



# ASSIGNMENT COVER SHEET (INDIVIDUAL ASSIGNMENT)

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## Report (10 pages)

### **-State of the art review**

For this assignment I have chosen to design and create a satchel bag. Intended to carry a laptop, and anything else the user desires, this bag is designed to be both practical and fit the aesthetic of the Monocle Store.

Designed to be a part of the business and professional services field this bag allows for an elegant yet practical solution to the needs of business professionals. As business professionals fit the target market for Monocle my design fits the given criteria.



(Image from <https://monocle.com/shop/product/17662/shoulder-bag/> )

In this review I will be analysing how my design fits within the Monocle style, makes use of Blue Sky Thinking, as well as discussing the overall user experience and innovations I have made use of to achieve this.

Monocle attracts wealthy people mid 20s and above. These people are above average in social standings, as well as financial standings. They desire and expect quality, the monocle store demonstrates this fact with their products and prices. Furthermore a stylish design is paramount for this audience, as it is this fact that brings them to the Monocle store in the first place. Due to the nature of the products within Monocle the prices are quite high, which in-turn invokes a expectation of high quality and standard.

Due to the fact that my product is practical it fits within the usecase of practicality, meaning people who need to carry things often. People within the professional workforce are often carrying a laptop to and from work every day.



(Image From <https://vonbaer.com/products/business-city-leather-laptop-bag> )

Additionally, due to the constant use the product will face if purchased by the target market it will have to be durable, I believe I have accomplished this and will discuss why later in the report. Within the professional field appearance is important and may effect ones ability to find and mainatain a job, “a growing number of data surveys point out that physical appearance has a significant impact on job competition” (Pan 2022). I have designed my bag to have an elegant appearance. I have taken inspiration from the Monocle store and have taken note of the benefits of standing out within the professional workplace “It’s about standing out, and standing for something special” (Arruda & Dixson 2007, pp. 15–15). Therefore I have chosen green as my main colour. Whilst this colour is commonly featured in the Monocle store, it also allows for the user to stand out from the crowd, which is beneficial in my targeted field. The challenge of marrying practicality and stylish design in a complex one, however through experimentation and thoughtful design decisions, both involving structure and appearance, I believe I have accomplished this goal.

Laptop bags are not new, this includes the saddle bag design. However I believe some improvements can be made to existing solutions.



(Images from <https://monocle.com/shop/product/17662/shoulder-bag/> )

This is an existing solution to the problem, as presented by Monocle. This design is practical and accomplishes it's goal, which is to be expected at 465AUD. However there are some things left to be desired.

The bag is almost exclusively made from a canvas-like material. This design choice is quite common and easily found in many other stores, it is a durable material but lacks a stylish and high-class demeanour.



(Image From <https://www.canvasetc.com/what-is-canvas-made-of/> )

The bag also makes use of zippers, which not only forces the user to make unneeded physical input to open, but also creates a noise which may be attributed to a classroom. This design choice does not create a professional feel. Furthermore zippers are a common failure point in bags.



(Image From <https://www.instructables.com/HOW-TO-FIX-A-ZIPPER-NO-REPLACE/> )

### **My Laptop Bag Design**



As previously discussed I chose a deep green colour for my design. This colour choice is unique yet stylish.

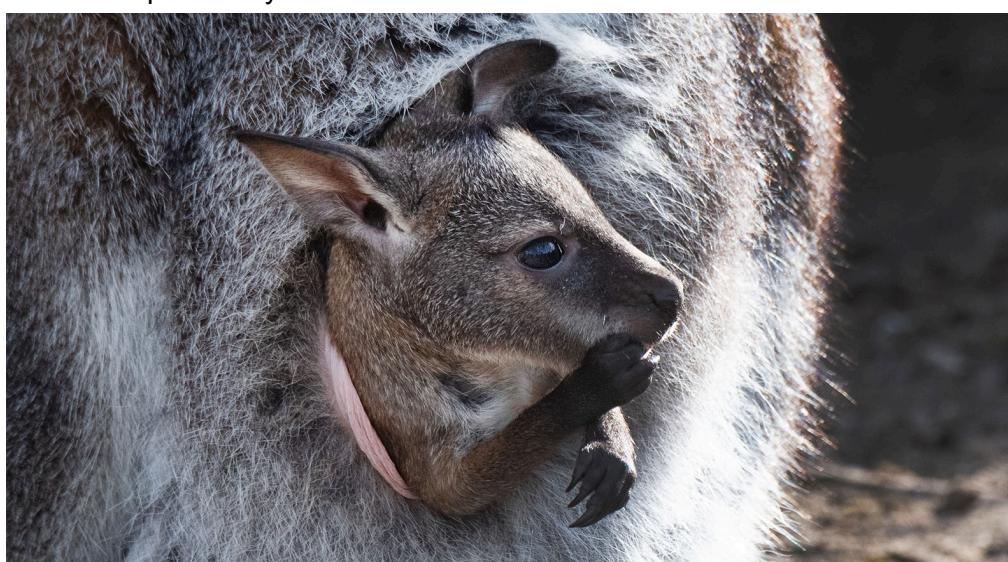
Due to the nature of the leather I employed small metal rod components in the design. These pieces act like a skeleton to add structure to the component whilst remaining hidden. Built upon this feature I sized and cut the leather flaps to be a dimensional match to the gaps of each pouch within the bag. I employed two pieces of leather on the inside of the flap, these pieces are pulled together with a large stitch, this creates a hinge-like feature which ensures the flaps naturally fold over each pouch opening perfectly.

I believe this design choice better fits by bags aesthetic, rather than wet-moulding it allows for the leather to retain it's natural flowing nature and softness.



(Image From <https://www.goldbarkleather.com/sourceblog/the-basics-of-wet-forming-leather>)

Furthermore I took inspiration from kangaroos when design the inside of my bag. The pouches are fully enclosed, which is also permitted by the hinge and skeleton features mentioned previously



(Image from <https://animals.howstuffworks.com/mammals/kangaroo-pouch.htm> )

As laptop sales are quite high and rising, the need for laptop bags is high, therefore the market is quite expansive, “161.6 million laptops were sold, 65.23% more than desktop-PCs, and almost the same quantity as tablets in 2017” (Sönmez Çakır & Pekkaya 2020).

I believe the introduction of such a product will influence trends and allow for similar designs to become available. It may even improve laptop sales. Furthermore the users may feel more comfortable in their workspace, especially when travelling to and from work. A quality product is of upmost importance for the target market.

As discussed, my design gives the user advantages over current solutions for the target market, it allows for a stylised and practical usage, with a uniqueness to stand out.

My design allows for future markets, as it is unique and stylised it will be sought after by the specific target group it is designed for. Laptops will continue to get more popular over the years, therefore this product will remain relevant. Professionals within the business and design markets will continue to make money, which allows them to continue visiting stores such as monocle and purchase designs such as mine. This product is future-proof and would be in use and make an impact for many years.

My design makes use of existing innovations and improves upon them by adding additional features. It also pertains to the target market through it's unique style and presentation, as well as overall quality.

#### **-Context analysis**

(Discussed elsewhere within report)

#### **-Product task analysis**

<https://youtu.be/A7FNXzUsK8c>



## -Manufacturing discovery

When designing such a product one must consider the target market first and foremost. The target market for this case expects quality, therefore materials are important. This means the manufacturing process will involve expensive materials.

Synthetic leather options are available but I believe they would not be suited to this product and market as quality and texture are lacking.



(Image From <https://thehandmade.store/blogs/handmade/tricks-to-spot-real-leather-bags> )

As seen in the above image, the real leather has a unique and changing texture throughout, whilst the fake leather is quite consistent. The latter therefore, has a manufactured feel and look, whilst real leather is natural and inconsistent. As the market has likely purchased leather products before they know what to expect, and are more than likely to detect fake leather, therefore cheaper costs are not worth it. Furthermore the target market are also likely to spend a lot on quality products rather than spend little on lower quality products.

Additionally real leather has a softer and more forgiving feel, which speaks to quality. The natural leather also has a unique scent, which once again, the target market are likely to pick up on and increases the likelihood of a purchase,

In terms of what leather to choose, it depends on usage. A softer sheep leather was chosen for one of my designs pouches, intended to indicate storage of softer items, such as paper or a pencil case, which the target user is likely to have.

Whilst the other pouch is made from tougher goat leather. This more durable material is intended to house the user's laptop. However durable this leather is more aesthetic over bull or buffalo leather. It was also used for the strap for the same reasons.

In terms of hardware I chose gold. Gold is the universal indicator of wealth, and therefore pertains to the target market.

The hardware chosen is quality and sturdy, allowing for ease of use and long life expectations of the product, which is to be expected when purchasing an expensive item.



(Image from <https://www.leathersatchel.com/products/gold-hardware> )

The main leather is simple cow leather. A staple in leather design, however soft and flimsy, however the particular texture and colour of this leather pertained to the target market well and I chose it due to this fact.



(Image From  
<https://www.deluxecowhides.com/index.php/products/dyed-emerald-green-cowhide-rugs-size-7-x-7-ft-dyed-emerald-green-cowhide-rugs.html> )

Throughout the process everything was hand stitched. This is a lot more time consuming than using a machine, however hand made products are more valued than simply manufactured products. Each handmade item is slightly unique in its own way, and when spending a lot on an item one would want it to be looked over carefully from all angles, this does not happen with mass production. Furthermore as discussed, it is advantages for the targeted user to have a uniqueness to them and therefore hand crafted items may be more desirable.



(Image From <https://vonbaer.com/blogs/blog/sew-leather-by-hand> )

## **-Brief**

The Monocle market requires quality and refined product design. As people of high class and wealth they have become used to items that will last and create a statement within their own style. My extensive design choices have allowed me to create a quality and stylish product.

Due to the nature of the material my leather had a small defect on the surface, this would be unacceptable within the monocle store, but this is hard to avoid in natural products.

Furthermore, as previously discussed the leather I chose lacks rigidity and therefore needed additional materials and structure to create a higher quality product. However the overall lack of structure is still an issue (although this may be matter of opinion). I have looked at new research into leather and have found some successful experiments with the employment of chemicals “In this context, the objective of this work aims to minimize structural and superficial defects of discarded leather by employing leather hydrolysate and commercial fillers (nanoclay particles, expandable and glass microspheres) and employing the combination of additives that proves more effective in improving the leather's mechanical properties” (Penayo 2023).

The article cited above mentions success in minimising visual defects in leather. This technology would be highly beneficial for my product as visual perfection is expected within the target market. Employment of a successful additive would increase production costs and time, however given the target markets expectation for high quality, as well as the desire for hand-made products (which inherently take longer) I don't believe this would be much of an issue, the benefits outweigh the downfalls in this case.

The downfalls of the same employment in terms of structure remain the same. If I could have found a more rigid leather with the same finish I would have used it, however due to the fact that this natural product is quite sparse, as well as the difficulties involved in dying leather myself I had to compromise for the leather featured in my product. As previously discussed I employed additional materials and innovations to create further rigidity for the product, whilst this may add interest to the product overall I believe a change in overall materials would be a better solution, as I believe rigidity demonstrates build quality.

In terms of possible improvement, despite its lack of structure the design is quite heavy. Due to the fact that the product is designed to be carried on one shoulder the user may become uncomfortable. A solution would either be a lighter material or a smaller design. However I do not believe employment of the solutions would result in an overall improved product. If a new technology could lighten the leather it would be ideal. Fake leather and vegan leather is currently available, however natural leather is seen as more luxurious and therefore fits the target market better “Leather has long outgrown in its practical purpose and today is regarded more as a luxury than a necessity” (Kesarwani, P., Jahan, S. and Kesarwani, K., 2015. pp.977-982.).

The use of leather to create a hinge is novel, however a possible integrated yet invisible hinge product would be an improvement.

**-Reference list (Harvard Style)**

Arruda, W & Dixson, K 2007, *Career distinction : Stand out by building your brand.*, Wiley, Hoboken, pp. 15–15.

Kesarwani, P., Jahan, S. and Kesarwani, K., 2015. A review on leather processing. *international journal of applied research*, 1(9), pp.977-982.

Pan, S 2022, 'The Impact of Physical Appearance on Employment Competitiveness', *Advances in Social Science, Education and Humanities Research*, pp. 1–1.

Penayo, J 2023, 'Development of sustainable processes for leather surface and structure defects minimization', *Handle.net*, viewed 23 August 2024,  
<<http://hdl.handle.net/10198/29432>>.

Sönmez Çakır, F & Pekkaya, M 2020, 'Determination of Interaction Between Criteria and the Criteria Priorities in Laptop Selection Problem', *International Journal of Fuzzy Systems*, vol. 22, no. 4, pp. 1177–1190.



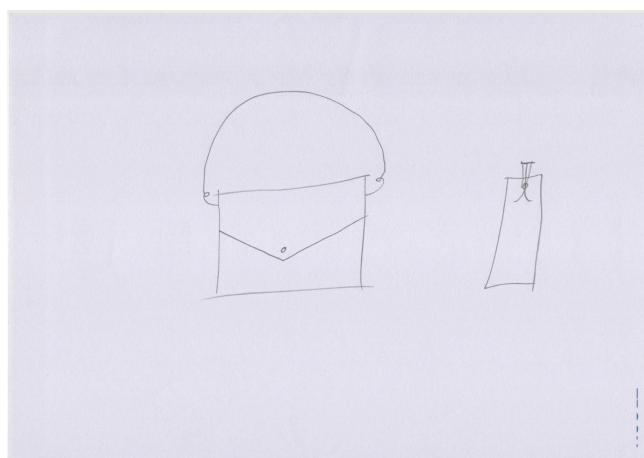
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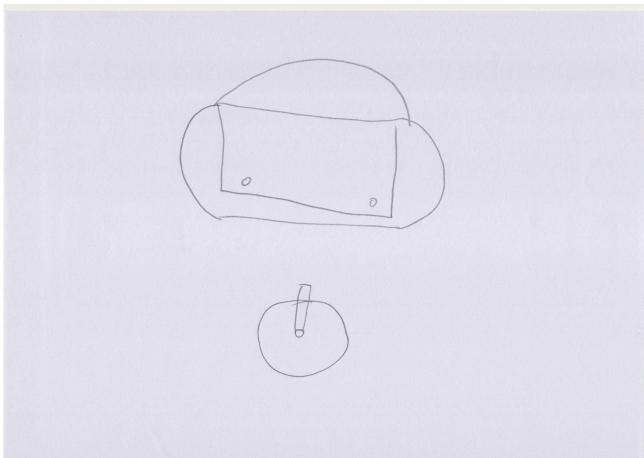
## Process Document



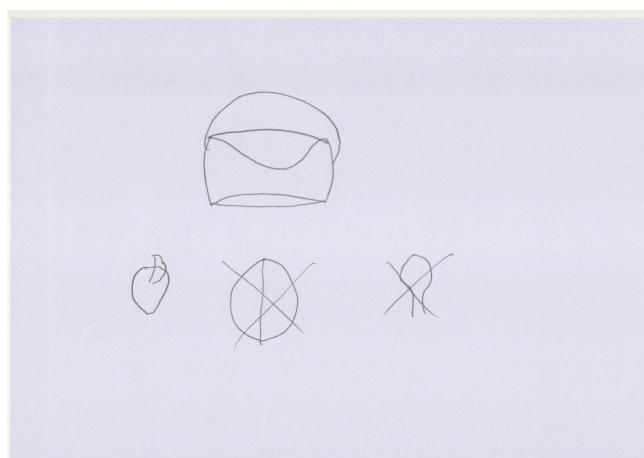
### **-Concept design sketch evolution**



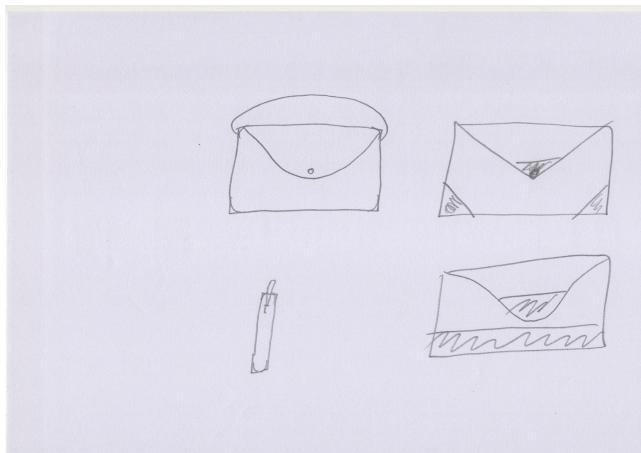
I originally knew i wanted a laptop satchel bag. I knew it would be a good design as I have used one before and liked it, but I had to make it fir the monocle style.



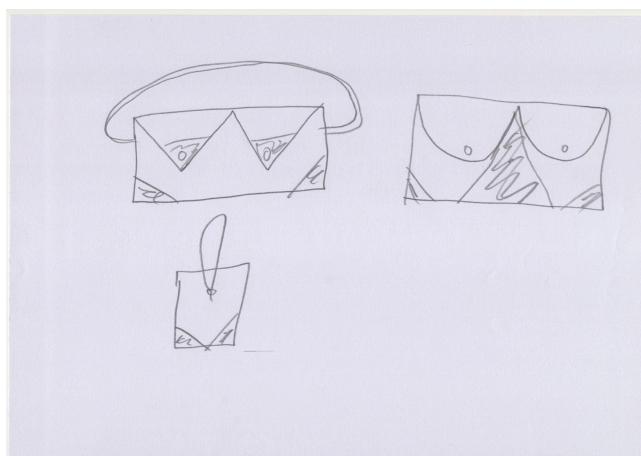
For this iteration I took inspiration from gym bags. I made it larger and tubular. I liked this simple design but didnt think it fit the monocle store.



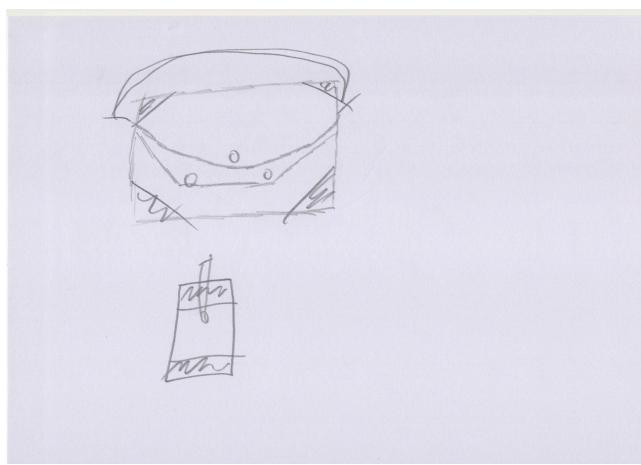
In this iteration I started experimenting with curved, I attempted to use inspiration from nature to create a natural curvy design. However I relaised that leather is not very structural and would likely fall in on itself with this design.



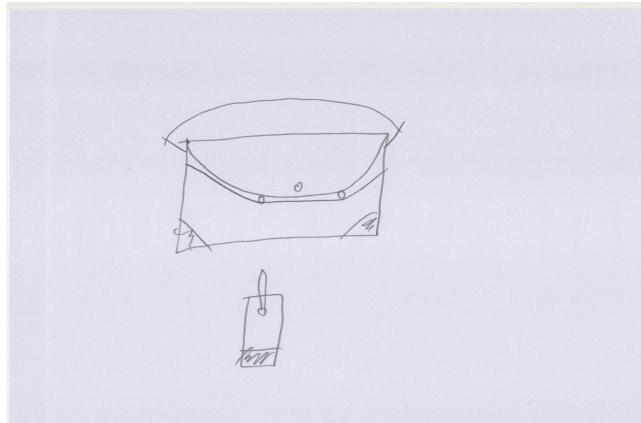
Taking from my previous thoughts I tried to add structure to the design by adding different coloured leather in the corners to add rigidity. I also experimented with different flap shapes.



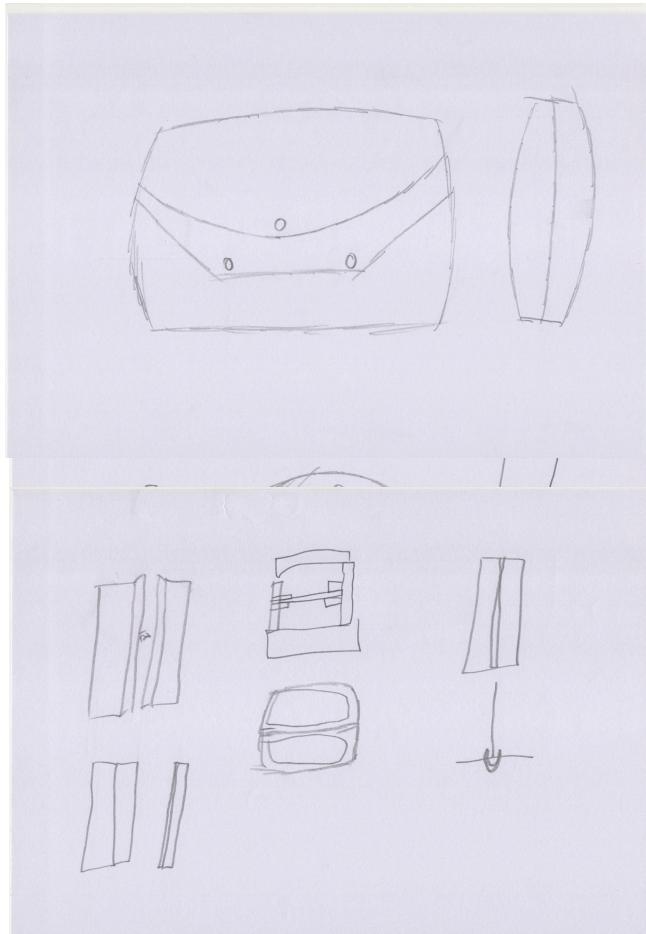
I decided I should try and add some new features, so I tried a double flap design. This design is unique but would be much too large and heavy.



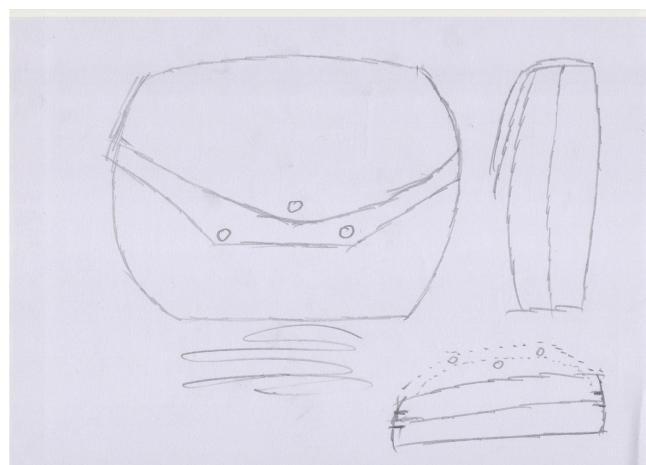
I wanted to keep the double flap design, so I decided to put one flap over the other. This would result in a thicker bag but I thought this was a good design. I also experimented with mixing curved and geometric shapes.



I further iterated this design, but removes some of the extra corner supports as I thought it made the overall design of the bag too busy.



After considering the amount of work needed I completely removed the corner supports and further refined the shape of the bag. I liked the simple curves, as this simplicity yet elegance fits the monocle store.



I began experimenting with how to put the design together. I wanted to separate pouches so I split the side pieces into two, which would then be joined, that join would also be used to hold the separating piece. To add further structure I decided to simply stitch the bottom of the divider to the flat bottom of the bag.

I finalised my design and the shape with this sketch. I knew the size of my bag should fit my 14 inch laptop, so I moved to a physical prototype.

**-Blue sky thinking and experimentation documented (Rhino/Grasshopper or 'Generative' design**



As I moved to the paper model I experimented with shape. I knew the leather would not be as rigid as the paper, but this was a good base to understand how the pieces would fit together and act.



I wanted to utilise a pouch design, inspired by kangaroos. I wanted each pouch to be fully enclosed, as other bags with flap designs leave some pieces open. Due to the nature of the paper some holes would naturally appear at the top but if I relied on the leather it would not hold its own weight like this and the gaps would close.



I wanted both pouches to be completely closed and covered, so I used this paper model to experiment with the different flap sizes and shapes. As well as user experience, I used other people to determine which flap they would naturally open first, this would become the main pouch.



To add strength to the edges of the paper model I used masking tap and wrapped multiple layers around the top to add structure. I soon thought about how to do this with the leather.



As shown here the leather I chose is not structural as flops over quite easy. I did not want this for my product, but as previously discussed I did not want to add too much extra leather to the design to add rigidity.

So once again I looked to nature, I realised that leather is skin, and skin is not structural by itself, nature has already solved this issue however. A thin structure inside the skin adds structure whilst remaining hidden.



I needed something thin yet strong, so naturally I turned to metal. A metal clothes hanger to be exact. Like a skeleton this consists of straight thin but strong material. It was perfect for my project, but I still needed to integrate it.



To integrate the metal I experimented with different glues to find an effective way to bond the metal to the leather. I did have some success, however my design did not require the bond to be too strong.



As the edges of the metal are quite sharp when cut (Right), I filed the edges of each piece smooth (Left). This stopped the metal from piercing the leather, and removed a safety hazard.



I folded the leather over the metal and stitched it quite tight with a saddle stitch, this was enough to hold the pieces in, however the sides still had an opening. I made use of the glue I chose (2 Part Epoxy) to secure the metal pieces and stop them moving side to side.

### -Material and process experiments



I chose 3 different leathers for my design; dyed cow leather, brown goat leather and black sheep leather. The green will be the main structure, the goat will be the strap and main pouch and the sheep is the secondary pouch as it is softer than the goat leather.



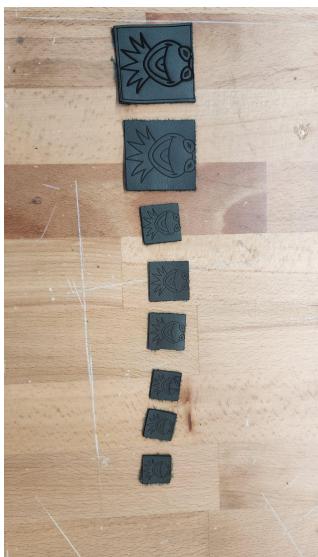
The green leather was dyed with emerald green. This deep colour is quite stylish and fit within the monocle store as other green products are featured.



The goat leather was not very flat. To ease the manufacturing process (namely laser cutting) I needed to put it under weight to flatten it out. The leather then came out smooth and flat. This leather is quite soft to touch and has a nice finish.



The green leather came in a large piece, therefore it was need to be hand cut before being placed in the laser cutter. The laser cutter was chosen as it is precise and leaves clean edges on the leather.



As each piece of leather is unique, testing was done on each leather to find the best settings, for both cutting and etching.



To add a finish to the leather I used leather conditioner. This promises to add durability to the finish of the leather as well as add a water-proofing element. The face of any leather can be easier grazed or scratched, therefore adding such a finish adds to the products life expectancy.



As seen in these images the conditioner (top) results in a slightly deeper colour. Also notice how the light washed out the face of the non-conditioned leather (bottom) whereas the conditioned leather remains a consistent colour. I believe this was a worthwhile improvement to the product and will result in a more durable finish.



In terms of thread I chose this deep brown brazilian waxed thread. It is quite thick, however I think it adds to the overall design of the product, as it shows off the stitching.



As seen here, the thread nicely contrasts the green leather, whilst the thickness of the thread nicely shows the feature of the stitches.

## -Manufacturing detail experiments



As previously stated I used the laser cutter to cut out my individual pieces of leather. This resulted in exact sizes and shapes as well as clean edges.



To stitch I first used a tool to punch holes along the edges of the pieces of leather. This resulted in pre made holes that are exactly the same space apart along the edges of the leather. I mostly used saddle stitching, as the resulting stitch is quite nice.



I attempted to use a graver to grave lines to follow when punching the holes, however the leather was too soft to follow the edge and kept moving. Therefore I did it carefully by eye. This is not a perfect finish, but I believe it has resulted in a very straight stitch.



I experimented with a few stitches and attempted to create a covered edge between two leathers by squeezing it.



However I believe the stitch look quite nice as a feature and adds to the product by slightly sticking out from the leather.



I also experimented with a few different buttons. The riveted magnetic buttons were hard to find, but I chose these as they looked the best and most refined.



I did further stitching experiments, this time stitching two leather back to back to hide the back of the leather. The resulting product has no faces showing the back of the leather, which results in a more professional and refined finished.



To create the insides of each pouch I made the insides separately then inserted them. The insides were three pieces, this resulted in minimal stitching and a nice shape.



As I folded and stitched from the back of the edges the insides of the pouches feature no stitching. This is to ensure the smoothness of the inside of the product, following the kangaroo pouch inspiration.



To ensure the user cannot see the backside of the leather I folded the edges of the flaps, then stitched them tightly to ensure a refined finish.



The resulting edge is nicely finished and covers all of the backside of the leather.



The strap also consisted of gold hardware, the strap was made from joining two pieces back to back to keep the theme of only showing the faces of the leather. To accomplish this it was saddle stitched along all edges of the strap.



My design featured a hinge feature. This is to ensure each pouch is fully covered.



The inside of each strap was two pieces. The stitch I employed would pull these two pieces together.



The result was the piece naturally wanted to bend inwards, allowing the product to naturally close and hold its shape.



To ensure proper locating of the buttons I used tape to measure and mark the exact location of each button.