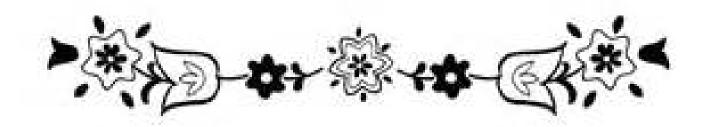
# Phoebe Taquest Wallingford School

Candidate number: 3087

Centre number: 62751



#### Client and context

Client user:

Name: Cvd O'Brian

Age: 56 Height: 5'7

Occupation: owner of Lily's tearoom

Likes

{ pattern and texture

{ Interested in vintage design

Likes to wear comfy clothes

Dislikes:

{ Boring designs

{ Items that are uncomftable to wear all day

{ Complicated and fiddly designs as she has arthritis

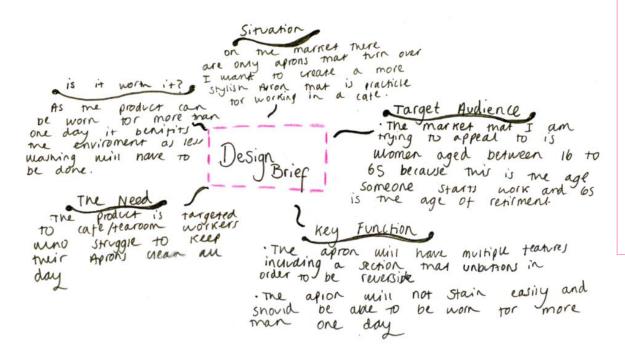


Cyd O'Brian is a suitable client for my project as she is currently looking to replace her old aprons which she has had for 5 years. She currently has 15 handmade aprons costing £20 each.

## Design Brief

The product that I have chosen to design and make is a multi-functional apron that can be worn for a few days without washing. I would like my product to have more than one component which will enable pieces to come off to be washed easier

My product will be targeted at 16 to 65 who work in a café or tearoom and struggle to keep their apron clean. I also want to make an apron that can be changed to suit a certain environment, for example making it reversible or adding removable sections.



### Key issues

#### Problem 1:

During the day an apron can get covered in food and other dirt which might not look appealing to a customer.

#### Problem 2:

Aprons have to be washed everyday which uses up energy from the washing machine- I want to reduce the amount of times the apron can be washed so it can have multi wear.

#### Problem 3:

Wearing the same apron everyday can get boring I want to have different sections with different patterns so the user can decide what pattern and colour they want to wear on that day

#### Problem 4.

As you can see from the picture the cotton apron looks very well worn, I want to use a more suitable material.



## Marketing

In order to make it marketable the product should be versatile to a variety of tearooms/cafes. Since the product will likely be purchased by the owner it will need to be able to fit into the café and reflect a certain colour scheme- chosen by the owner. The product will need to be 'one size fits all' – especially if it is made on a larger scale in a batch production. The design of the product will need to be original in order for the owner of the café to purchase it instead of a buying a basic plain apron. The apron must also have desirable aspects making it easier to clean to reduce the wash load. My intended market place will be independent cafes/tearooms that would like a Apron that is easier to manage and to have a personal touch.

#### Environmental issues

My apron will be made from fabric that can be recycled this will reduce the amount of waste in landfill. I also want to choose a fabric that can be washed less-reducing the amount of times it goes into the washing machine. I also want to make sure that the fabrics I test and buy are organic and don't use any harmful pesticides which harm animals and wildlife.

#### Moral issues

I will have to do some research to make sure my product doesn't have any symbols, words or patterns that might offend any religions.

#### Social issues

I will make sure the workers who make the apron are working in safe conditions with workers rights. I will also make sure the fabrics that they are using are safe to use and are not made from harmful chemicals e.g. I will choose organic cotton which doesn't require pesticides for growth.

## Information, Inspiration and Influences

### First hand research



I went on a trip to Ikea to find innovative apron designs that could influence my ideas.





Package measurement a Article Number: 703.111.74

Package:: 1

Width: 24 cm Height: 2 cm Length: 27 cm



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This apron features a long neck strap which allows the user to adjust the length of the tie by pulling it down and attaching it to the waist straps. I like the length of this apron as its long enough to cover the majority of the users clothing, however I think in a café environment this style would be too long and would get in the way. A disadvantage of this apron is that the neck strap is still very long even after it has been adjusted, when considering Ergonomics the strap could get in the way and might get caught in other kitchen appliances.





This apron is a shorter style that just covers the top section of the user, it uses Velcro to fasten the neck strap and the waist ties. It also has no pocket on the front. I don't like this style as it only protects the top section and not the bottom therefore clothing can still get dirty. I also think this style is not long enough for use in a café.



This apron appears to be a simple design however it has an innovative way of being adjusted to fit the user.

The neck strap and waist ties are one long cord which is threaded along the edge of the top section of the apron, the user can move along the cord to adjust the ties. It also retails for £5.00 which I think is a good price for this apron.

The price of this apron is only £5.00 which I think is a very good price. I will need to make an innovative design that will appeal to my desired customer to prevent them from buying a cheaper alternative.



The way this apron is adjusted is by the cord which runs the full-length of the top of the Apron. This means the fabric can be pulled along the cord making it easy to adjust to fit people of different shapes and sizes.





Similar products

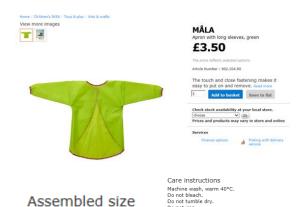


This apron is a simple style. It has a basic black and white stripped pattern which will go with most outfits in the work environment. The main feature of the apron is one large pocket at the front which is separated into 2 sections, this means that more stuff can be stored inside the apron.



This Apron is a very basic style of apron. It has no components on it such as pockets. Also the material, although wipe able is very un-comfy to wear as it doesn't fit the body shape properly. This Material is ideal for a cooking environment such as in a kitchen due to the fabric being wipe able.

## Information, Inspiration and Influences Second hand research



Positives about the design:

1)Covers a large amount of the body including the arms.

2) hygienic reasons- can prevent arm hairs falling onto food.

Negatives about the design:

1) having long sleeves means it will get more dirty easyer

2)The long sleeves will irritate the user over time







Positives about the design: 1)The neck strap can be adjusted to fit everybody 2)The colours and design on this apron are very appealing 3)The band around the waist allows the user to place utensils etc. for easy use 4)With practical pocket for storing small items. Negatives about the design:



Length: 60 cm

Width: 106 cm



Positives about the design 1) the user can decide what pattern they want to wear Negatives about the design 1)If the user gets one side dirty and turns the apron over their clothing will become dirty





https://www.etsy.com/uk/listing/253172214 /denim-apron-linen-japanese-stylecross?ref=market

Positives about the design:

- 1)Protects a large area of clothing
- 2) doesn't have a neck strap or tie around the waist for comfortable use negatives about the design
- 1) made from denim





Positives about the design: 1)The skirt can be worn to more than one occasion The skirt can be washed less

negatives about the design: 1)The user might only wear one side of the skirt which will defeat the purpose of the design



https://www.etsy.com/uk/listin g/228758177/vintage-style-1940s-floral-apronthe?ref=market

Positives about the design: 1) covers both the upper and lower area of the body Negatives about the design:

- 1) would not appeal to most cafes
- 2) would not appeal to men



#### Elient Information,

The potential client that I am going to keep in contact with is the owner of lily's tearoom in Dorchester on Thames . The owner is called Cyd O'Brian who has owned the Tearoom for 5 years and knows what type of apron works best. She has had the same aprons wants a change with a new creative design. I think she will be a very good client as she can advise me on what style is comfortable to wear all day and give me feedback on suitable styles.



#### Interview with Potential Client

Click to play video







I met with Cyd O'Brian the owner of lily's tearoom in Dorchester on Thames on the Saturday 3rd of July 2015 so that I could get initial thoughts on designs and styles. I have summarised what she had to say:

The design must be simple and easy to use

It must have multi purpose

The apron must be able to be worn for more than one day

It must be hygienic

First impressions mean a lot when working in a café/tearoom the fabrics must be suitable and relevant to the work place.

The apron must be finished to a high standard

The Apron must last a few years in order to fill its use

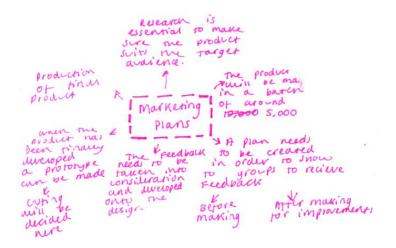
The Apron must appeal to both male and female workers

#### **Marketing**

My product will need to have a unique feature in order to appeal to a audience. The colour of the product will need to fit the environment, I have come up with the idea of having a plain base colour of the apron with a bright coloured removable section. By doing this it will appeal to a wider range of people. The product will also need to suit the work place that I am targeting which is cafes and tearooms, I also want to advertise the apron for home use.

The unique selling point of my apron is the removable section of the front . I am going to produce my product in a batch of 5,000 by doing this the cost for manufacturing will be low as a lot will be made, this also leaves room for profits. The removable section will come in a variety of colours and patterns making it desirable for a work environment as the look of waitresses/waitors can easily be changed to fit the interior.

I am going to add a split pocket to my apron in order for the user to store notepads and pens ect. By doing this it will also appeal to a wider audience as it is improving the functions of the apron and making it more ergonomically pleasing.



## Target Market

The target market is potentially the most important aspect a designer should consider when designing and constructing a product. Once the target market has been established it can help with the designing and patterns used. It can also help with the advertising of the product.

My target market is quite broad (16-65) which is the age you start working and the average age people retire therefore when designing I need to consider the different styles that are suitable for a variety of ages. It was this which gave me the idea that you can change the fabric on the apron my turning it around or inside out, this way it will appeal to a variety of peoples styles and ages. My target market involves The buyer which will be the owner of the cafe and the user which is the staff My design will need to appeal to both of these audiences.

My designs need to be creative in order fit my broad target market and needs to be fully functional for the café environment.

## Information, Inspiration and Influences Similar product Inspiration Further Inspiration



	Durability	Materials	Aesthetics	Ergonomics
Similar product: Reversible apron	The apron is made from 100 % cotton and should last a lot of wear and use , however after time the apron would wear out .due to the properties of the material and the amount that it will be washed.	The apron is made from 100% cotton which is a natural fibre. It has no extra coating on it so the colours will fade in the wash over time.	The colour of this reversible apron is quite bright, it also has a contrasting pattern which might not appeal to some people. The red is very bold and bright and might prevent people from buying the apron as red is quite a brave colour to wear.	This apron cost £15.00 from a vintage market stool this quite expensive for a basic apron however because its vintage it adds value. However for a second hand apron this is expensive
Reversible skirt	The skirt is made from a polyester cotton which is durable.	This skirt is made from a polyester-cotton which is the most popular blend of fabric. It is non-absorbent which means if it gets wet it will dry quickly. Polyester cotton also has a good drape which is essential for a skirt so that it flows nicely with the body.	This skirt will be Aesthetically pleasing due to it being reversible. The user can also decide whether they want to tone the skirt down and wear the cream side or if they want a bright bold pattern and wear the red side.	This skirt cost £20.00 which I think is a good price considering you can wear it to many different occasions. The buyer will also receive 2 skirts for the price of one. Which in the long run will reduce the wash load and save money.
Reversible apron	The apron is made from 100% cotton, treated with a Teflon anti-stain treatment, to help keep the apron looking new for longer.	This apron is made fro 100% cotton with a Teflon coating	Similarly this apron reverses around and allows the user to choose which colour they want to wear	This apron costs £25.00 which I think is a good price to pay for this apron as it will last a long time

During my research I found lots of other designs that simply 'turned over' for example the reversible apron that enables the user to choose the colour of their apron by simply turning it around. By doing this research it has made me think of other routes I could go own in order to make my design innovative. I am going to look into other ways to change the appearance of my apron without having to turn it around.

## Design Specification

The function of the apron must protect the clothing from getting dirty and also stop the spread of bacteria from clothing to food . The apron must also be easily wiped . The user must also be able to customise the apron with the patterns of fabrics they want to go together. The apron must also be versatile and fit with different interiors of a café.

#### Materials

The Materials for the apron must be wipe-able and washable and must not hold bacteria . The material should also be durable and last for up to 5 years. The materials that I am looking at are oilcloth , pvc and laminated cotton, these materials can easily be cleaned. Pvc is also waterproof which will be ideal for working in a café however it is wipe clean only which is a drawback as the aprons will need to be washed to stop the spread of bacteria. Oil cloth is also a popular choice for aprons as it can be easily wiped down.

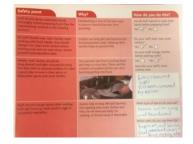
#### Aesthetics

The colour scheme and patterns for the apron needs to be appealing to ages The colour needs to fit with the tearoom colour scheme . I am thinking of adding removable sections to enable the apron to be adjusted to the environment. Each removable section can have a different pattern- enabling the user to customise their apron. The patterns that I am going to choose are going to be relevant to a café and not a random pattern

#### Safety

The apron must be fire resistant and hygienic to wear. For example I could buy a fabric with added silver nanoparticles to the material this stops the spread of bacteria. I can also Make sure the components are suitable for every age group. The ties on the apron shouldn't be too long as they could get caught around someone's neck, or they could get tangled around other components in the café such as door knobs and hooks causing an injury. I also need to think about the material I use for the ties at the top of the apron could rub the users neck after a long period of use, to prevent this I am going to research different tie types to use for my apron. ( see page 20)

when I was interviewing my client I asked to look through her health and safety requirements. This is a copy of the sheet where it mentions that 'clean



#### Manufacturing

aprons must be used every day'

In Industry aprons are made in batches using Dye cutting machines to cut out multiple aprons at once. If my apron was too be made on a larger scale I would do it this way.

The production method must be efficient to minimize waste of time, energy and material Templates will be used to ensure consistence in shape

#### **Ergonomics**

The apron needs to be one size and fit a variety of people this way anyone can wear it . I have looked online and calculated the average size for my apron. I am also going to measure the current aprons used in the tearoom and other aprons to get an accurate sizing. The product must be comfortable to wear all day

#### Cost

The apron needs to cost between £5 and £8 to make so I can make a profit when the item is sold I will sell the apron for £20 which I think is a good price considering the components and features of the apron. I am going to do some further research to look at the average price. The current price of the apron at the tearoom is £20 per apron, this is because it is hand made.

#### Client Feedback

I visited my client Cyd O'Brian- owner of lily's tearoom to interview her on what she needs from an apron. View video to see the results. I also agreed on a specification with her. This included the main point that the apron must have. A main point that I am going to focus on is making the apron hygienic.

#### Click to play video

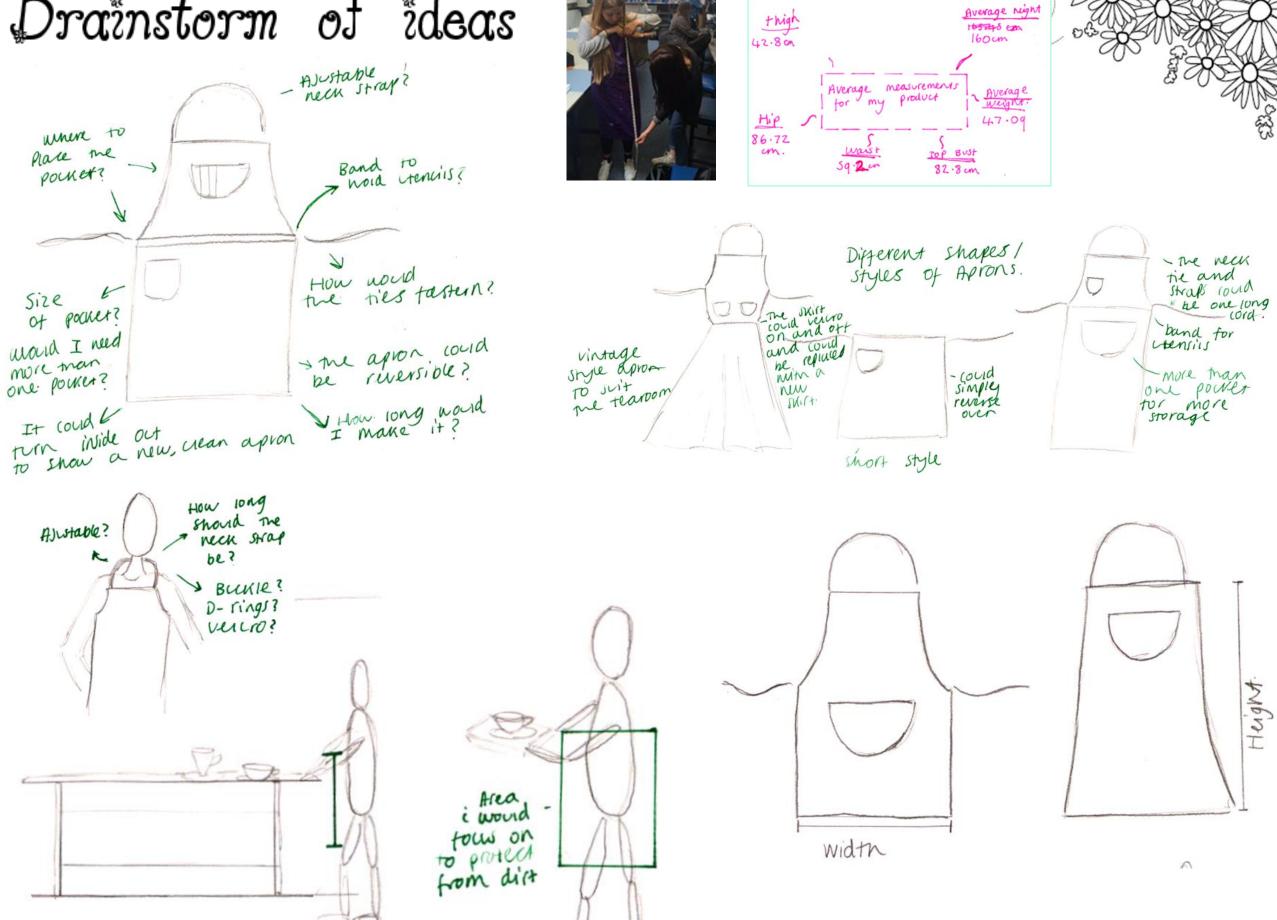


#### Agreed specification with Cyd'O Brian

- The Apron needs to meet the needs of the user and therefore it needs to be suitable for A variety of ages.
- When it comes to materials I need to find a sustainable material that is washable and wipe able and doesn't hold bacteria
- The user will want to know that the product they are buying has a low emission footprint
  because this will be more appealing to them and they may be willing to pay a little extra
  knowing they are helping the environment, therefore I need to manufacture the product in the
  most environmentally friendly way possible.
- I need to make sure that there are accurate instructions on how to wear and style the apron
- The Apron needs to Appeal to a variety of ages.
- The Apron needs to cost between £5-£8 to manufacture so that a profit can be made when it is sold.

I am looking to sell the Apron for around £15.00-£20.00 ( not including the removable sections) I will work out the exact cost when I know how much the materials will cost me.

## Brainstorm of ideas



### Înîtial Îdeas

As the tearoom I am going to base my specification and work around is a vintage styles tearoom I want to consider vintage styles of apron that I could modernise to make them fit the environment.



modern + old fashioned Apron

I also want to add a mixture of new and old designs to my apron. The top half of my apron is modern while the bottom half is 50's style with a pleated out skirt. The inventive design about this is that the skirt can be taken off at the top and replaced with a new skirt when it gets dirty. This means the top half stays the same while the skirt changes, the user can also choose what pattern they want on the skirt.



1950's style snort Apron -

This initial design is a 1950's style pleated short apron. The innovative design behind this is that it can reverse over so if the apron gets dirty it can be turned over so that it appears clean. A drawback of this idea is that the dirty side will be on the clothing. This design is also very simple and I think I will need a more complex final design.



~1950's style Apron-

I have also considered a longer 1950's style apron which includes a pleated skirt with too added pockets on either side this apron will be taken off and turned inside out showing a new pattern and making the apron clean. This will I mean the apron will last longer as it can be washed less. It also reflects the vintage theme in the tearoom.



I wanted to add a completely modern initial design idea for one of my apron designs. For this design the 'pink' section can be taken off the apron and turned around making it 'reversible' The bottom half is the half that gets the most dirty. As the section can be turned over It makes the appearance of the apron look more presentable. I think this design is the most practical for a café/tearoom.



I brought my initial ideas into Lily's tearoom to ask Cyd O'Brian for her opinions on which design she thinks would work best in a tearoom on a daily basis

To summarise:

Although she likes the vintage style of having a full skirt apron she thinks it will get in the way of working.

#### Response

After speaking to Cyd 'O'Brian I came to the conclusion to focus on a simple style of apron instead of re-creating a vintage look. I am going to use the simple shape of an apron while adding interesting and new components.

## Design Ideas

On this design the middle section will unbutton/velcro off so that when it gets dirty it can be taken off and be replaced with a new piece of fabric with a different pattern .

#### Points to consider:

- The apron and component should both be able to be washed in the washing machine
- The component must be easy and quick to undo
- It will need to secure the removable section to the apron all day
- It needs to last as long as the apron.
- It need to be suitable for all ages.
- The removable section would need to be hygienic

For this design I am going to use a pvc/oilcloth fabric for the main section of the apron and a cotton for the removable section. I have chosen to do this because the removable section is smaller than the main apron and will save space in the wash. The removable section will also be more hygienic if it can be washed more often



I think This 'detachable' apron design will work well in a tearoom/café environment as it can be personalised to the style of the café or too the user .

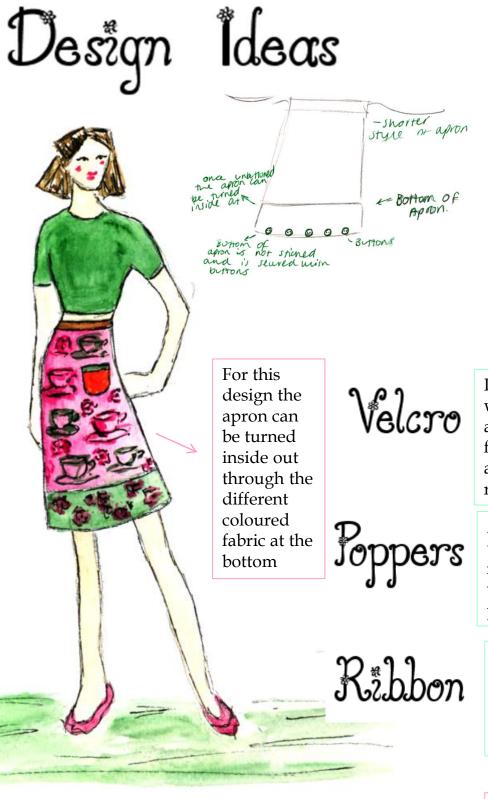
If I go on to making this design I will test the 'Detachable' section to see which component works best when securing it on to the apron e.g. Velcro, buttons, Poppers. I will do a series of experiments to see which component are the most suitable as the removable section will need to be secured all day.



The main body of the apron will stay the same and will be either be made from a washable fabric such as oil cloth or cotton.

This section of the apron will be removable, it will be made out of a cotton which is washable and will be secured to the main apron using Velcro







For this Apron design There will be a zip on the inside bottom section that enables the Apron to be turned inside out. By doing this The Apron can be used multiple times before being washed, Making it more environmentally friendly and more convenient for the user as it can be washed less.

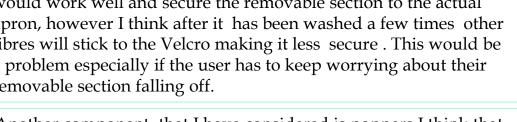
The apron can also be turned over in the middle of a shift to make the appearance of the user nicer as they wont be covered in dirt.

The Apron will be made out of cotton with one side made from oil cloth. Oil cloth is wipe able and water resistant which means it will be easy to clean down in the middle of a shift if anything is spilt.

I have sketched the 2 basic styles of apron that I could base my design around both styles of apron protect the clothing from getting dirty and stop Germs from spreading from clothing to food.

### Testing of Components

I tested Velcro on my model apron. I came to the conclusion that it would work well and secure the removable section to the actual apron, however I think after it has been washed a few times other fibres will stick to the Velcro making it less secure. This would be a problem especially if the user has to keep worrying about their removable section falling off.



Another component that I have considered is poppers I think that this component will work well as the user can just undo the removable section and pop a new one back on. This component will also last a long time. However it is difficult to line up all the poppers in the same place,

I also tested Ribbon onto my model. I don't think this component worked as well as certain parts of the removable section wasn't secured to the apron and the ribbon kept coming undone after a while. I also think the ribbon looks guite bulky on the apron and sticks out at the sides.









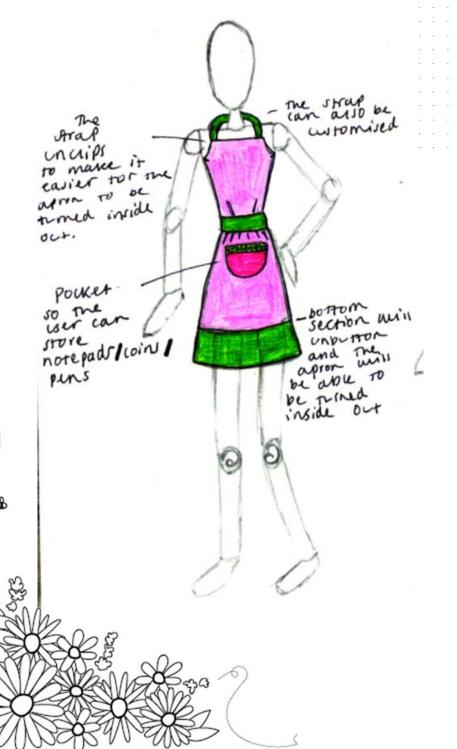




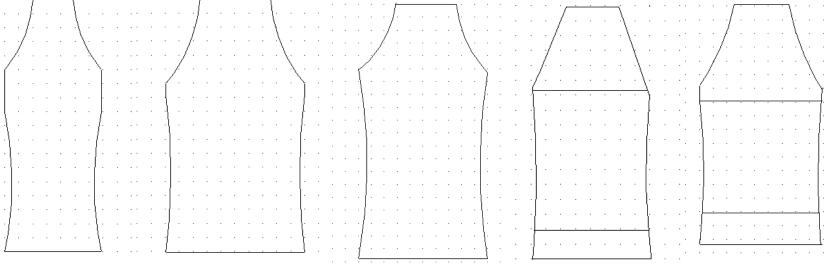
In conclusion I have come to the decision that the most suitable component is Velcro as its cheap to buy and use and out of all my other components it is the most ideal. For example poppers are very hard to line up and they would have to be the exact same distance on both side to avoid the removable section looking wonky. I also called up my client and asked which component would work best and she agreed with me that Velcro would be the most suitable method of securing the removable panel to the apron.

## Design Ideas

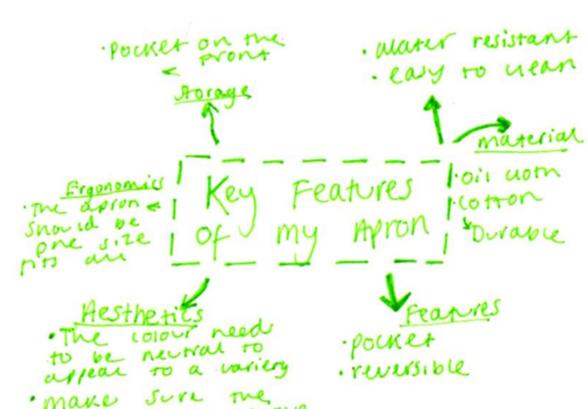
This design is similar to the short apron. The longer style enables more of the users clothing to stay clean. It is also more hygienic to have a larger area of clothing covered. I also think a longer style of apron looks more professional as most of the users clothing is covered. Customers can also see the apron if the user is stood behind a counter.



## Exploring Different Shapes



I have experimented on 2D design on different shapes and styles of apron. As you can see they are all a similar shape this means it is more suited to a larger audience. In order to do this I created half the template which I then flipped in order to achieve a symmetrical design. I have experimented with different shapes in order to make my apron design creative which relates back to my specification.



On this spider diagram I have listed the key featured that my apron needs to have. I think I need to add all these features to my audience in order to make it different and to appeal to my designed audience. I need to make my design stand out from a normal apron so my target market sees the benefits of my reversible apron compared to a normal one.

## Making my Model





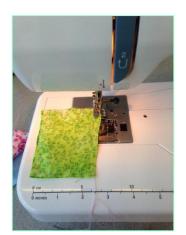
Step 1

I measured the manikin and made a template to fit.



Step 2

I put wrong sides together and sewed around the apron leaving a gap at the bottom to enable me to turn it inside out., I then top stitched over the top



Step 3

I did the same for the removable section, I turned it the right way round and top stitched over the top.



Step 4

I added pockets to both of my removable sections. To show what the real apron will look like.



Step 5

I have the final 3 components of my apron. I added some ribbon onto the apron so that I could tie it to the manikin.



Step 6

I added Velcro to both of the removable sections and the actual apron, this enabled me to shop how the apron will Function.



Finished model







#### Client Feedback





#### Client Feedback.

I took my model to show to Cyd O'Brian, The owner of lily's Tearoom in Dorchester. I have summarised what she had to say about my design.

- I think this design would be ideal for a café/tearoom, my apron is regularly dirty after a days work - especially when the 3'oclock rush hour comes in.
- The Apron is interesting and will grab the attention of customers this will create friendly conversations between staff and the buyers.
- I think the design is really easy to use and will make the aprons look presentable as a neat and tidy apron is key in a tearoom as that's what the customer sees.
- I really like the fact that the user can change the appearance of the apron.

### Ideas and Modeling Removable Panels

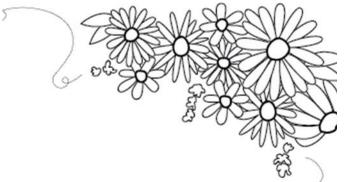
I have created a model of the design which I would like to develop further. I made this model out of a cotton fabric which I have made to fit an artist manikin. These prototypes show me what my designs would look like if they were made into my actual apron. The 3D model helps me to visualise my design and think of improvements.



This is a model for the detachable section of my Apron. As you can see there is too different styles which can be changed around . The back main part of the apron stays the same. The detachable section will be made from a wipe able fabric such as oil cloth. This means if the Apron gets dirty it can be wiped before being changed . This design also means that the apron can be washed less as a result its more environmentally friendly and will reduce the wash load.

I have also worked out an average measurement for my apron based on the Uks average size chart I am also going to measure the current aprons used in the tearoom and the similar aprons that I found in order to get an accurate size as I want the apron to fit a large variety of people of all shapes and sizes. By doing this it will improve comfort and will encourage people to buy more of the detachable apron

I want to make it so there are at least 20 styles of the removable section ranging from colour and pattern to appeal to a larger audience The benefit of doing this means the user can choose how they style the apron .the apron can also be customised to fit the interior of the café. The removable sections can be brought separately enabling the client to chose which designs they want.



#### Click to play video



In this video clip I am showing the user how the model of the Apron works.. I have used Velcro to show how the removable section will be removed however I will also test other components such as poppers and buttons to see which works better for my design and which will be more suitable in a café environment. When testing my components I will take in to consideration- how the product will be cleaned with the component attached and if there is any disadvantaged of having a certain component.

## Design Development And Making Choosing sutaible fabrics

I went to dunelm in oxford to look at fabrics for my apron, I wanted a oil cloth/ pvc material for the removable section, I came across this teacup design which is perfect for my tearoom, the material is 100% cotton and costs £9.99 per metre, I have worked out that you can make 4 panels per meter of fabric (depending on the pattern) the material has natural characteristics and isn't too stiff to wear. It is also wipe able which was an essential feature of my design.













I was also looking at fabrics for the base of the apron, ideally I would like to use a plain fabric for the back, this enables more of the removable section designs to go with the apron and for the user to be more daring with the patterns that they chose. I would like to use a teal green colour to match the colours of my tearoom it will need to be 100% thick cotton which is durable and will last a long time. This is essential as the quality of my apron need to be high and have a long life span. I was also looking at patterned floral fabric, I need to take into consideration that the user might want a patterned background with a plain removable section.

#### If my product was to be made in a larger scale

If my product was to be made in a batch production of around 5000 I would buy the material in bulk for a cheaper price, instead of paying £9.99 pm the cost would go down depending on how many metres I brought. By doing this it would enable me to produce more aprons for a cheaper price and make profit when they are purchased. (see page 24 where I worked out the cost of making my product in bulk)





. I also took samples of the material into the tearoom to ask Cyd O'Brian for her opinion.

#### Feedback:

I think the oil cloth material will work better if it was used for the base of the apron instead of the removable sections. Then the removable sections can simply be put in the wash while the oil cloth can be wiped down.

### Response

For my design I think choosing the fabric is a very important part of my Apron. The fabric will not only help to sell the apron but needs to fit in with a café/tearooms current interior. Following my client feedback I have decided to use the oilcloth as the main apron now instead of the removable section ( due to it being more hygienic) I wanted to have a more plain fabric at the front. I decided to choose a turquoise and red/pink polka dot material which matches the teacups on the main apron. This material would also fit in with 'Lily's tearoom' which is the tearoom I have been gaining advise and ideas from to inspire my design.







## Making my Prototype Adressing The Problem



This is the current apron that is used in Lily's tearoom as you can clearly see it has some faults in the design.

The neck tie is way too big and needs to be knotted in order to fit the users neck

The ties were not strong enough and after a period of time one of them has broken off and had to been replaced

The material in general is very flimsy and has started to wear away over time.

In order to improve this apron I am changing the fabric to a oil cloth and 100% cotton, I am also am going to add a adjustable strap at the top so the user can adjust the length of the apron







I tested out my prototype shape onto 2 different people to show how the apron will fit on different sizes.

As you can see the same size apron looks larger on one person than the other. In order to solve this I am going to take some width off of the sides but increase the length of the apron at the bottom . In order to make it more aesthetically pleasing for the end user.

I am also going to add an adjustable strap to the neck as this will make the apron easier to put on and remove.















I have made a very basic template of the main base of my apron out of cross and dot paper. By doing this it has enabled me to gain an idea of size for the apron . For the measurements I used the average sizes that I worked out a couple of slides back . I am going to use this template to made a prototype out of fabric before I start to make my real apron. By doing this it will save me money and time as I can make any changes to the apron.

When considering ergonomics I want my apron to fit a variety of people comfortably I want it to be one size fits all.

## Making my Prototype

In order to gain an idea of what my final design would look like I created a fabric prototype out of an old sheet. To do this I used the measured template that I created in the last slide (this will be the actual size of my final product) I then added the bias binding to neaten the edges and stop the apron from fraying. I had to practice doing the bias binding as its really tricky to do especially on the corners. After a couple of attempts I felt like I had gathered the basics of bias binding and started on my actual apron.



I measured the template out using an actual apron as the base, I had to add length at the bottom in order for the apron to fit a variety of people.



I then cut out the prototype to the right size.



Once the template was cut out I added the bias binding. The purpose of the bias binding is too neaten the edges and too stop them from fraying.



It look me a couple of attempts to get the bias binding right as its really tricky to fold over.



I sewed along the bias binding, I found it especially tricky on the curvy corners on the top. I made a mock up of the back of my apron to see how easy it was to add the bias binding.







I practised my bias binding on a small square so I could practise the tricky corners, as you can see it is a lot neater than my first attempt. I want my apron to look professional and the finishing touches much be neat.







I used an old apron which I added Velcro to demonstrate how my apron will function.

## Final Design

This is the final design that I am going to start making I have considered all the key points from my client Cyd O'Brian and combined them into one apron design

I think this design will work well in a café'/tearoom environment as the removable sections can be changed to fit any interior.

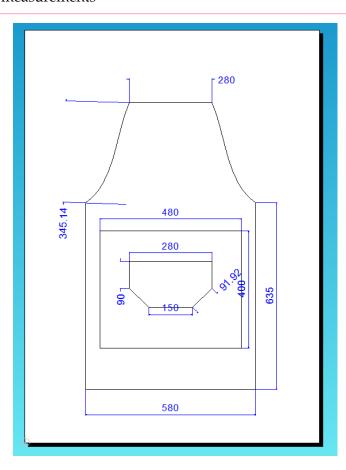


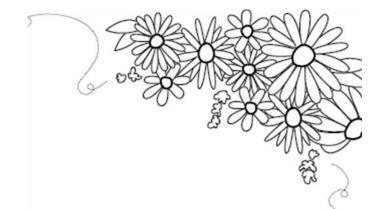
I am going to use Velcro to secure the removable section to the apron. I will place the Velcro around the whole length of the section in order to secure it and make sure it doesn't come off during a shift. I am going to use cotton for the removable section and oil cloth for the for main section of the apron. By doing this I will decrease the wash load as the removable section will fit into the wash easier. I was originally going to have oil cloth for the removable section, however after doing research I realised that oil cloth cant be washed and can only be wiped down, this could cause problems in the tearoom as aprons need to be kept as hygienic as possible in order to avoid the spread of bacteria .

The cotton apron will also be more comfortable to wear as it drapes easily. The only drawback about the cotton removable section is that is it very absorbent and dries slowly.

However if the section get too wet the user can swap it for a clean section, This property will makes my apron desirable.

I have included a 2D design sketch of my model and all the measurements





Client Feedback

Click to play video



### Response

I like that my client is happy with the design and thinks that the removable section is a good idea, Especially as she agrees that the apron will be more hygienic as you can just tear off the removable section and put it in the wash without having to wash the whole apron. After following her specification I think she will be happy with the end results.

## Experimenting with different straps







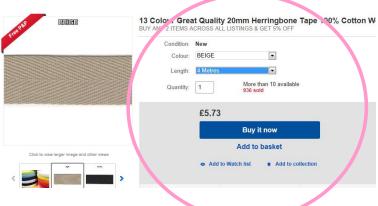
Once I started to make my apron I came to the decision that I had chosen the wrong material to use for my strap and tie.

I had purchased some white cotton tape from my local haberdashery which didn't match my bias binding or colour of the fabric. I had some spare bias binding which I experimented with by trying to make a tie. I turned the bias binding inside out and stitched along the edge, after that I turned it inside out so that the hem was on the inside. However after I had made it I decided that the material was too stretchy and would wear out easily.

After researching different types of apron strap I found that the most common fabric is herringbone tape which does show wear after use (pictured left) but lasts a long time. I have been researching on EBay to find the right shade of cream herringbone tape to match my binding. I think this will make my apron look more professional. I measured the average apron strap size which was 15mm by having it this thickness it will not cause discomfort to the user but will also not snap easily. I also would like to add a strap adjuster to the top of the apron by doing this it will make my apron more aesthetically pleasing to a larger audience.















I have been researching different types of herringbone tape on eBay to find the perfect colour match to my bias binding tape. I think that it is important for these to match to:

Make the apron look professionally finished

So that the waitress looks presentable when serving customers

To make the buyer happy with their purchase





## Making my Apron

I started off by using the Apron pattern template that I had previously used and tested for my prototype. I have also made myself a Gannt chart to timetable how long it should take to make my apron. I have scheduled that it should take  $10\,^{1}\!/_{2}$  hours to produce my Prototype. I have given myself this amount of time so that I am not rushed and I can make the apron to the highest quality with a professional finish.

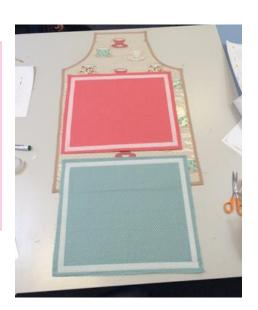


Making the Removable Section

After I had measured out how big I wanted my removable section to be I created a template, I added markings to the template, for example I wanted the fabric to be cut on the fold, this enabled me to cut out the pattern quicker as I only had to cut around 3 edges, If this product was to be made on a larger scale this would be done to save time cutting out. I cut out both removable sections this way.



I then measured out a 1.5cm border from the edge and carefully measured how long the Velcro needed to be, The reason why I have left a 1.5cm gap is to allow seam allowance and so that the Velcro isn't on the edge when I turn the fabric inside out.



## Bras Brinding





Once I had cut out my apron shape I added bias binding around the whole circumference of the apron, The purpose of the bias binding is too stop the edges from fraying and to add a professional finish.







The trickiest part of using bias binding is the corners I carefully folded the corners inwards and sewed down, I then went back and hand sewed the leftover thread from the machine back into the binding to that there was no lose threads.



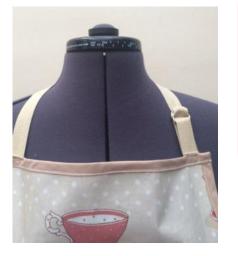


I had scheduled on my Gannt chart that it would take me 3 hours to add all the bias binding, It took me  $2\frac{1}{2}$  hours to complete which saved me  $\frac{1}{2}$ . I used this extra  $\frac{1}{2}$  hour to work out the best size for my removable section and to accurately measure it .

#### Neck the







After researching and testing out various ways of making my neck tie I choose a herringbone tape which is durable . I also added 2 D rings which makes the apron adjustable. The adjustable neck tie is a key feature of my apron as it makes my apron aesthetically pleasing as the user can choose the tightness of the strap.

#### Laser cutting onto fabric



I experimented by using the laser cutter to cut patterns into my fabric. I wanted to test this out as it can add detail to the apron and allows the buyer to customise the apron according to the tearoom/cafés designs.



As you can see the setting I had on the laser cutter was too strong and it cut through the fabric making it frail and delicate in certain places. Power:40 speed:50



I changes the settings for the cupcake so that the laser cutter didn't cut through the fabric and make it weak. power: 20 speed:50





I have also experimented with using different potential fonts for lily's tearoom that I am going to laser onto the front on the pocket, for the writing I used power 10: speed:50, as you can see it hasn't shown up very well and you can barely see it, For the teacup I used power:50 and speed:50 which made the material very fragile

#### Comparing ties

#### Herringbone tape & cotton tape

I am going to compare the too types of ties that I have brought. I am doing this because I want to find the best possible material for my apron.

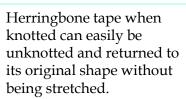








Cotton tape is very stretchy and creates knots easily after doing some research I came to the decision that cotton tape is not suitable for my apron. It also loses its shape over time and will extend in length.





After I had untied the knots the cotton tape had lost its shape slightly and was creased whereas the herringbone tape didn't crease.

#### Sizing of the removable section





Once I had made the basic shape of my apron I had too decide what size to make the removable section. I drew onto the oilcloth using a white board pen so I could get an idea of sizing. I want the removable section to be waist length and fall just above the knee. I also want it to be table height so it can protect the user from getting dirty when cleaning tables.



After trying on the apron I added an extra 2cm to the top and moved the panel up slightly, I did this so that it should comfortably fit a variety of people and sit on their waist. I also tested it out to see if the removable section was table length which it is. This is key as this is the area that gets the most dirty.

## Making my Apron Making a pocket

#### Client Feedback

I took the printed pocket to show to my client who 'liked the personal touch'



I am going to add a pocket to my removable section , I want this pocket to feature different sections so the user can store different sized pens and a notebook.

I measured a variety of different shaped pens and came to the conclusion that I should make the depth of the pocket 12cm, this way it gives enough room for the pens to slightly stick out of the pocket making it easier for the user to get the pens out so that they don't get lost in the pocket.



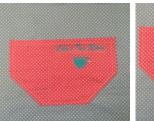






Once I had made the pocket and sewed them onto the removable section. When this was secure I drew out in tailors chalk where I wanted the sections for the pens and pencils to go, I made it so that they were 2cm wide which is big enough for any shape pen/pencil.

## Printing







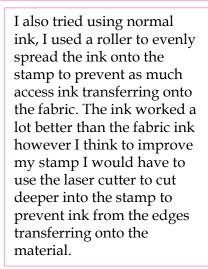




I am going to print onto the pocket the writing 'Lily's tearoom' to help me decide where I would like the printing I created a sticker which I moved around in different positions to decide which one was the most suitable. I then went onto 2D design and chose a variety of fonts that I could use, I managed to narrow it to 3, I think the most suitable is the 'vintage' style swirly font as it reflects the interior of the tea room best . Once I had decided on a font I turned it into a rubber stamp on the laser cutter by reversing the print

### The results:

As you can see my prints didn't turn out as I had expected, I had to use fabric ink instead of normal ink as this would not wash off the apron in the wash and would be waterproof. However the ink wouldn't go evenly onto the stamp and went clumpy in places.



I brought some black fabric dye which took to the stamp a lot better than the other dyes. As you can see the print is very clear. I also made a template on 2D design which enabled me to place the stamp in the same place on both pockets, This provided a professional finish.



















## Costing of my final prototype

I have worked out the total cost for making my apron I have also taken into consideration the overhead costs of lighting ect as well as packaging and advertising. I have also calculated the labour costs, I used my gannt chart to extract this information. From ages 18-20 the minimum wage is £5.30 from 21 + it is £6.70 for someone aged between 18-20 I would pay them £6.00 per hour to make the aprons and for someone over 21 I would pay them £7.00.

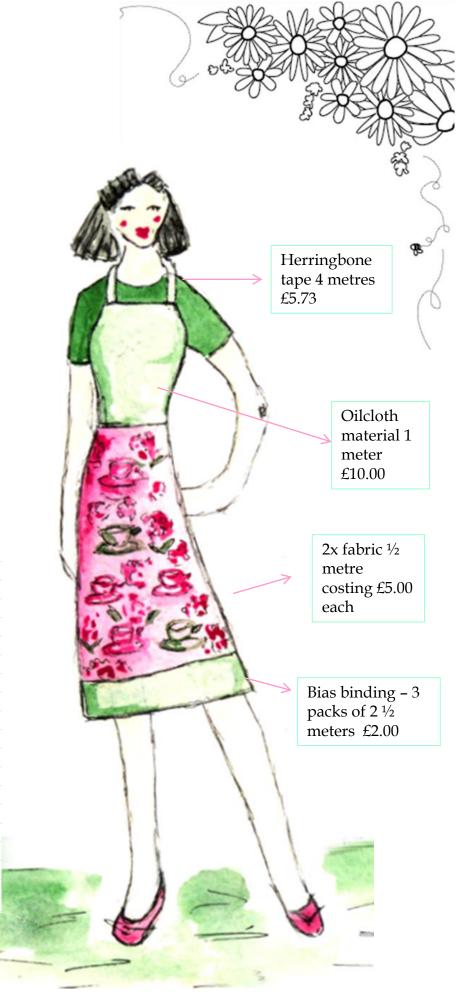
I have included the 18-20 price range in my gannt chats as that's how much I would get payed. As it took me 10 hours to make my apron I worked out that it would of cost me £60 worth of labour. In a factory time to produce my apron will be cut drastically as it wouldn't be all handmade and machines will be used to cut out the pattern and add the bias binding which were the most time consuming parts. My product will be made in a batch.

I have chosen this form of manufacture in order to keep up with the latest fashion trends as certain patterns might go out of style. Each set of removable sections will be made in a batch of around 100 this reduced the risk of making loads of sections in a particular pattern and them not selling.

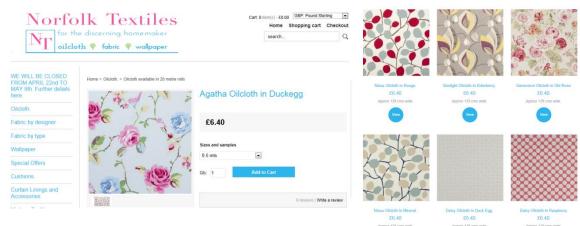
Costing Sheet				
Product: Reversible Apron				
Item	Quantity	Unit price	Total	
Teacup patterned fabric (mt)	1	£10.00	£10.00	
Polka dot fabric (green) (mtr)	0.5	£10.00	£5.00	
polka dot fabric (red) (mtr)	0.5	£10.00	£5.00	
Bias binding	3	£2.00	£6.00	
cotton taping	1	£2.50	£2.50	
Herringbone tape	1	£5.73	£5.73	
thread	1	£0.00	£0.00	
Labour (18-21)	10	£6.00	£60.00	
packaging/advitising	1		£0.00	
overhead costs (lighting)	1	£5.00	£5.00	
			£0.00	
			£0.00	
			£0.00	
			£0.00	
			£0.00	
			£0.00	
		Grand Total	£99.23	

The total cost of creating my apron was £99.23 – including labour and overhead costs. The most expensive aspect of my apron was the fabric . If my apron was to be made in a factory the material would be brought in bulk making it cheaper and lowering the total cost of each apron. If you take away the labour and overhead costs the total of the apron come to a total of the components used comes to £34.23

tem	Quantity	Unit price	Total
Teacup patterned fabric (mt)	1	£10.00	£10.00
Polka dot fabric (green) (mtr)	0.5	£10.00	£5.00
oolka dot fabric (red) (mtr)	0.5	£10.00	£5.00
Bias binding	3	£2.00	£6.00
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Herringbone tape	1	£5.73	£5.73
hread	1	£0.00	£0.00
abour (18-21)			£0.00
packaging/advitising	1		£0.00
overhead costs (lighting)	1		£0.00
			£0.00
			£0.00
			£0.00
			£0.00
			£0.00
			£0.00
		Grand Total	£34.23



## Sourcing fabric for batch production Oil cloth

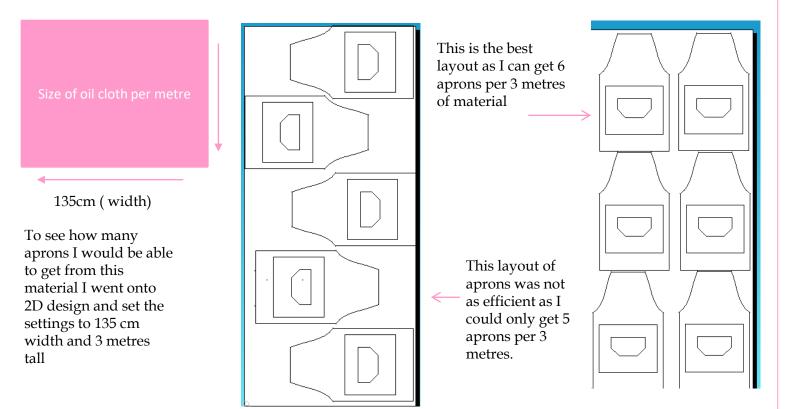


On the Norfolk Textiles website there is a variety of patterns to choose from each costing £6.40 for 20 metres . This will benefit me as I will need to buy a variety of different patterns to fit in with the colour schemes of my clients tearooms/cafes.

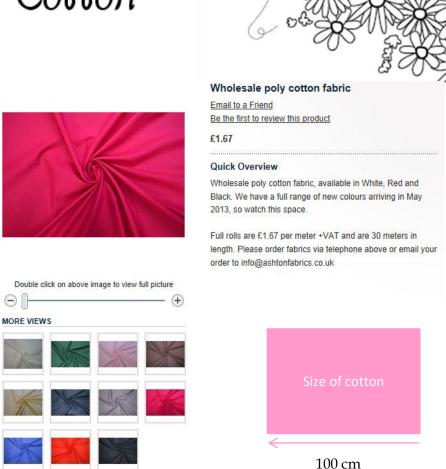
I found a website called 'Norfolk textiles' which sells oilcloth in batches of 20 metres each meter is 135cm across. I worked out that 20 metres would cost me £128 and I could roughly make 34 apron panels using 116 cm to make 2 aprons

20 m x £6.40 = £128. Therefore 1 apron = £128 / 34 = £3.76 per apron

This means that with 1 metre of oil cloth I can make 2 aprons costing £3.76 instead of the price I payed which was £10.00 for 1 metre. I am going to sell my aprons for £15.00 each which means I will make a £11.24 profit per apron. I will also take into account the profits I will make from the removable sections as the customer can buy them separately.



#### Cotton



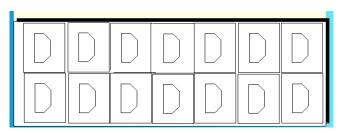
I also found online a wholesaler for cotton which I would use for the removable panels on my apron. The material roll is 1m width and each metre is £1.67 and is sold in batches of 30 metres. The length of my removable section is 47.5cm length and 40.5cm height I used the same material on the back as I did on the front which means  $40.5 \times 2 = 81$ cm this means I can get 2 removable sections per metre of material which enables me to make approx. 60 removable sections.

It will cost me £50.10 to buy 30 metres of this material

If I divide the cost per metre which is £1.67 by 2 I get 83p. This means each removable section will cost me 83p to make

I will retail each removable section for £5.00 each which means I will make £4.17 profit per section. I think £5.00 is a good price to pay for the removable section as its not too expensive so the customer can buy a few at a time and not feel like they have overspent.

I worked out that per 3 metres of cotton fabric with a width I could make 14 removable sections- as I am doubling up the backs I would make seven whole panels



#### The final Product

















This is my final product. I am very happy with the results. I am next going to take it to Lily's tearoom to test my product out and to see what Cyd O'Brians opinion is .

## Click to play video



In this video I demonstrate how the apron works and how simple it is to take off the removable sections and replace them with a new one.

## Click to play video



In this video I show what the apron looks like on and how to work the adjustable strap.

## Testing and Evaluation Refering back to my specification

- { The apron must protect the clothing
- { The product must be hygienic
- { The materials must be wipe able
- { The apron needs to fit a variety of sizes
- The apron needs to appeal to a variety of ages
- The apron needs to be easy to use









I took my finished apron back to Lily's Tearoom in Dorchester on Thames . I showed it to my client Cyd'Obrian who is the owner of the tearoom and who I have stayed in contact with throughout this whole process to make sure I fitted her criteria of what she wanted from an apron. Cyd'Obrian tested out the apron by wearing It to serve customers and in the kitchen area. I asked her what the strengths and weaknesses were ( see videos on the right)

Referring back to my specification points I feel that I have followed all my main points that I agreed with my client . The Apron is hygienic, wipe able, fits a variety of different sizes ( see pictures above) and protects the clothing The only specification point I would say doesn't fit accurately is 'The product must be easy to use' I feel like the adjustable D rings on the neck tie will be quite difficult for some customers to do up particularly if they are in a rush.

#### Click to play video



In this video my client demonstrates how easy it is to change the removable sections on my apron.
My client also commented on the design being innovative and how she has not seen an apron like this before

#### Click to play video



This video shows my client testing out the apron in her tearoom and serving a customer.

The customer complimented the apron and how the patterns fitted well with the tearoom, This fits with a video clip that I recorded of Cyd'Obrian earlier on in my coursework (page 7) where she says that the apron must fit in the vintage style of the tearoom.

## Client Feedback Click to play video Strenghts



#### Weaknesses



#### Response

Taking into consideration my clients comments on my apron if I was to make this product in a batch production I would change the adjustable fastening on the neck strap to make it easier to adjust.

### Marketing and Presentation

### Unique selling proposition

My product has a unique feature which will help to sell my product to my desired customer. The removable section on my apron enables the user to customise their own apron. The main base of the apron doesn't need to be washed but can be wiped down meaning there will be less washing. Throughout all of my research I didn't come across a similar product which shows how innovative my apron is.

#### The FPS of marketing

#### Product

My product must have a good concept and be of good quality if it is to sell well, It must meet and fulfil the customer needs

#### Price

After looking at prices of aprons and researching wholesale fabric company's online I came to the decision to sell the main base of the apron for £15.00 while selling each removable section for £5.00 ( see page 25 for my justified reasons and calculations of profits)

#### Place

In order to sell my product I have decided to advertise it using 3 ways, A leaflet, a website and an advertisement in a popular magazine which is aimed at cafes. I think these forms of advertisement are suitable for my product and are a relatively cheap form of advertisement

#### Promotion

To promote my product I would create a leaflet that can be posted through cafes doors. I will also create a website where the customer can view the different patterns of removable section and choose which ones to order. I am going to stick to a simple layout as my customers will be more interested in the aprons rather than the design of the website. I am going to choose a neutral colour to reflect this decision. I also want to use a neutral colour to expand my audience and make sure it is not just targeted at vintage tearooms like my research and 3<sup>rd</sup> party feedback is but so that it appeals to other cafes as well.

### Product Logo

I have decided to call my apron brand 'Swapron' which indicates the swap of the reversible panels on the apron. I think this name works very well as it is a play on words which creates more interest with a potential buyer. I also wanted to keep the word 'Apron' in with the name so that it is relevant to the product.



## Packaging

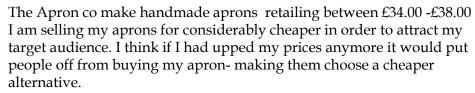
My finish product will be sold neatly folded in recyclable brown paper finished with the logo stamped on the top for a handmade touch. The package can then be delivered to the customer.

I think the packaging of the product is very important as it creates a first impression between a company and a buyer. I have decided to wrap my finished products in brown paper to make it more sustainable and because I am targeting small cafes/tearooms it creates a more personal touch.

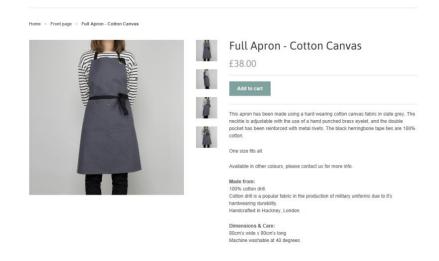
## Marketing Research



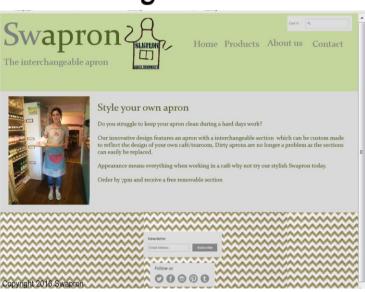


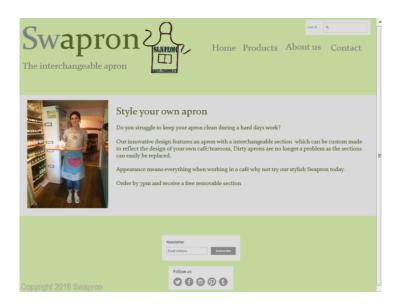


I liked how the Apron co website is very simple. I think that this is effective as the focal point is the designs of the apron and not on the background



## Creating a website





I have created a simple website in order to sell my product. Clients can browse through my website and view the different removable sections that are available, they can also read about the company on the home page and get in contact . I made my website very easy to navigate around making it convenient for my clients. I experimented first by using a pattern at the bottom to suggest the removable sections on the apron, however I changes it to a more simple design as then the focus will be on the aprons and not on the background.

#### Creating a Leaflet







For my leaflet I wanted a simple design that showcased my apron and its functions. I have chosen a neutral green colour as I think this will appeal to a variety of cafes / tearooms as it doesn't have a certain pattern. I think this will also suggest the versatility of the apron designs and show that they can be used in almost any type of café/tearoom

### Advertising: Cafe Culture Magazine



I researched a popular café magazine called 'Café culture' which features lists of café suppliers and articles on advice for running a café. The articles include 'Tips on how to pour the perfect latte' I think this magazine is perfect for advertising my product as it includes everything that a café needs.

List of café suppliers at the back of the magazine





Half page spread in Cafe Culture magazine which costs £875







If I was to purchase a space for advertising in this magazine I would buy a quarter page vertical slot as my product doesn't require a lot of space for writing. A quarter page costs £495 whereas half page costs £875. I think a half page would be a waste of money as you can clearly see the product that is being advertised in the quarter page.



Quarter page vertical 86 x 130mm

Display Advertising Ra	ates	
Front cover panel	£2000	
Inside front cover	£1800	
Outside back cover	£1950	
Inside back cover	£1750	
Double page spread	£2500	
Page	£1450	
Half	£875	
Third vertical	£695	
Quarter	£495	
Tip on page	Available on request	
Inserts	Call for more details	
(Discounts are applied for series bookings)		



(Discounts are applied for series bookings)

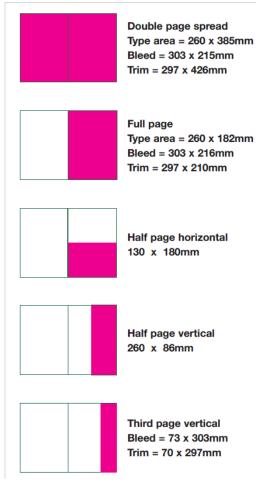
#### Website Advertising Rates

Banner advertising and links are available on www.sandwich.org.uk as well as E-marketing and direct-mail options. Please call Paul Steer for more details on 01291 636342

All charges are subject to VAT at the current rate.

#### Artwork Specification

All artwork should be supplied as a high resolution CMYK, PDF file on disk along with a hard copy colour accurate proof to JandM Group, Association House, 18c Moor Street, Chepstow, NP16 5DB. or on email: jayson@jandmgroup.co.uk.



#### Review and Reflection

After I tested my apron and received all my client feedback I had time to evaluate my product:

The main problem I came across when making my apron was attaching the bias binding to the oil cloth as it was a very fiddley procedure which I had to unpick and redo twice If my product was to be made in industry the bias binding would be attached by machines reducing the time spend adding them by hand. My research and 3<sup>rd</sup> party feedback was an essential bard of my work as it was these that influenced my final idea. The specification video with my client Cyd O'Brian was especially useful as she wanted an apron that was hygienic or wipe able which largely influenced my designs. An implication of my design would be the D rings which I used to make the neck strap adjustable, this is supported by my client feedback where my client found it difficult do up the strap.

I think my product would do very well on the market as there is no other product like it. And there is a need for a hygienic and more environmentally friendly apron on the market. My client feedback backs this point up as Cyd O'Brian said she really liked the design. My apron reduces the wash load as only the removable sections need to be washed while the oil cloth base can be wiped down or sprayed with anti- bacterial spray.

#### Life-Cycle Analysis

My apron is made out of too fabric components oil cloth and cotton:

Disposal

#### Cotton

#### Oil cloth

Growth of cotton plant

Harvesting cotton

Production of cotton fibres

Production of material

Use

Growth of cotton plant

Harvesting cotton

linseed oil extracted from flax seeds

Preparation and Application to the cotton fibre

Production of material

Use





Click to play video

I presented marketing presentation work to my classmates in order to show them what I had design and created and why I chose certain ways of advertisement.



Both of my components are made from natural fibres which means no harmful chemicals would have been used. This is beneficial for a café/tearoom environment as chemicals wouldn't transfer onto the food/skin or other items of clothing making it safe to use. As both of these materials are natural fibres when they are disposed of they will biodegrade back into the environment

#### Review and Reflection

The importance of research

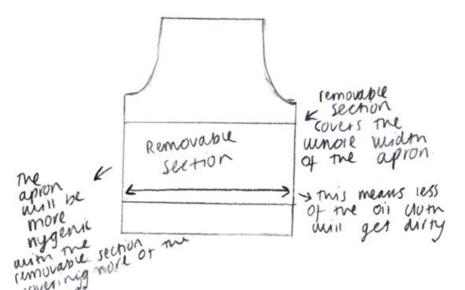
Research was a very important part of my coursework as it influenced my designs and the route in which I took in order to make my final outcome. I think the most important part of my research was when I went to ikea to do my first hand research this showed me that a design can be simple and innovative . I think the apron with the adjustable ties shows this as its so simple yet effective. This influenced me to think of a simple design that fits the specification and not a complicated one that would be hard to use.



#### Future developments

To develop my product further I would expand the size of my removable section so that I covers the whole width of my apron this will make my product more hygienic as the removable section is the part that can be taken off and washed.

Another development that I would do is changing the adjustable neck tie to another component such as Velcro instead of the D-rings to make it easier to adjust.



By extending the length of the removable section it will make my product more hygienic, as if the customer forgets to wipe down the apron it doesn't matter as the removable section will be washed and cleaned and cover the width of the apron.

#### Wider impact



If my product was to be made in industry in a batch production an implication would be the bias binding as this was very time consuming. It took me a lot of practice to get my bias binding looking neat and up to a professional level.

I researched if it was essential for oil cloth to have bias binding, from this research I found out that oil cloth doesn't fray, therefor it doesn't require bias binding. If my product was to be made on a larger scale I could leave the edges raw to save time and labour or simply use pinking shears to give it a nice zig zag effect. I could also use a over locker machine which sews over the edge of a fabric creating a hem I think either of these ways would work and would still give my apron a professional finish.





To solve this possible implication I tested both of these methods out on some left over oil cloth that I had. As a result the oil cloth didn't fray and left a neat edge. If my product was to be made on a larger scale I would use these methods to 'seal' the edge of the oilcloth and to make it look neat as this is less time consuming than applying the bias binding.

#### Review and Reflection

#### Manufacturing issues

The manufacturing of my product will be in a batch. This allows for more to be manufactured when the demand is there. I don't think it will be suitable for a larger scale as the fabrics will need to be changed to fit in with a cafes interior design. I also want to include personal details to each café such as the printing of the cafes name which would be difficult to do in a large production. Also each café would probably only order 20-25 aprons (depending on the amount of staff) meaning that a batch production in the most suitable.

#### Ethical issues

Culture is the way that history and beliefs influence society. This varies a lot between countries or even between different groups within the same society. Culture has a big influence on what people regard as 'good' and 'bad' design.

For example, in South Africa red is the colour of mourning. However, in China red symbolises good fortune. Trying to sell the same red product in those two countries would get a very different response.

I researched different cultural groups before I made my product to make sure nothing was seen as offensive

#### Social issues

As it stands my product will be hand made for cafes with personal touches such as a stamp of the cafes name. However if my product was to become very popular I would have to move it onto a larger scale so that it could be made in a batch production. The working environments for workers will be safe. The equipment will be tested every 6 months to make sure that it is not faulty.

#### Economic issues

Making a product uses resources, such as raw materials and energy. This has an impact on the environment.

My product doesn't have any economic issues as the material is fairly cheap to buy and produce.

As a designer There are a number of things that I had to about to reduce environmental impact:

The material used to make the product. The life of the product.

What happens to the product at the end of its life.

One way to reduce impact on the environment is to use less material in the product. I am going to place my apron pattens in a certain way on the fabric so that it waists as little material as possible.

A problem that I might occur is if I buy too much material that doesn't get used. For example I would have to buy the cotton in a 30 metre batch. If I don't use all of this material or if it goes out of trend the fabric would be wasted. However it could be recycled or used to make another product.

#### Sustainability issues

The too main components of my product are oil cloth and cotton. As I have previously shown in slide 30 both of these materials are made from natural fibres which means they are sustainable as they are not using up and important sources like crude oil. I am reducing the amount of waste material that I use by putting my patterns close together on the fabric. For the removable section I am also cutting both sides out together instead of cutting out both the sides separately and stitching them together.

#### Product Life

Most products have a limited life. This means that eventually they stop working, are worn out or are thrown away.

I am using oil cloth and cotton which are both hard wearing fabrics and should last between 5-10 years . Once the product has reached the end of its life span it can be recycled or the material can be used to make another product.

One way of extending product life is using better materials – like stronger materials or materials that resist corrosion. I have chosen to make my product to a high quality so that it is not 'disposable fashion' and would fall apart within a year.

#### Quality Control issues

If my product was to be made on a large scale some of the quality control checks I carried out on my prototype might not be practical. Simple visual checks would be hard because the products would come off the production line and then be boxed up and there wouldn't really be an opportunity for visual checks to take place. When it cam to accuracy of dimensions most of the cutting of materials would be done by automated machines and therefore would be very accurate.

#### Recycling, Reduce, Reuse and Repair

As already established the materials of the apron are recyclable. The cotton removable section can be reused and turned into a new product. The oilcloth can also be reused for something else. The apron is made from high quality materials and is therefor meant to have a long life span ensuring that the customer reduces the number of aprons they need to buy. When it comes to repair, if any of the aprons have holes in the removable section can be recycled and a new one can be brought. If the oilcloth gets damaged there is not really much you can do other than buy a new back section of the apron. However as the oilcloth is very durable this should not happen.

#### Commercial potential

Commercially I think my product has great potential. It is innovative and there isn't anything like it on the market already. The fact that it is simple to use and there is a need for a apron like this on the market, this makes it very appealing to café owners.