amazon)

**Materials:** Materials vary with this product from the covered wood, black layered vinyl, the black coloured plastic and aluminium trim

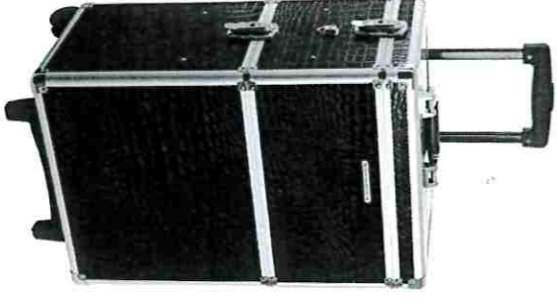
**Function:** The function of this product is to move cosmetics easily from on place to another. These are useful for those who work around cosmetics and nails

**Ergonomics:** The product should function easily and smoothly with minimal damage. The top has handles that are provided to carefully carry the product. The wheels allow the product to move and the hinges obviously are used to open and close the product

**Finish:** The product has a vinyl to create more weather resistance and stronger, it also is seen as more flattering. It also has an aluminium trim to create even more durability

**Safety:** The handles allow it to be safely lifted  
**Manufacturing method:** Ply wood covered in a black vinyl then added with aluminium trim. Then handles and wheels are added  
**Style:** Not only is this product functional and useful, it looks very modern and suited to their clients

**Conclusion:** This product is stylish, strong and perfect for its purpose, the price is some what reasonable and I will definitely base my product of this one and use some ideas

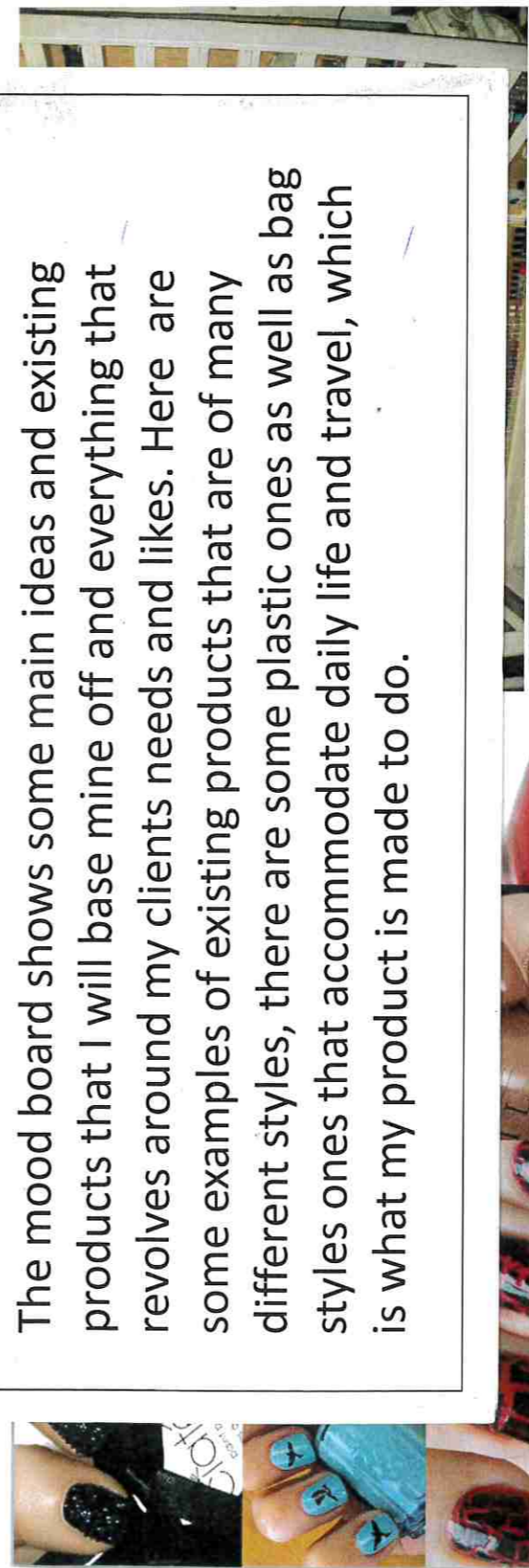


Amazon:  
£55.99

"Brilliant bit of kit. As a professional trainer, I need to lug around various bits of equipment"

*I like this product due to it's clear modern look, it has a really nice trim which I would want on my product. It seems light and easy to carry which is what I need. It looks like it can hold alot within it which is a big positive. I like the modern black vinyl layer it makes it look more professional*





**Mo**

## Mood Board

The mood board shows some main ideas and existing products that I will base mine off and everything that revolves around my clients needs and likes. Here are some examples of existing products that are of many different styles, there are some plastic ones as well as bag styles ones that accommodate daily life and travel, which is what my product is made to do.

### Nail Polish Holder By hjuns (Amazon)

**Materials:** Materials include a plywood with a soft wood, piranha pine, carcass and brass catch  
**Function:** The function of this product is to hold nail polished within a box that can close and be stored  
**Ergonomics:** This product is incredibly simple and is made to stay in one place without much mobility  
**Finish:** This product would need a vanish and a wax to make it more durable  
**Safety:** The simplicity allows it to be safe as it is not made to move and has only one function  
**Manufacturing Method:** Cutting basic wood joints then glued with PVA and pinned into place  
**Conclusion:** This product is very basic but very effective and I will base some ideas for my product of this



Amazon:  
£11.49  
"suits the purpose"  
"good box for the price"

*If looks a little boring as it is just wood so to improve this it should have a trim of some sort*

*I like this product because of the wood grain, I was not keen on the idea of the material however I like its effect and I would like it on my product*



The client wants a modern style however still wood texture therefore I will be using maple for the white modern colour but nice wood texture



## Research Summary

The context I will be designing my product in will be Sports and Leisure, specifically in the makeup industry. The problem I had decided to solve is to make those who work with nails to be able to hold their equipment in a safe storage place and be able to carry this product easily to wherever they need to do business or see a client of their own. The client is my 20 year old sister, a qualified nail technician, who would benefit from this product and is a prime example of someone who works with cosmetics. The deadline completion is for Easter Holidays 2019, which should be enough time for me. From my mood board I have discovered that my client likes modern schemes, white clean finishes and professionalism, meaning my product must be to high standards. After interviewing my client, the most important things my product needs to be is light, modern and full of space for her nail polishes. After looking at some existing products and discussing them with my client I have decided to include an aluminium trim and extended handle, additionally I feel like maple is the best material to use however because of expenses I need to use beech and with be finished with a wax and vanish. In conclusion, this product has to be at the highest standards and over all benefits my client and her needs.

## Client Interview

### Style:

What kind of style do you want?

*A modern and slick design to go with my studio, this means white and light colours, also silver coloured metals.*

Are there any designs I can base my product off?

*The existing products were good designs, the first one was the best and a good starting point to a final design*

How do you feel about my current ideas for the style?

*They are good as long as it stays modern and does everything it needs to do*

What brand of nail equipment do you usually work with?

*Essential nails is the company I have worked with since 16 years old*

What specific things are ideal on the storage unit?

- handles
- back handle
- maybe a sybar

### Cost:

What would you be willing to pay for this product?

*Not too much but I will be willing to pay for good quality*

### Measurements:

How big would you want the box to be?

*250 x 700 x 450 (mm) this is the perfect measurement*

How many nail polishes would you want us to be able to store?

*I do not only want to be able to store nail polishes I have a lot of equipment that needs to be stored*

How much equipment is there to store?

*Equipment varies in size as well but all together I need to be able to store as many things as possible*

### Durability:

How long do is ideal for this product to last for?

*The product needs to be able to last as long as possible so it needs to be strong, do what you need to do to make it like that*

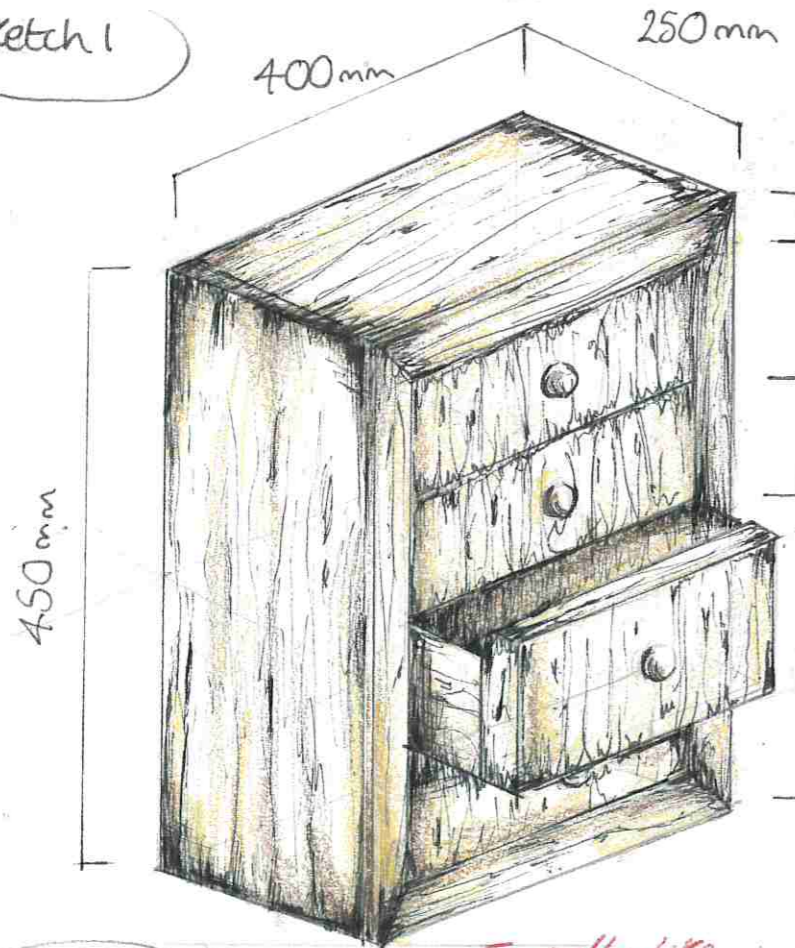


Initial Ideas

(Each design has a different method of opening)

*This product is ok I am not keen on the draws however I am open to seeing a more developed design*

Sketch 1



Idea:  
I want to create a simple way of storing nail equipment as well as a simple way of manufacturing the product. Four drawers designed to slide in and out of the box. The handles can vary, preferably made of the same wood or a silver coloured metal e.g. steel

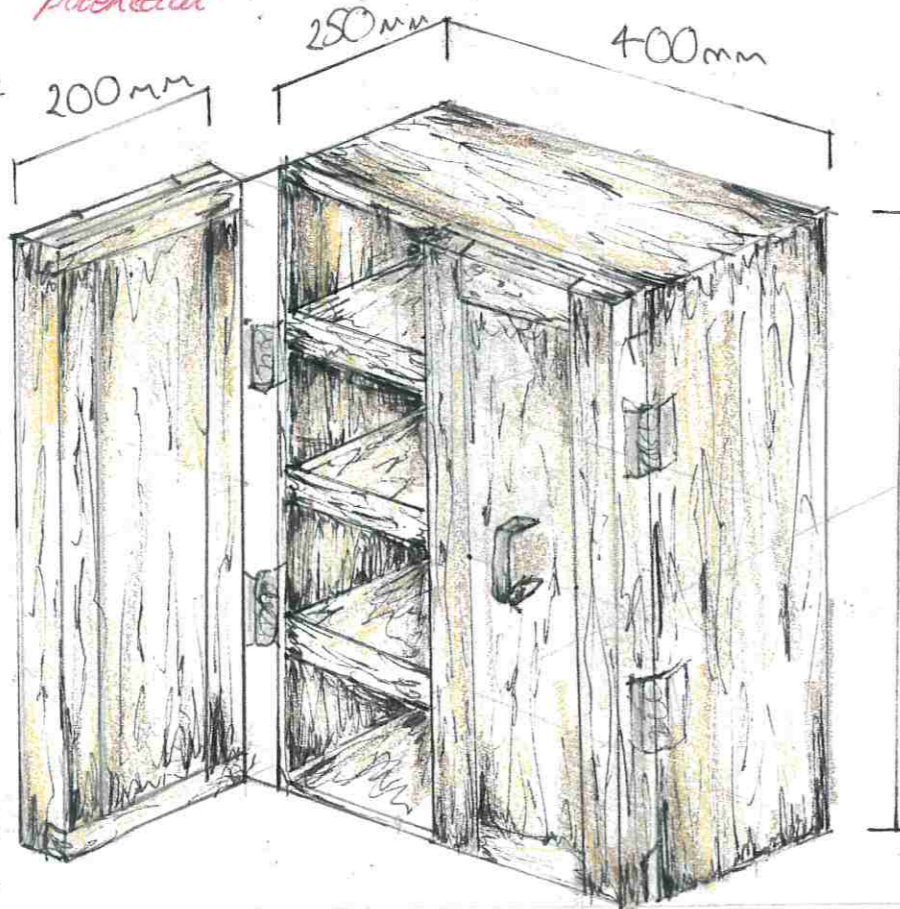
- Pros:  
- got a simple concept  
- can apply a nice design  
- can vary in handles
- Cons:  
- not very modern  
- draws may fall open

*I really like this design I think there is a lot of potential*

Sketch 2

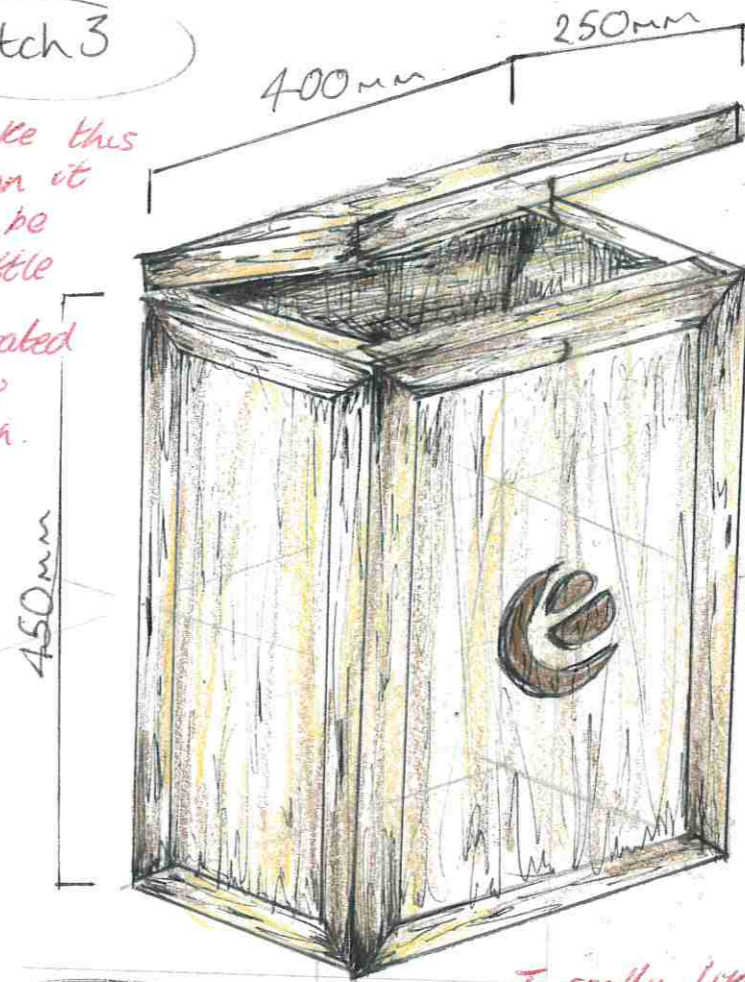
Idea:  
The product will be designed to open like a cupboard with shelves on the inside to store equipment. The doors provide protection and can be locked for extra safety. The handles will be made of a silver coloured metal e.g. steel

- Pros:  
- Simple  
- Can have a modern look
- Cons:  
- Doors may take a while to create



Sketch 3

*I like this design it may be a little too complicated for us though.*



Idea:  
The idea is to create stacked shelves that can be stored in a box that has an opening lid that can be locked. It will look quite plain so a boarder and design would probably be necessary to create a modern look to fit my clients needs and preferences

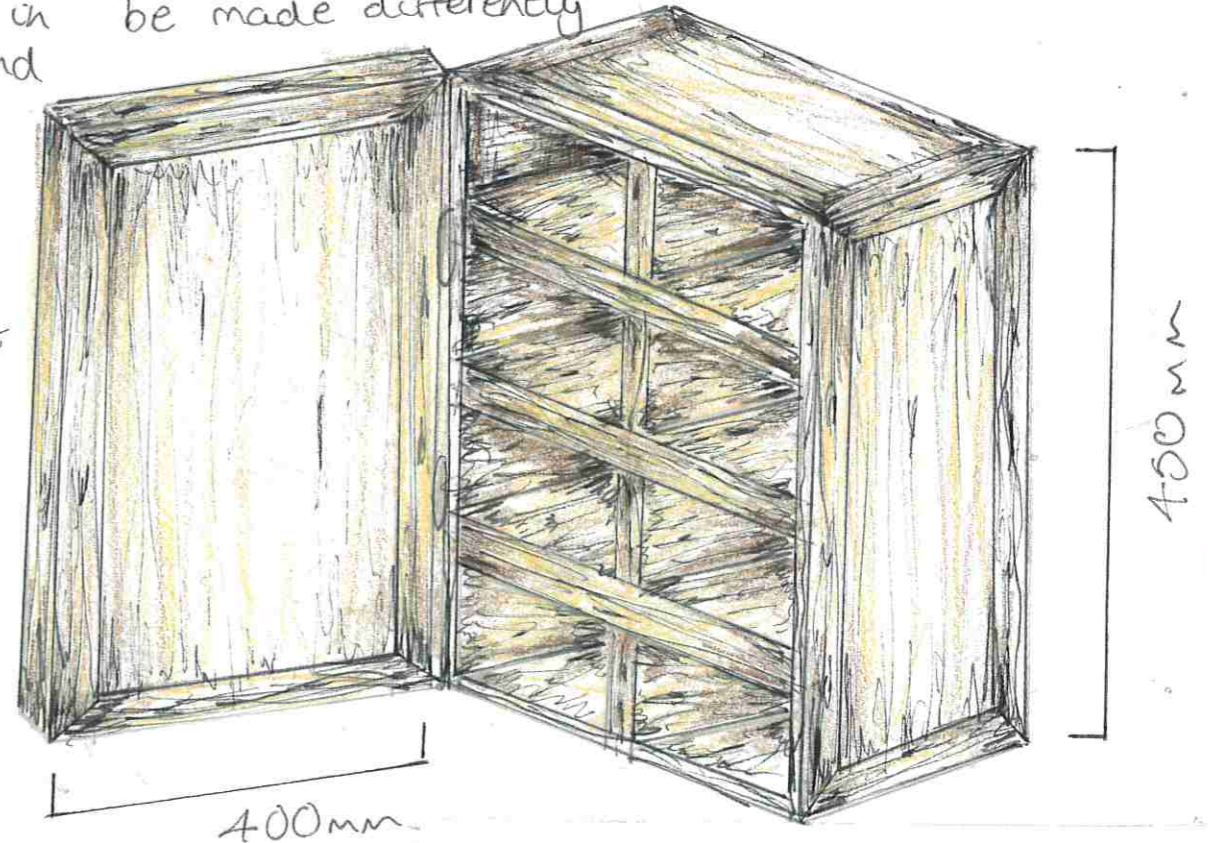
- Pros:  
- can add designs and symbols
- Cons:  
- will have to invest a lot of time  
- accuracy needed

*I really like this design its similar to sketch 2*

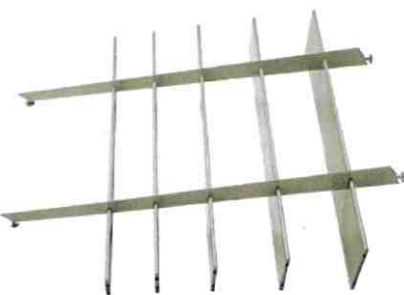
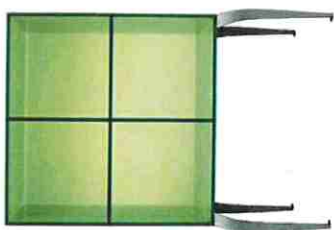
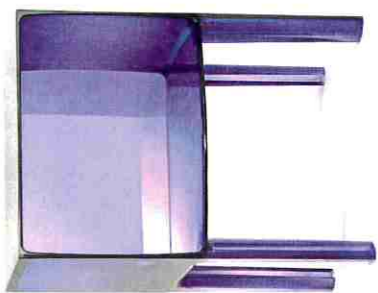
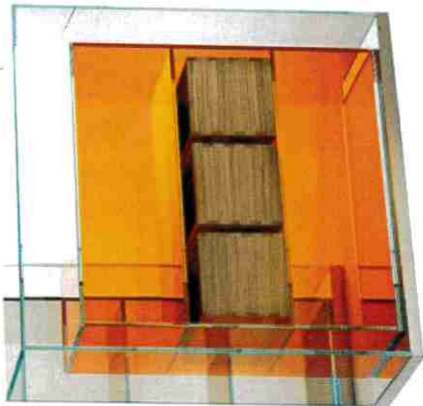
Sketch 4

Idea:  
Very simple 1 door opening system with multiple storage compartments inside the box. Different handles can be used and the compartments can be made differently

- Pros:  
- simple  
- can be varied in style and shape for my client
- Cons:  
- may not be able to store larger items







material (hard wood) however I am capable trying and developing using some ideas.

Starck's work to me is very modern which fits into the theme well, this is ideal considering my client wants a modern and sleek product. Taking some inspiration from him will help me to improve my product as he is evidently extremely successful with his projects. I like his use of acrylic and the way he manipulates the plastic into either a box shape or more contemporary style, however I will not be using acrylic as I need a stronger

was deconstruct to understand their function such as bikes.

His first company was creating items such as furniture. Invention was a career path Starck had always wanted to pursue, as his father was an aeronautical engineer and his mother was a painter, he was born into creativity, He

was deconstruct to understand their function such as bikes.

He dropped out of school apparently he was so eager to start designing that he quit his 5 year course at Ecole nissim de Camon after 2 years.

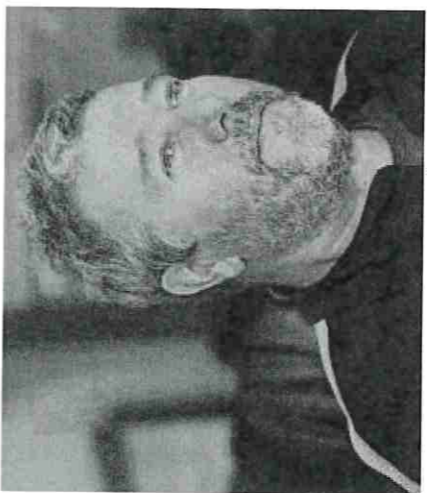
Samonite luggage, Fossil watches, Beneteau boats, glacier water bottles and more.

who also designed various products for example the Microsoft optical mouse, puma shoes,

including with my resistant materials GCSE final product.

years Starck continues to impress his clients with his designs and products. I aspire to do the same

creating some of the most unique and interesting interior designs and household objects. For 30



Designer Research: Philippe Starck



DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT



DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT

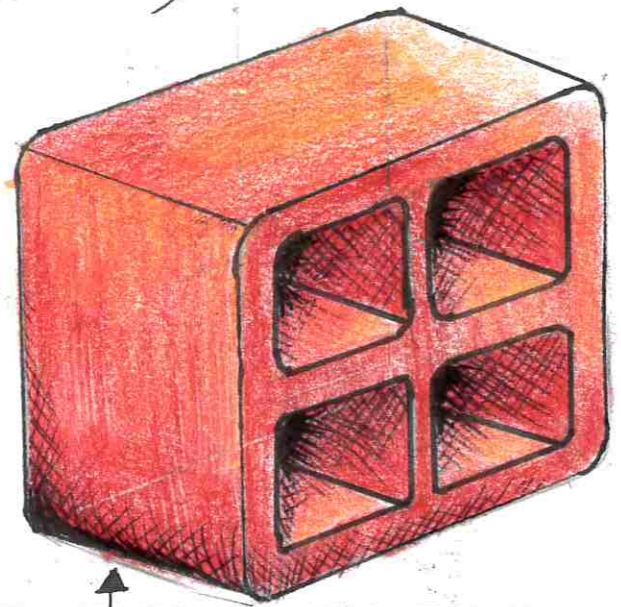
# Concept Selection

Spec Point	Design 1	Design 2	Design 3	Design 4
Target Market	All target markets will be the same on each concept and design, as they are all design developments for the same client. My client is a modest 20 year old self employed nail technician so this product should meet her standards			
Function	Most of the functions will all be the same, however each concept has a different feature and way of storing her items she has requested to be the main storage item. This design is a classic lid function with stacked shelving	Each concept has a different feature and way of storing her items she has requested to be the main storage item. This design is inspired by cupboards, with sliding shelving inside, which will be fastened with a lock to keep it in place	Each concept has a different feature and way of storing her items she has requested to be the main storage item. This design is a classic draws method where it resembles common draws on furniture (e.g. wardrobe)	This design is the most simplistic way of creating the product to benefit my client. It has one door that opens to reveal a storage space that is filled with many shelves that can be varied in shape
Size	The sizing will be the same with each concept. The main box will be 250mm x 400mm x 450mm			
Aesthetics	My first design is very sleek compared with my other concepts, this is because I have allowed more room on the front for modern symbols and logos. My designs, overall, are all meant to be modern for my client which I believe I have succeeded at. As well as all the other concepts, it will be light in colour and have an aluminium trim	My second design is the second most modern out of the two, however I do prefer the function, and it still keeps in with the theme of modernism. It is light in colour with little features, such as an aluminium trim which will emphasise the modern theme	This design isn't as modern as the others, therefore lowering the chances in using this design as it does not comply with the with the my clients needs, it is similar in style with the others however isn't very aesthetically pleasing	This design is very simplistic and can be verified to have modern aspects to it as the shelving can be changed to and created to the clients taste. There's lots of room to add a design or logo and the handles/ hinges can be designed to the clients preference or can be bought
Materials	Every design will be the same material: the box structure will be made of beech (hardwood for durability) and an aluminium trim			
Finish	They will be finished exactly the same way in each design: I will sand the hardwood down with p80 then p120 and then p240, then I will use wet and dry paper to finish the sanding off to give it a smooth texture. After sanding, I will apply varnish to make it more resistant and durable against everyday inconveniences, such as whether. And finally multiple layers of wax to keep it even more protected during travels.			
Safety	Every box will follow the same safety precautions, all of them will be safe an easy to function, there will be no sharp edges to the box and to ensure this I will sand down the possible wooden corners. It will be secure and be able to hold the weight it needs to hold. It will be durable with strong joints, hinges to ensure its held together and handles so it can be lifted easily			
Client Feedback	<i>This design is ok however there is no modernism to it so not this design</i>	<i>I really like this product with a different back handle to it</i>	<i>I like this design but it seems to complicated to create or even use</i>	<i>I like this and the way everything is separated but again is too complicated</i>



# Designs Based Off Stark

## (Materials)

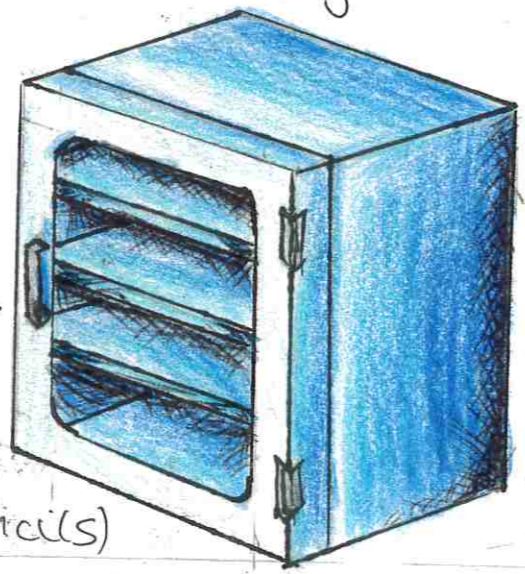


These have two different edges, here it is curved

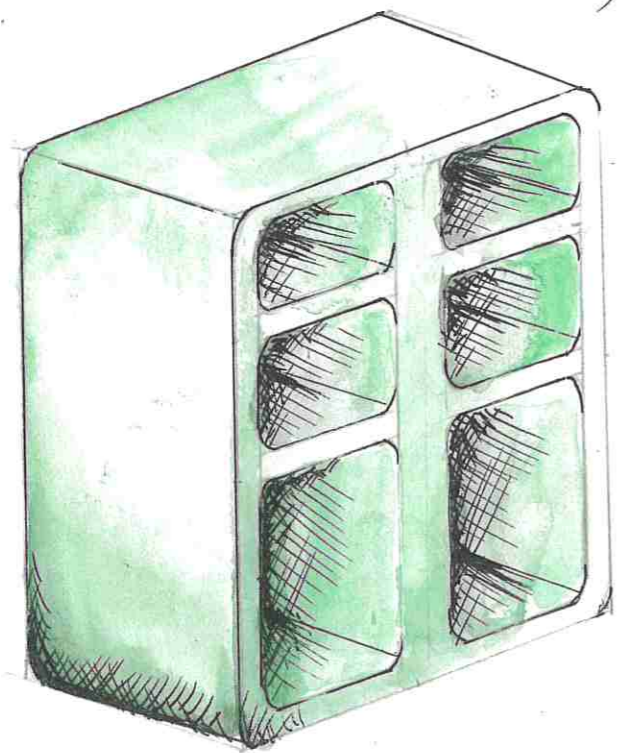
Here the edges are sharp

(These designs are in colouring pencils)

These are some plastic (acrylic) designs based completely off Stark. These evidently are completely the same style as Stark due to the varied bold ~~color~~ colours and edges.

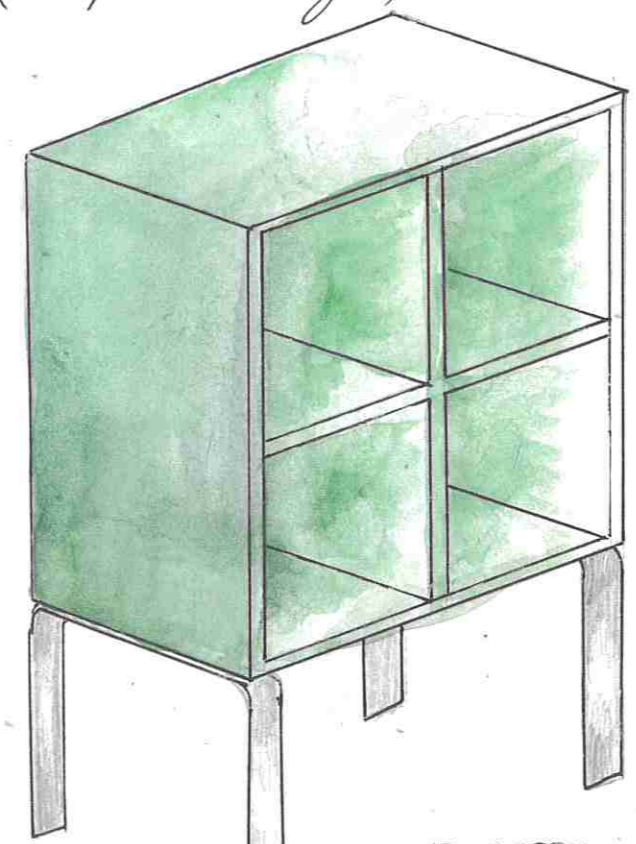


(This design is in water-colour)



Here is an example of my product completely in the style of Stark (I have not yet got a final design of my product but with the measurements it would be this size/shap) I like the idea of fully plastic products but I do not think I will go through with this type of design

## (Shape + Design)

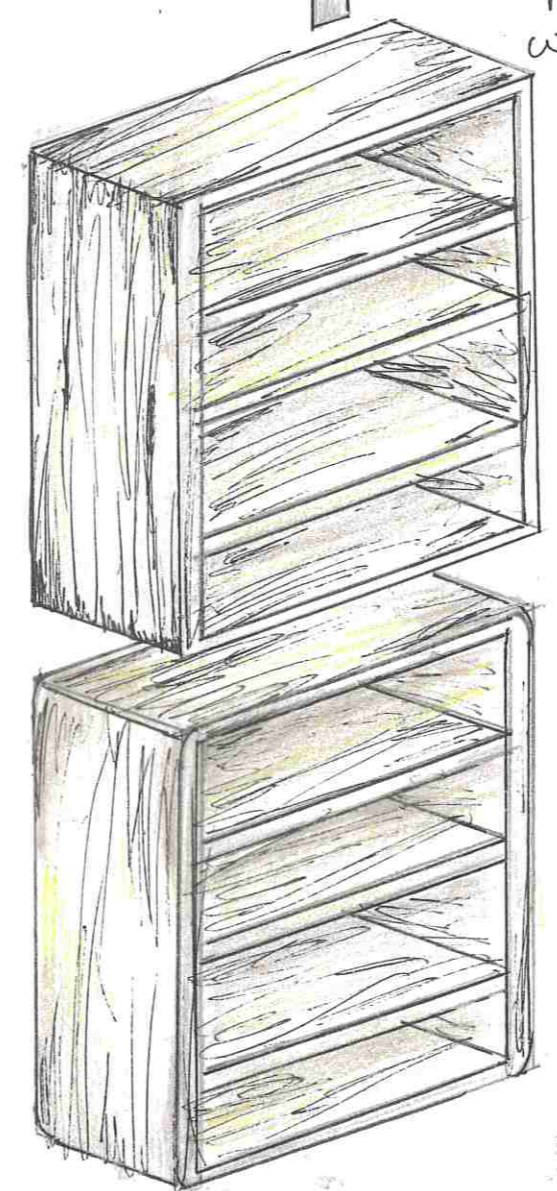


Here is a drawing done of Stark's 'storage unit' which resembles a final look I want

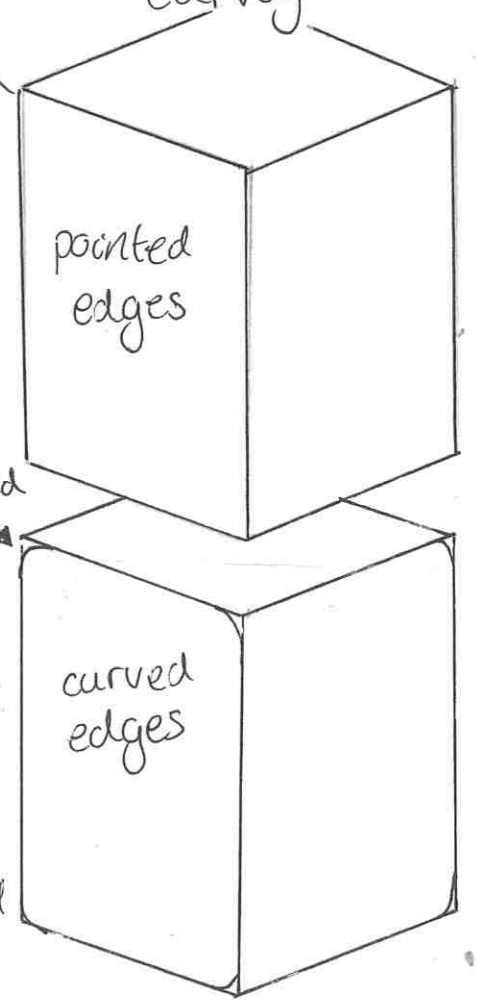
When I had come up with my ideas they all seem to fit well on the theme of Stark (shape wise)

I personally want to follow his boxy approach

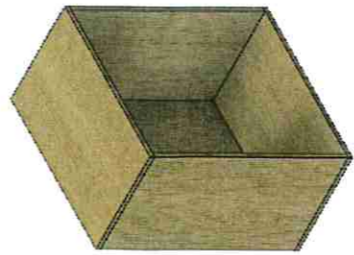
His preferred shapes are boxy or curvey



Out of the two options it would be easier to do the box shape additionally I can add a trim if I do the pointed edges

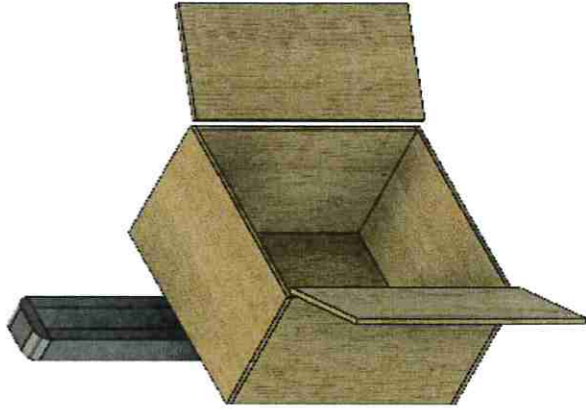






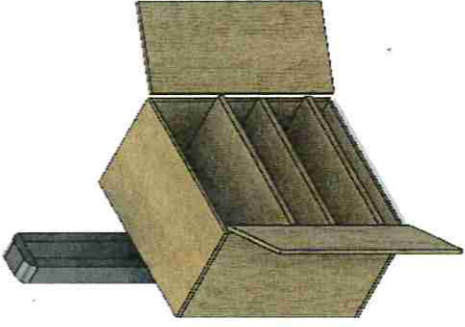
### Step 1:

Design development 1 is my basic starting point, a good representation of my basic box shape. I decided to go with my second developed design as it is most relevant to all my clients needs in contrast with the other designs. Length and width is 400mm x 250mm and the height is 450mm. The measurements may vary through the process as the thickness and positioning of the wood and joints may alter them slightly.



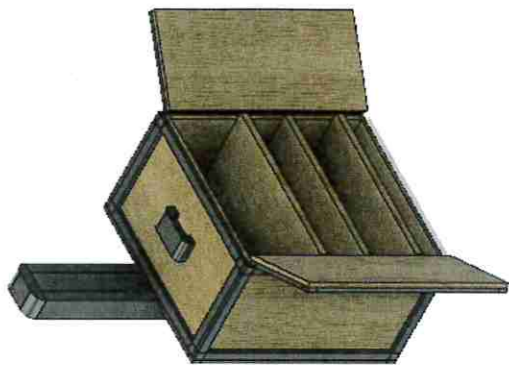
### Step 3:

Design development 3 has 3 shelves added to it for storage, I have carefully thought about what concept I should use for the shelving and storage and in the end I decided to quickest method and easiest/ safe method. They will be pieces of beech wood glued and slid into the routed sides. This can be done quite quickly and meets my clients needs: for it to be able to hold nail equipment



### Step 4:

Design development 4 is an example of adding aesthetics and details to my product, here I have handles to help with lifting the product safely and to open the box. I have added a border/aluminium trim to add protection as well as to make the product look complete, modern and professional. This may not be an accurate representation of what my product will look like however this is how I will aim for it to look



## Computer Aided Design Development

### Step 2:

Design development 2 has two doors, which helps with the function and security of the box, and also a handle to help with mobility. The doors are at an angle to help with the clients perspective of the work so they can see the interior of the box.

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT

## Model of my Product

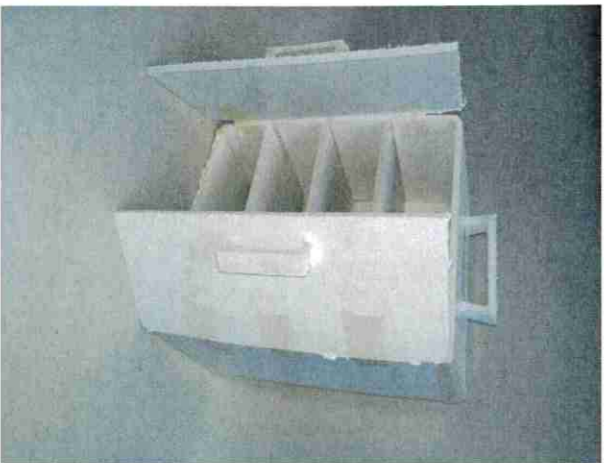
*Client feedback:*  
This gives off a vague picture of what the product will look like and I quite like it. It may not be a scale model but I do want to go forward with the design ~~and~~ and concept.



The model isn't to scale, evidently, as I did not have enough materials to create it. Instead, I halved the measurements and created a very simplistic version of the product.

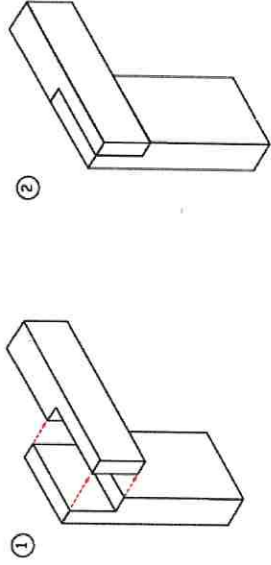


I created the basic shape first (the box) as I would with my product, then added doors and created shelves to imitate the shelves inside the product, and then finally I added handles. The way I attached the pieces was with masking tape.



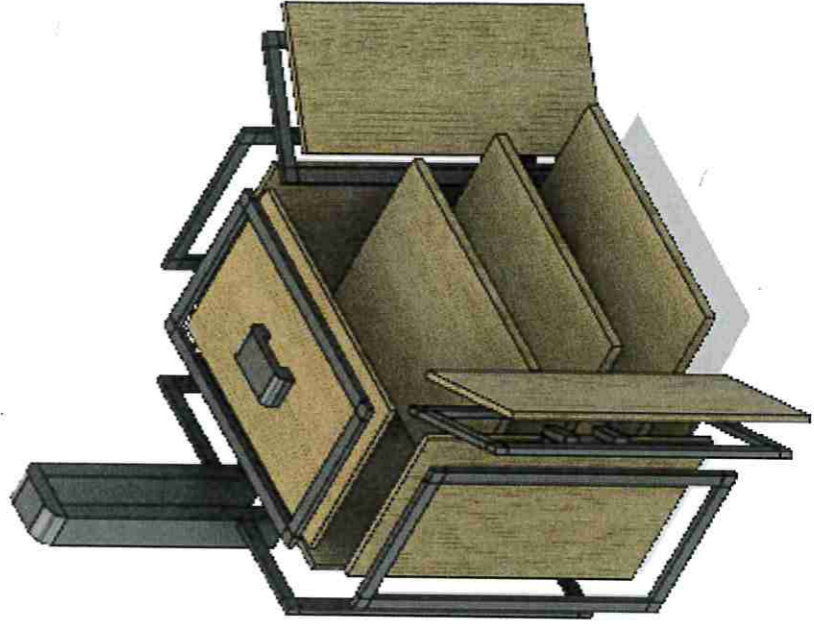
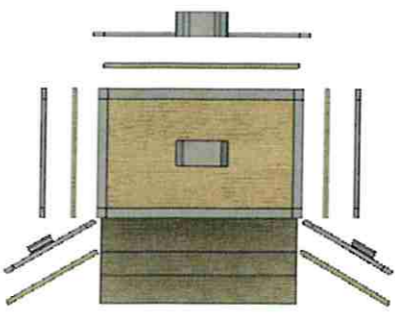
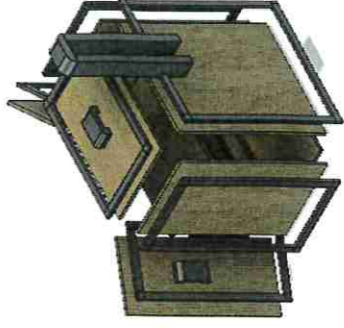
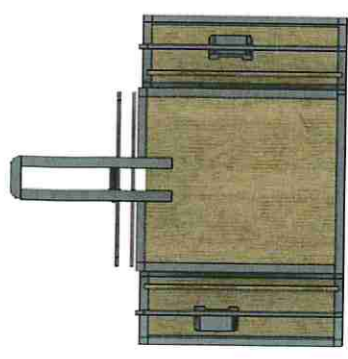
Here I have created a model out of foam board to replicate the product I will be creating in the conclusion of my project as well as give something to my client so she can visually see what the product may look like.





Joints:

The main joint I will be using will be a simple lap joint, this can be created simply by measuring accurately with a ruler, tri square and to cut it with a Tenon saw, to create a good straight cut



**Handles, Hinges and Extended Handle:**  
It would require a lot of work to create these so I will buy these parts to ensure that I can spend as much time as I can refining the main area of my product. Preferably I would like the extra components to be of a modern metallic colour, for example aluminium or steel

**Shelves:**  
The shelves are not very complex however require a lot of precision. I will need 4 pieces of beech wood which will be around 400mm x 250mm x 12mm (which should be enough space for my client's nails/polishes). To fit these in I will router the sides of my box to be able to safely slide the shelves in and glue them into place. To lessen the friction I will make sure it will be vanished as well as sanded.

**Main Box Shape:**  
The main box shape will be constructed in the same way I created my box in a past project, by creating 3 separate sides and gluing them together with a strong lap joint (using a Tenon saw to create straight cuts) to keep it durable. Then I will apply the doors, which will be 2 pieces half the size of what one side would be, with hinges. This will create the simplistic but modern shape of the main box.

**Manufacturing Method**

## Manufacturing Method

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT



## Computer Aided Design Materials Render

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT



### Main box shape, shelves and doors:

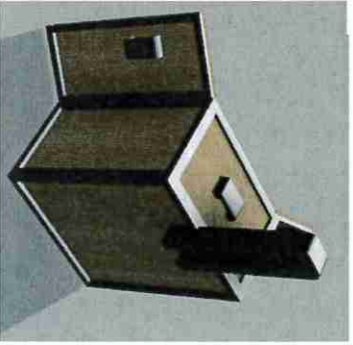
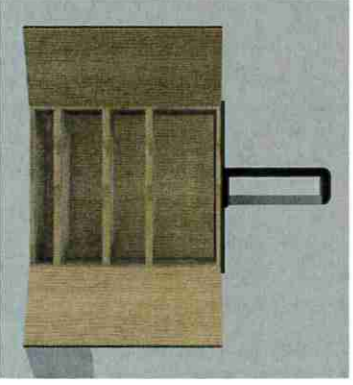
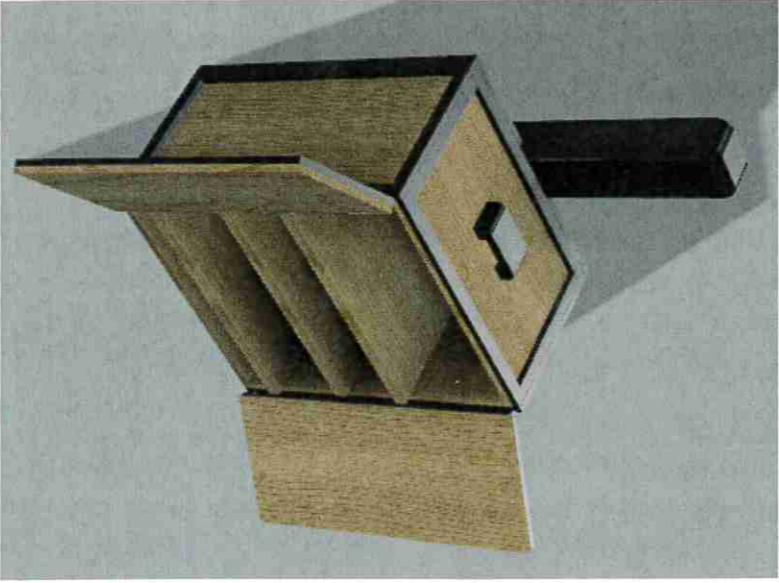
All these components will be made from beech. Beech is a hardwood, therefore it is strong and durable and will make the product stronger and will put up with the wear and tear of the products working life.

This wood is light in colour, evidently, it is a soft white and stereotypically is quite a modern colour to work with and will match my clients preferences and will match her nail studio.

This wood is better for the environment as it wont need to be replaced (more trees being cut down o produce the product) because it is a hardwood and more durable meaning the product is less likely to fail.

An alternative may be oak as it is also a hardwood and durable however is not as light in colour.

Sanding, varnish and wax can be used to achieve a high quality, resistant and smooth finish



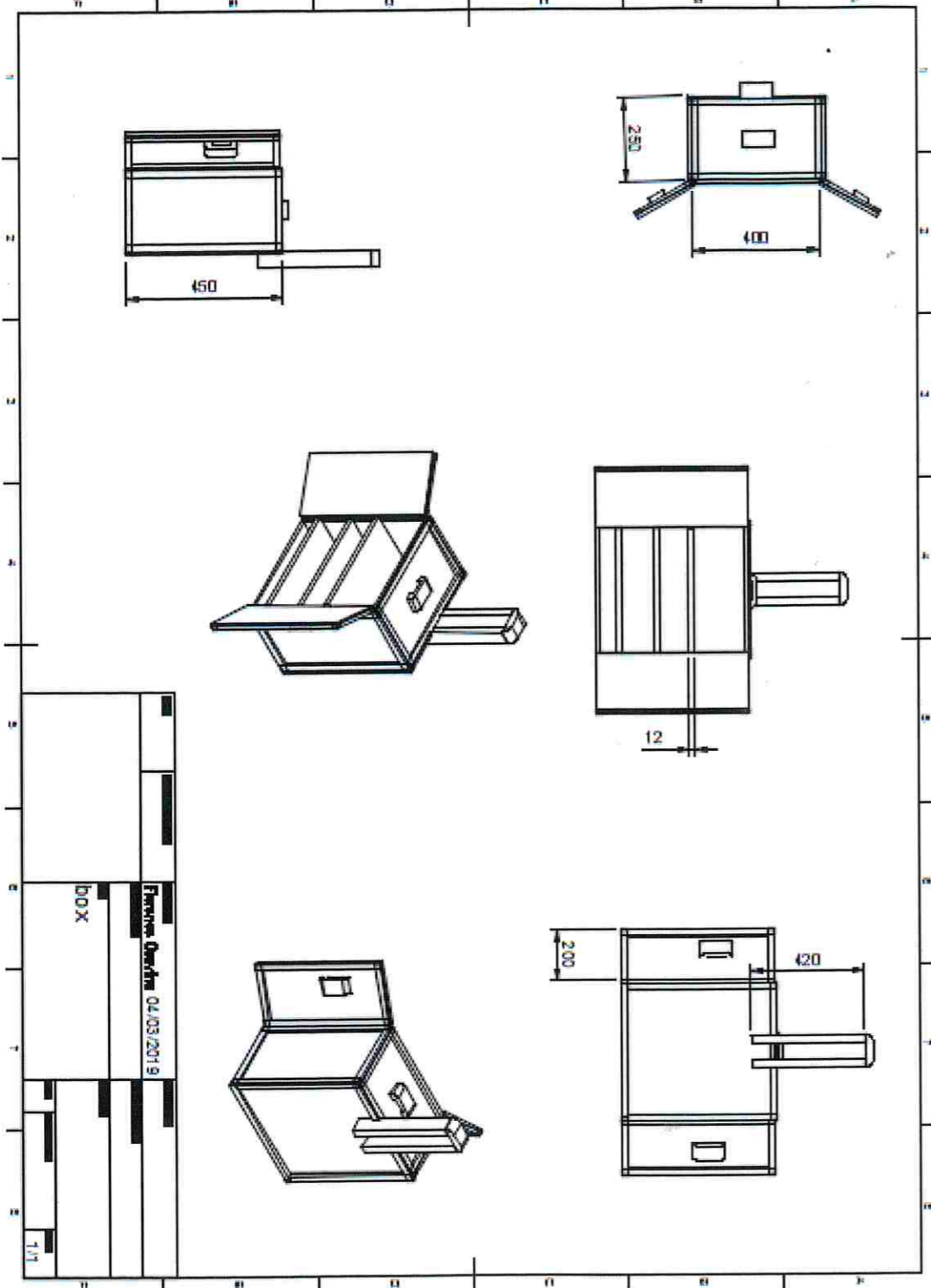
### Client Feedback:

*I really like this design and seeing it computer coded really helps picture the final product. I really like the brown and colour wood together it gives off a modern look, and with the handles and back handle it really looks complete and how I wanted it. The shelves could be moved around maybe to allow better space, maybe even add another shelf for extra storage. I do not think any cutting or symbols should be added as it will be too distracting. I like the wood and the effect of the grain it really compliments the silver trim, it really look professional.*

### Boarder/Trim:

Me and my client have agreed upon making a trim/boarder for durability, aesthetics and to finish the product off visually and make it look presentable. This boarder would be made out of aluminium or (as a back up) just out of another wood of a darker shade, which would also look professional





- Materials**
- 12mm Beech Wood
  - 4mm Ply Wood
  - 0.8mm aluminium trim (angle)
- Machine Tools**
- T5 Router (12mm router bit)
  - Drill (various sized drill bits)
  - Pillar Drill (various sized bits)
  - Circular Saw
- Hand Tools**
- Tenon Saw
  - Hax Saw
  - Mallet
  - Bevel Edged Chisel

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT



# Working Drawing Of the Product

## Materials Costing



DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT

<b>Sides (x2)</b> 50 mm Thick	Cost per cubic meter: 1033.00	Width: 250.00 mm	Thickness: 12.00 mm	Length: 450.00 mm	Cost per cubic meter: 1.03E-06	Width: 450.00 mm	Thickness: 20.00 mm	Length: 30.00 mm	Cost to Pupils: 2.36
<b>Top + Base</b> 50 mm Thick	Cost per cubic meter: 1033.00	Width: 250.00 mm	Thickness: 12.00 mm	Length: 400.00 mm	Cost per cubic meter: 1.03E-06	Width: 450.00 mm	Thickness: 20.00 mm	Length: 30.00 mm	Cost to Pupils: 0.40
<b>Shelves (x4)</b> 50 mm Thick	Cost per cubic meter: 1033.00	Width: 250.00 mm	Thickness: 12.00 mm	Length: 400.00 mm	Cost per cubic meter: 1.03E-06	Width: 200.00 mm	Thickness: 20.00 mm	Length: 30.00 mm	Cost to Pupils: 0.18
<b>Back</b> 6mm:	18.82 per sheet	Length: 250.00 mm	Thickness: 12.00 mm	Length: 400.00 mm	6.32E-06 per square mm	Width: 150 mm	Thickness: 40.00 mm	Length: 35.00 mm	Cost to Pupils: 0.38
<b>Door Frame 1 (x4)</b> 50 mm Thick	Cost per cubic meter: 1033.00	Width: 450.00 mm	Thickness: 20.00 mm	Length: 30.00 mm	Cost per cubic meter: 1.03E-06	Width: 200.00 mm	Thickness: 20.00 mm	Length: 30.00 mm	Cost to Pupils: 0.43
<b>Door Frame 2 (x4)</b> 50 mm Thick	Cost per cubic meter: 1033.00	Width: 250.00 mm	Thickness: 12.00 mm	Length: 400.00 mm	Cost per cubic meter: 1.03E-06	Width: 200.00 mm	Thickness: 20.00 mm	Length: 30.00 mm	Cost to Pupils: 0.12
<b>Door Back (x2)</b> 6mm:	18.82 per sheet	Length: 250.00 mm	Thickness: 12.00 mm	Length: 400.00 mm	6.32E-06 per square mm	Width: 150 mm	Thickness: 40.00 mm	Length: 35.00 mm	Cost to Pupils: 0.38
<b>Back Stand for Handle</b> 50 mm Thick	Cost per cubic meter: 1033.00	Width: 400 mm	Thickness: 450 mm	Length: 450 mm	Cost per cubic meter: 1.03E-06	Width: 200.00 mm	Thickness: 40.00 mm	Length: 35.00 mm	Cost to Pupils: 0.29
<b>Back</b> 6mm:	18.82 per sheet	Length: 400 mm	Thickness: 450 mm	Length: 450 mm	6.32E-06 per square mm	Width: 200.00 mm	Thickness: 40.00 mm	Length: 35.00 mm	Cost to Pupils: 0.38

**Total (wood): £9.21**  
With Fitting and Fixtures: £36.51



I learnt different techniques whilst using the equipment for example effective ways to certain equipment such as saws (and example is the mitre saw) I have learnt to additionally clamp work securely and to estimate a drying time that is not too long or short. I learnt about drills and how to compare drill pieces to screw sizes and how to estimate what drill piece I need and the technique of using masking tape to mark on the drill bit where the wood gets up to before the drill drills through the wood through the end



Equipment

I had to use various equipment to create the box which I am now familiar with and will be able to use hopefully with ease on my product, this includes all the equipment put below. These are all very basic pieces of equipment I need to familiar and confident with to be able to complete my project independently. When handling the equipment I needed to take safety precautions such as putting my hair back and wearing goggles

This box is evidently smaller than my final piece therefore I have to keep into the consideration how much product I am using to create the finish to my storage unit. There is already enough product therefore no more finish needs to be purchased

For the gluing process I used PVA which I will be using for my product and for the finish I used Yacht Vanish and left to dry, then applied two layers of Bison Wax and both of these will be perfect to create a smooth finish to my final product



Finish for Product and Gluing Method

The box is made of piranha-pine, the back is made of plywood and the trim is oak



My product was made to be of a box shape and constructed the way a box is therefore to know the basics of what to do I went back in my work to a year ago when I had created a basic box with a divider and trim as well as 2 hinges. This was the perfect way to prepare for my product as they are of a similar function



DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT

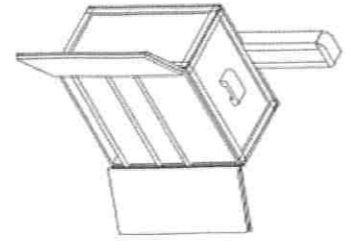
## Testing & Practical Development Main Box (hinges/dividers/trim)

# Cutting List

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT



Diagram to show construction:




Product Design - Design and Technology

Name: Florence Gravina Year: 11/4

### CUTTING LIST

Design and Construction approved by: Mr Day

Teacher Name: Mr Day Signature 

Date 15/1/19

Part Name e.g. side, base	Material e.g. Oak, Beech, Plywood etc.	Thickness mm	Length mm	Width mm	No. Of Pieces
Sides	Beech	12	250	450	2
Top + Base	Beech	12	250	400	2
Shelves	Beech	12	250	400	4
Back	Plywood	6	450	400	1
Door Frame 1	Beech	20	450	30	4
Door Frame 2	Beech	20	200	30	4
Door Back	Plywood	6	150	400	2
Stand for Handle	Beech	40	35	200	1



# Fixtures and Fittings

DESIGN & TECHNOLOGY  
NON-EXAM ASSESSMENT



## Wheels



For my product I wanted to purchase good quality wheels that not only could hold a lot of mass such as equipment and the actual weight of the hardwood used in the product, but also aesthetically pleasing and modern so that even the features on the box fit with the theme. I purchased 4 nylon caster wheels from ScrewFix that hold 70kg which should be enough (£11.96)

## Trim



For my product I also wanted to include a trim and I in the ne chose to go forward with an aluminium trim which was angles so that it could cover any unperfected edges as well as reinforce it and create an overall more durable product. I purchased 2 meters worth of this product from ScrewFix (£6.39) to get this product to attach I will sand down the edges and use epoxy resin to glue the surfaces together

## Handle Spray Paint



My steel Handle Did not Have the Silver Polished colour I was looking for which is in all my other features therefore I purchased a silver spray paint to coat my handle with before securing it into the handle stand to be then screwed into my work. The spray was effective and created a more modern tone to the back handle which compliments all the other handles, spraying at a distance avoids drip marks (£8)

## Hinges



Evidently I Needed Hinges to be able to function and fit the specification, they as well needed to be of a polished silver colour to fit with the on going modern theme. I purchased 4 hinges that require 9 screws to secure each one from Elmer's (£2.45) they work really well and help to open the door effortlessly and the drill never reached to the other side of the wood drilled through therefore the overall process of applying the hinges was of a high standard

## Handles + Catch



My product needed a total of 3 convenient handles to be able to function properly as well as handles that complimented the aesthetics of the product therefore my aim was to purchase modern silver polished handles. These handles were purchased in Wilko's and fitted with bolts (£4) I additionally needed a spring catch to secure my doors purchased from Elmer's (£1.50)