

Project brief



Personal Project Brief – IDE Master Graduation Project

Name student Usha Thomas

Student number 4,855,582

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Project title

The Diffusion of Textile Knowledge: should past practices be revived in a modern context?

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

About a century ago, textiles played a much larger role in daily life. Spinning your own yarn, knitting, sewing, and repairing clothes were common activities done at home (National Women's History Museum, 2016). In school, women were even taught basic sewing and repair techniques (Visser & van de Garde, 2013). The relationship most people had with textiles is very different from the one we have now.

In this day and age, our relationship with textiles has become more distant. Working with textiles is seen as something of the past --something only associated with our grandmothers. Not only has the knowledge of the textile craft faded into distant memory, textile production also largely shifted to faraway countries. This shift is evident when looking at the Netherlands. In the early 20th century, some durable fabrics were produced locally. Notably, in Tilburg, where wool blankets were produced (Jenkins, 2003) and Zeeland, where flax was grown to make linen (Riensema et al., 1990). However, by the start of the 1980s, the production of wool and linen textiles had shifted to low-income countries (Janssens, 2001; Riensema et al., 1990).

When nearly all production of clothing and textiles was moved from the high income countries to lower-income countries like China, India and Bangladesh, the term 'fast fashion' began to make its mark (Laster, 2022). While, bad practices in the fashion industry are being exposed, younger generations are demanding more transparency (Bytof & Ritch, 2022). However, companies like Shein and Temu continue to exist promoting wasteful fashion. As seen in Figure 1 fashion creates excessive waste per person.

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introduction (continued): space for images

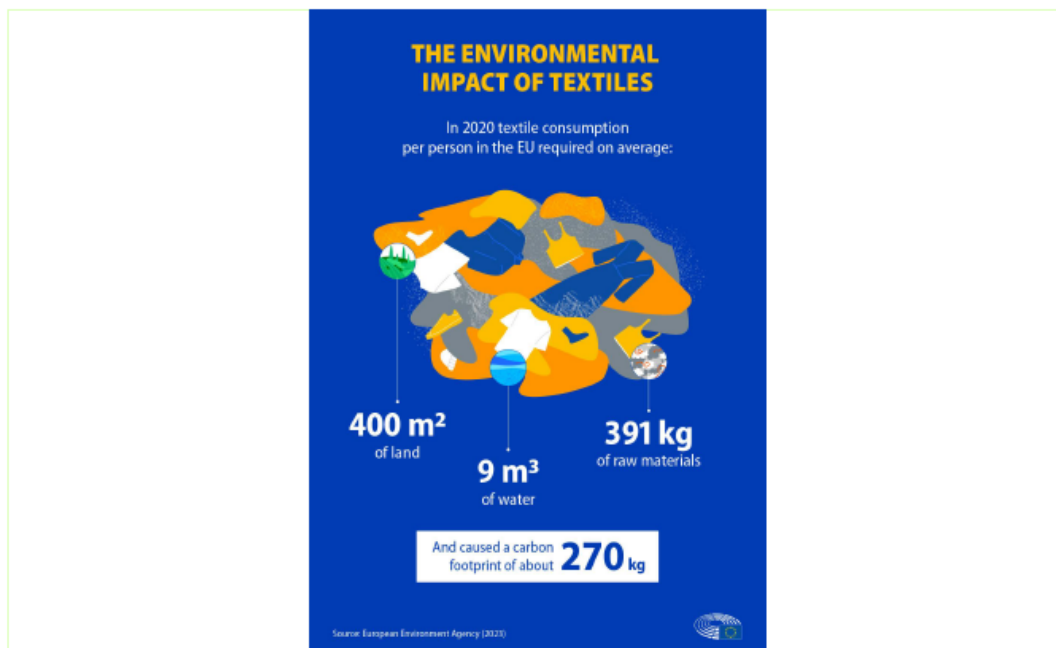


image / figure 1 European Environment Agency. (2023). The Impact of Textiles. European Parliament. <http://shorturl.at/TK>

INTRODUCTION

Bytof, M., & Ritch, E. (2022). Exploring perceptions of climate-aware Generation-Z towards fast-fashion corporations' responsibility. *ResearchOnline*. <https://doi.org/10.57649/GFC.978-989-54263>

Fashioning Yourself A Story of Home Sewing. (2016, 18 October). National Women's History Museum. <https://www.womenshistory.org/exhibits/fashioning-yourself>

Janssens, A. A. P. O. (2001). "Eens door de wol geverfd, nu door de wol getekend . . ." De "trage" ramp van de ondergang van de Tilburgse textielindustrie, 1900-1980. In *Ex Tempore* (pp. 87-106). <https://repository.uhn.nl/bitstream/handle/2065/151282/151282.pdf?sequence=1>

Jenkins, D. (Red.). (2003). *The Cambridge History of Western Textiles*. Cambridge University Press. <https://assets.cambridge.org/052134/1078/sample/0521341078WS.pdf>

Laster, M., "What is Fast Fashion?" (2022). *Sociology Summer Fellows*. 6. https://digitalcommons.ursinus.edu/soc_sum/6

Riensema, C., Koster, R., & Hutten, T. (1990). *Vlas 2000: structuur en afzetperspectieven van de vlassector in Nederland*. <http://library.wur.nl/WebQuery/wurpubs/reports/460373>

Visser, J., & Van de Garde, W. (2013). *Oefenstof: merklappen en andere vrouwelijke handwerken* [Book].

PROBLEM DEFINITION

Lee, M. S. W., Salfert, M., & Cherrier, H. (2017). Anti-consumption and Governance in the Global Fashion Industry: Transparency is Key. In *Palgrave Macmillan US eBooks* (pp. 147-174). https://doi.org/10.1057/978-1-137-60179-7_5

Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. *Nature Reviews. Earth & Environment*, 1(4), 189-200. <https://doi.org/> Laster, M., "What is Fast Fashion?" (2022). *Sociology Summer Fellows*. 6. https://digitalcommons.ursinus.edu/soc_sum/6

O'Sullivan, S. (2022, 20, February). *Fast fashion is ripping off these crochet artists*. Refinery29. <https://www.refinery29.com/en-gb/crochet-trend-fast-fashion-copy-designs>

UN Helps Fashion Industry Shift to Low Carbon. (2018). United Nations Climate Change. <https://unfccc.int/news/un-helps-fashion-industry-shift-to-low-carbon>

image / figure 2 References

Personal Project Brief – IDE Master Graduation Project

Problem Definition

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice. (max 200 words)

The relationship between people and textiles is becoming increasingly distant. The younger generations (15-25) lack knowledge on how to create or repair textiles. The knowledge gap aligns with the growing problem of fast fashion. The fashion industry now contributes to around 10% of global greenhouse emissions (United Nations Climate Change, 2018).

The unsustainable structures of the textile industry have thrived on a lack of knowledge about how textile products are made (Lee et al., 2017). The 'out of sight out of mind' mentality in this system makes way for unethical decisions regarding the environmental impact, labour and waste management (Niinimäki et al., 2020). As a result, the younger generations interact with textiles in a different way than past generations. The loss of their knowledge about textiles is concerning, as understanding these skills could be a crucial step toward more sustainable consumption of textile products.

Reintroducing knowledge of how to create or repair textile products could help revive/reframe a culture of interacting with textiles mindfully. This mentality could counteract the fast fashion industry and empower people to make sustainable decisions on their textile consumption.

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for.

Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence)

As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Design an intervention to teach the younger generation (15-25) domestic textile knowledge to reintroduce a culture of creating and repairing textiles in the Netherlands.

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

My approach to this assignment will be to conduct an explorative historical analysis of the relationship of people in the Netherlands with domestic textile knowledge in the late 19th -20th century (1890-1970). I plan to search for accounts of daily life from that period and view artifacts to examine how and when people interacted with domestic textile knowledge. During this stage I will also use culture sensitive design methods. This research will give insight into a system where a culture of creating and repairing textile products was the norm.

I want to compare the historic system with the system we have today in the Netherlands by doing desk research and making a overview/map of the system. This analysis will give insight to create an intervention. I hope to be able to collaborate with the Textile museum in Tilburg to be able to validate the intervention with young people.

Project planning and key moments

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a kick-off meeting, mid-term evaluation meeting, green light meeting and graduation ceremony. Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities).

Make sure to attach the full plan to this project brief.
The four key moment dates must be filled in below

Kick off meeting	28 Oct 2024
Mid-term evaluation	27 Jan 2024
Green light meeting	14 Apr 2024
Graduation ceremony	26 May 2024

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time. Indicate here if such applies to your project

Part of project scheduled part-time	<input checked="" type="checkbox"/>
For how many project weeks	14
Number of project days per week	4,0

Comments:

For my graduation project I want to study part-time in order to hold space to recover from stress related issues.

Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five.

(200 words max)

The reason I want to start this project is that I was inspired, by the Textile Systems block course, to address sustainability issues related to clothing and textile using my design skills. During this project I want to gain a deeper understanding of textiles in society and sustainability in the textile industry. Therefore, I would like to explore different techniques of textile creation and reparation as well (maybe to use these skills in prototyping).

I was inspired to use historical research methods during this thesis because I did a historical research assignment during the DFI Research Methodology course and my Research Elective on ancient textiles. I found that historical research complements my design skills and gives a deeper understanding of existing systems in society. I want to expand my knowledge on and experiment with combining historical research methods with design.

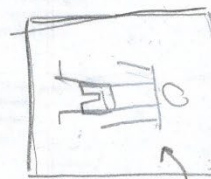
The main personal learning goals are to acquire more writing skills and gain confidence in my research abilities. This means writing regularly and making sure my story is concise. I also want to use my visual skills (graphics, illustrations and videography) to enhance my story.

Appendix A - Ideation results

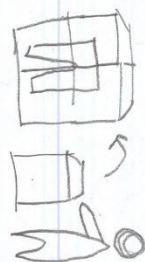
Random ideen: ~~concept~~

~~invention~~

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te idialen

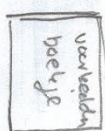
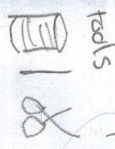


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kleding constructie plaatsen

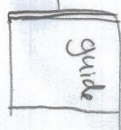


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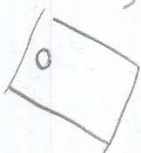
Timmering
tool kits



constructie
guide of
stappenplan



resultaat je door de stappen
neen ~~te~~ leid

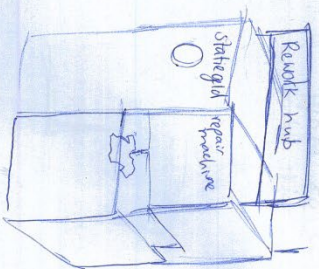


curse maken
is 6 lessen
lezen hoe
te sew

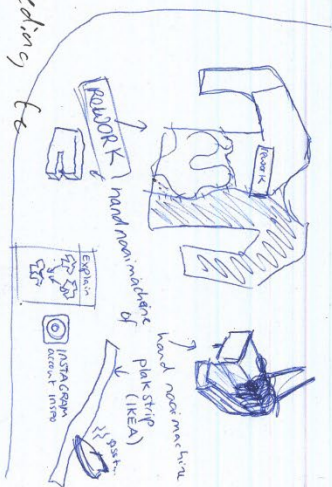
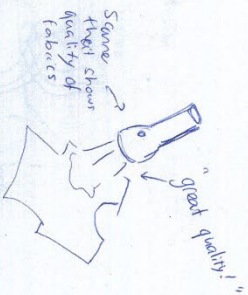
Hoe kan je mensen vinden om hun kleding te repareren of te vervangen?

↳ anders zijn naar de kleding in je
vast?

How can you incentivise DIY?
and Designerly Thinking?



Fashion brand
starter: REPAIR
↳ als je goed
kleding niet gerepareerd of
reunited, krijg je een
REPAIR! badge die
je mag toe voegen/wast maken
of your kleding



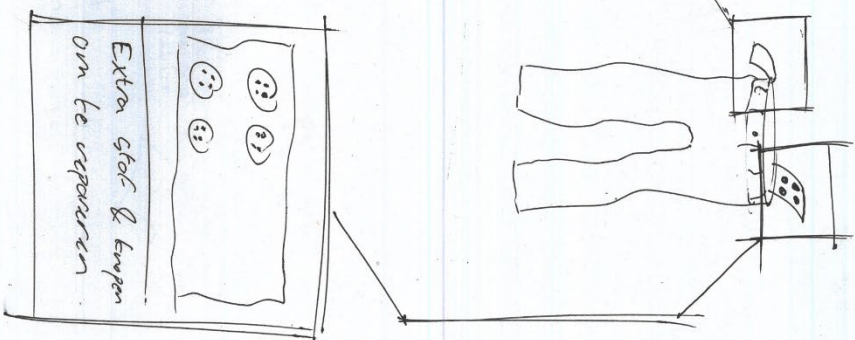
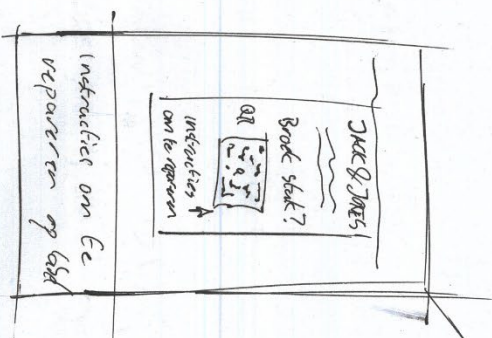
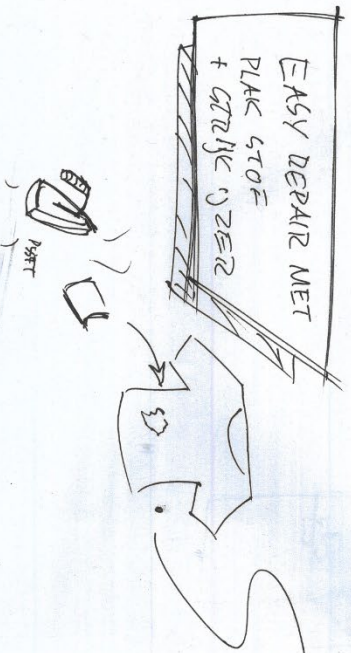
Bonding bootstroom:
graafstroom = kit that
helps you repair with
granpa's help.

Ik kan geen
kleding repareren

Daardoor heb
ik geen kleding om
te repareren

Daardoor
repareren ik
geen kleding

Wat zijn de meest
voorkomende gebreken?



Duursmauwend in achterhoofd

young people 18-25

learn to Repair

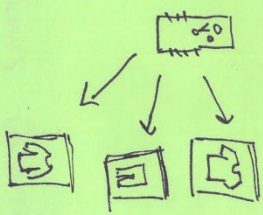
Inspired Repair
Needlework

toolkit → tools + tutorial

base opdracht/eraing

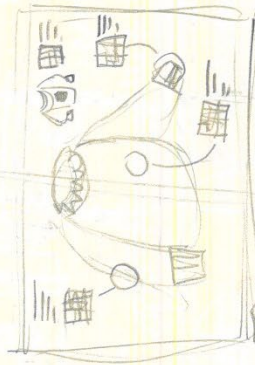
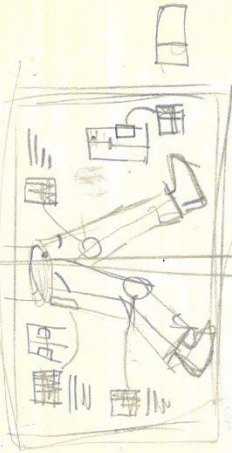
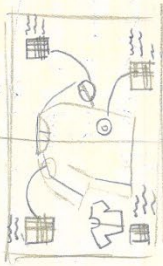
thuis - museum eraing

workshop



→ see how to Repair
→ 41 generation

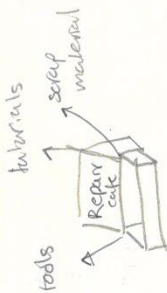
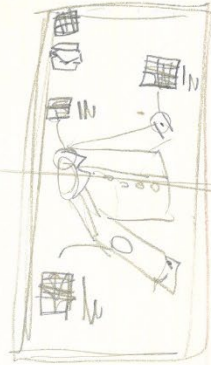
koopje in ~~fast~~ nieuw gebruik
→ special: ket winkel
+ quali teits
winkel



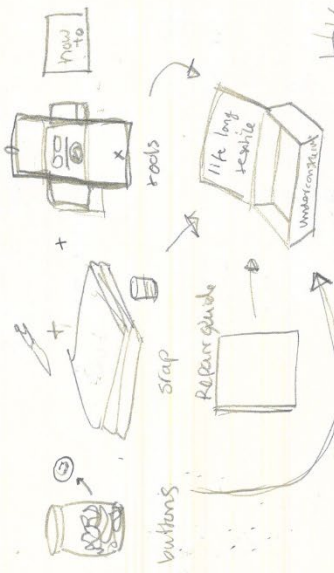
what are the



19
19
20



Needle work for lifetime



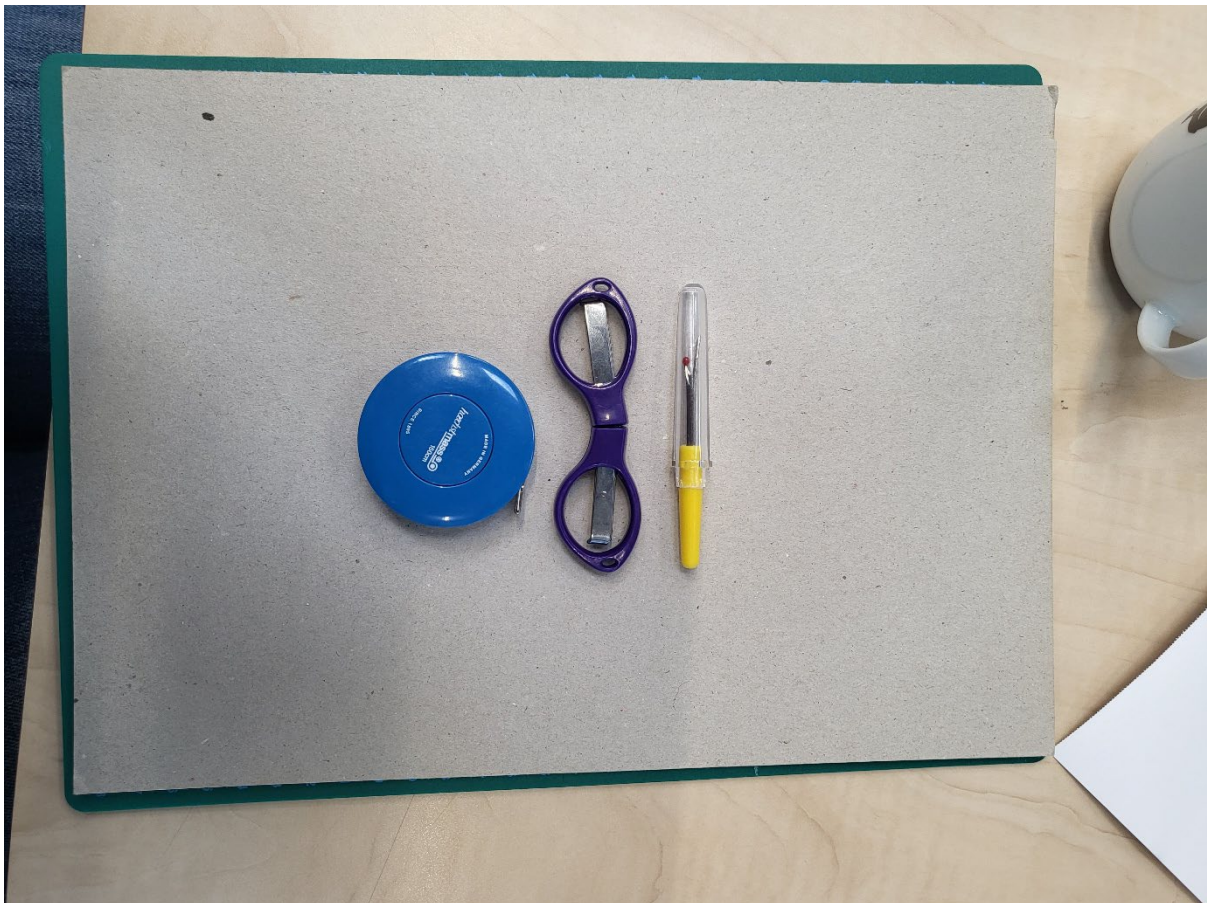
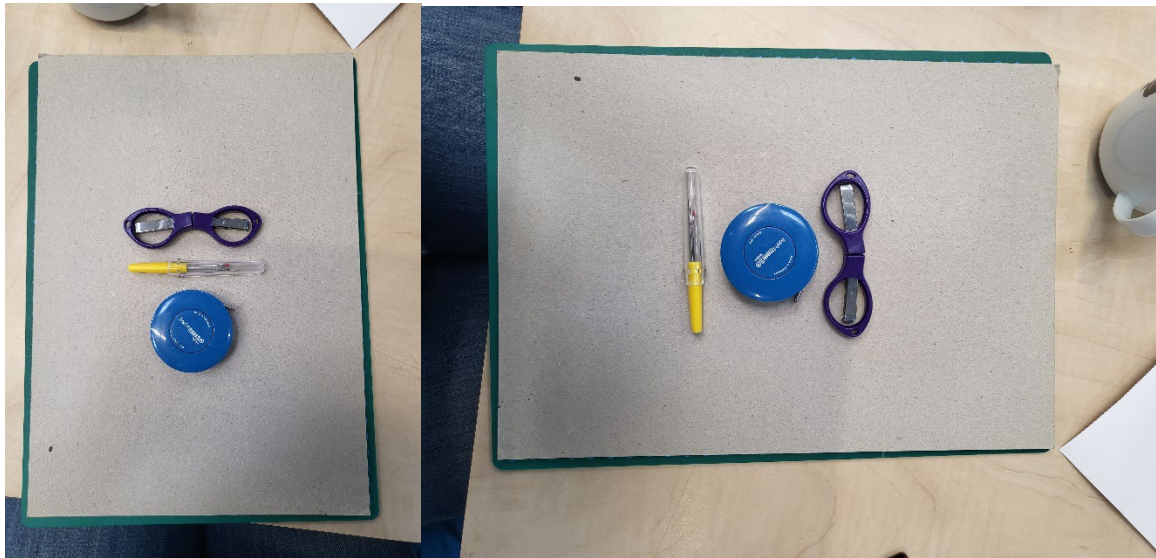
Appendix B – Cost estimation

Questions	Participant 1	Participant 2	Participant 3	Participant 4
Priced to low	5-9 euros	5-9 euros	under 5 euros	under 5 euro
Priced to be a bargain	13-15 euros	10-12 euros	5-9 euros	10-12 euros
Priced to be expensive but not out of the question	Over 15 euros	Over 15 euros	10-12 euros	Over 15 euros
Too expensive	Over 20 euros	Over 20 euros	Over 15 euros	Over 30 euros

Appendix C- Evaluation Prototypes

	Prototype 1	Prototype 2	Prototype 3
Eye-opening	+is eye opening because it introduces the notion of rework as a method of personalisation and repair	+it introduces the user to repair and rework knowledge -eye opening though the booklet	++this activity is eye-opening though really making. You get to know things though exploring
guiding	+the user is guided in that only one technique is explored	++the user is guided towards repair techniques. And by making the pouch which is structured also learn new techniques.	+The user is guided thought the activities in the booklet but is left free to explore
Empowering	+The user is encouraged to personalise the garments -the rework elements are not free, because the activity is partly predetermined. Like the pockets are already there, only the location is free.	-the empowerment is more though the pouch and not the clothing +There is empowerment of skills by making the pouch -rework skills are less emphasised	+own findings can be written down +all different kinds of activities can be done
Design goal	-less emphasis on repair knowledge -multiple kits must be acquired	-less hands on with rework ++encourage learning at own time and when it is needed.	-might not be the right learning method for everyone, not people who have a barrier. -less focus on practice side of needlework

Appendix D – Extra prototyping









Appendix E – consent form

Instemmingsformulier:

2025

U wordt uitgenodigd om deel te nemen aan een onderzoek over het concept over kleding reparatie. Dit onderzoek wordt uitgevoerd door Usha Thomas, student van de TU Delft.

Het doel van dit onderzoek is om inzichten te krijgen in het gebruik van het concept en zal ongeveer 15 minuten in beslag nemen. De data zal gebruikt worden in een verslag over het project. U wordt gevraagd om het prototypen van het product te gebruiken en interview vragen te beantwoorden.

Zoals bij elke online activiteit is het risico van een databreuk aanwezig. Wij doen ons best om uw antwoorden en foto's vertrouwelijk te houden. We minimaliseren de risico's door de antwoorden te anonimiseren.

De antwoorden die gegeven worden zullen anoniem verwerkt worden. Persoonlijke data zal niet worden verzameld tijdens dit onderzoek.

Uw deelname aan dit onderzoek is volledig vrijwillig, en u kunt zich elk moment terugtrekken zonder reden op te geven. U bent vrij om vragen niet te beantwoorden.

Contact gegevens van uitvoerende onderzoeker:

Usha Thomas

GELIEVEN DE JUISTE VAKJES AAN TE KRUISEN	Yes	No
A: ALGEMENE OVEREENKOMST		
1. Ik heb de informatie over het onderzoek gedateerd 2025 gelezen en begrepen. Ik heb de mogelijkheid gehad om vragen te stellen over het onderzoek en mijn vragen zijn naar tevredenheid beantwoord.	<input type="checkbox"/>	<input type="checkbox"/>
2. Ik doe vrijwillig mee aan dit onderzoek, en ik begrijp dat ik kan weigeren vragen te beantwoorden en mij op elk moment kan terugtrekken uit de studie, zonder een reden op te hoeven geven.	<input type="checkbox"/>	<input type="checkbox"/>

GELIEVEN DE JUISTE VAKJES AAN TE KRUISEN	Yes	No
3. Ik begrijp dat mijn deelname aan het onderzoek de volgende punten betekent het gebruiken van het prototypen van het product en interview vragen te beantwoorden.	<input type="checkbox"/>	<input type="checkbox"/>
B: POTENTIELE RISICOS		
5. Ik begrijp dat mijn deelname betekent dat er persoonlijke identificeerbare informatie en foto's worden verzameld, met het risico dat ik hieruit geïdentificeerd kan worden.	<input type="checkbox"/>	<input type="checkbox"/>
C: ONDERSOEKS PUBLICATIE EN GEBRUIK		
7. Ik geef toestemming om mijn antwoorden, ideeën of andere bijdrages anoniem te quoten in resulterende producten.	<input type="checkbox"/>	<input type="checkbox"/>
8. Ik geef toestemming om mijn geschreven antwoorden, ideeën of andere bijdrages anoniem te gebruiken en te fotograferen in resulterende producten.	<input type="checkbox"/>	<input type="checkbox"/>

Handtekeningen

_____	_____	_____
Naam deelnemer	Handtekening	Datum

Ik, Usha Thomas, verklaar dat ik de informatie en het instemmingsformulier correct aan de potentiële deelnemer heb voorgelezen en, naar het beste van mijn vermogen, heb verzekerd dat de deelnemer begrijpt waar hij/zij vrijwillig mee instemt.

_____	_____	_____
Naam onderzoeker	Handtekening	Datum

Contactgegevens van de onderzoeker voor verdere informatie:
Usha Thomas

Appendix F – Evaluation plan Desirability

Desirability evaluation Assessment criteria

#	Assessment criteria	Objectives	Set up and material	Data collection
1	The desirability will be assessed through asking question on the initial response, the emotional response.	The objective is to evaluate if the participant respond to the prototype with interest and/or curiosity in their response to the product.	The set up for both parts will be to recreate the context with a written scenario and image. And have the physical prototype present and an example booklet.	The data will be collected by making notes of the responses during the interview. And a survey on paper.
2	The desirability was also assessed through asking question about the relevance the product has to their life.	The objective is to evaluate if the participants confirm they can imagine the product to have a relevance to their life.		

Protocol

1. Consent form
2. Initial interview questions
3. Participants reads scenario
4. Participant takes a look at product
5. Questions about usage intent questions

Scenario

You've just spent time exploring a museum exhibition about sustainable fashion. You walked through rooms filled with stories about how clothes are made, worn, repaired, and given second lives. You learned about the environmental impact of fast fashion and saw examples of how small repairs can keep garments alive for years.

After leaving the final room, you enter the museum shop. Among the books on design, handmade objects, and creative tools, a product catches your eye. You step closer and take a look.

Questions

Part 1: Initial interview questions in a paper form

Question 1: How interested are you in sustainability when it comes to clothing?

1 - 2 - 3 - 4 - 5 - 6 - 7

Not interested

Very interested

Question 2: How much experience do you have on repairing textiles?

Scale

- ☐ None at all — *I have never tried*
- ☐ Very little — *I've maybe sewn a small tear once*
- ☐ A little — *I have tried small repairs*
- ☐ Some — *I have done repairs every so often*
- ☐ Moderate — *I can do basic repairs without help*
- ☐ Quite a lot — *I can do more advanced repairs (patches, alterations)*
- ☐ A lot — *I am very skilled at sewing/repairing*

Question 3: How interested are you in repairing clothing?

1	-	2	-	3	-	4	-	5	-	6	-	7
Not interested											Very interested	

Question 4: What is your age?

Post interview questions

Question 5: What are your initial thoughts when you see this product?

Question 6: Price questionair

Question 7: What factors would influence your decision to purchase this product?

Question 9: Can you imagine gifting this product to someone?

Question 10: If so, who would you give it to, and why?

Question 11: In what ways, if any, do you think this kit could be useful for you?

Question 12: The product has a DIY element to it, where you assemble the pouch yourself.

Question 13: Can you see yourself completing the DIY part of the product?

Question 14: How do you feel about repairing your clothes after seeing this kit?

Hoe voel je je over het repareren na het zien van dit product?

Questions 15: When thinking about the product, what thoughts factors come up when comparing it to other products?

Appendix G – Initial Question Form Desirability

Initial question form

Question 1: How interested are you in sustainability when it comes to clothing?

1 - 2 - 3 - 4 - 5 - 6 - 7
Not interested **Very** interested

Question 2: How much experience do you have on repairing textiles?

Scale

- ☐ None at all — *I have never tried*
- ☐ Very little — *I've maybe sewn a small tear once*
- ☐ A little — *I have tried small repairs*
- ☐ Some — *I have done repairs every so often*
- ☐ Moderate — *I can do basic repairs without help*
- ☐ Quite a lot — *I can do more advanced repairs (patches, alterations)*
- ☐ A lot — *I am very skilled at sewing/repairing*

Question 3: How interested are you in repairing clothing?

1 - 2 - 3 - 4 - 5 - 6 - 7
Not interested **Very** interested

Question 4: What is your age?

.....

Question 6: At what price would you consider the product to be priced so low that you feel that the quality can't be very good?

- ☐ Under €5
- ☐ €5–€9
- ☐ €10–€12
- ☐ €13–€15
- ☐ Over €15
- ☐ I would not buy this kit at any price

Question 7: At what price would you consider this product to be a bargain—a great buy for the money?

- ☐ Under €5
- ☐ €5–€9
- ☐ €10–€12
- ☐ €13–€15
- ☐ Over €15
- ☐ I would not buy this kit at any price

Question 8: At what price would you say this product is starting to get expensive—it's not out of the question, but you'd have to give some thought to buying it?

- ☐ Under €5
- ☐ €5–€9
- ☐ €10–€12
- ☐ €13–€15
- ☐ Over €15
- ☐ I would not buy this kit at any price

Question 9: At what price would you consider the product to be so expensive that you would not consider buying it?

- ☐ Under €5
- ☐ €5–€9
- ☐ €10–€12
- ☐ €13–€15
- ☐ Over €15
- ☐ I would not buy this kit at any price

Appendix H – Evaluation plan Experience

Assessment criteria:

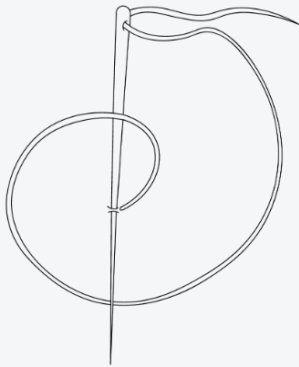
Assessment	Objectives	Set up and material	Data collection
Eye-opening	The participants learned something new about needlework or themselves and did they value this.	Two prototypes complete with tools and booklet. Extra scissors to cut the thread used to fasten the tools and extra thread.	The data will be collected the next day by making notes of the responses during the interview. And a survey on paper.
Confidence	The participants experience a positive shift in their confidence to their needlework skills. And feel like they could do it again.		
Empowerment	The participants feel proud of their work and feel ownership over the pouch.		
Relevance	The experience fit in with their skills and abilities.		
Emotional response	They experience doubting feelings before starting the evaluation but positive and confident feelings after.		Premo was used for questions related to emotional response.

Protocol

6. Consent form
7. Initial interview questions
8. Explain scenario
9. Participants reads booklet
10. Creation of the pouch
 - a. Close the sides and flip over the bottom → cross stitch
 - b. Close the corners → cross stitch
 - c. Hem top of the pouch → cross stitch
 - d. Finish the rim → blanket stitch
 - e. Rip the button hole
 - f. Sew on button
 - g. Personalise with embroidery
11. Interview questions 1 on 1

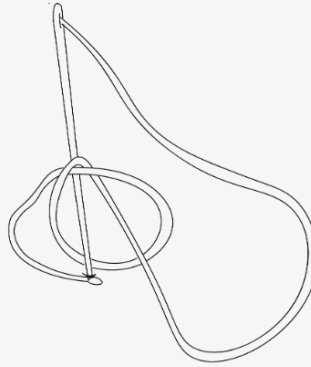
Steps in creation a-g:

1. Explain Technique used by demoing and showing picture
2. Show how to do it on pouch
3. Participant completes step



1.

One-Loop Back Stitch



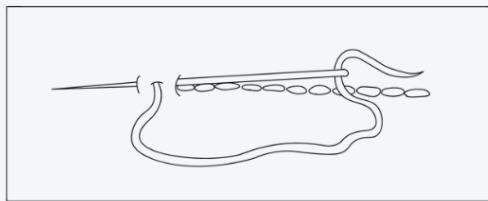
2.

Two-Loop Back Stitch

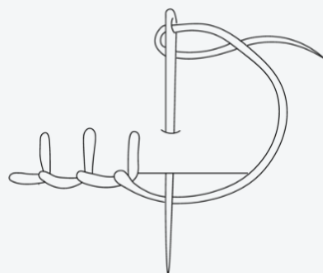
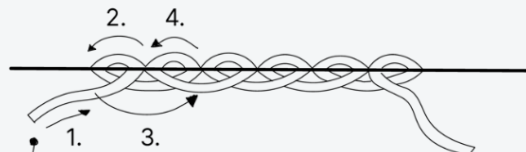


3.

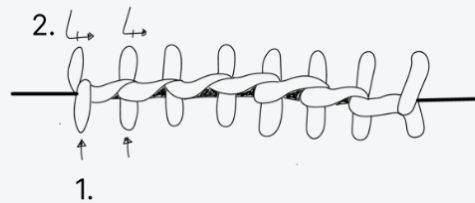
 Report a Problem



Back Stitch



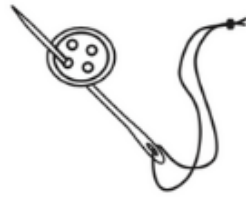
Blanket Stitch



1.



2.



3.



4.



5.



6.



Scenario

You received this pouch as a gift from a friend.

You received bought the pouch for yourself.

Questions.

Pre making the pouch

1. How do you feel about your repair skills? PREMO
2. What comes to mind when you think about repairing your own clothing?

Eye-opening

3. Did anything stand out to you during this activity? If so, what?
4. Was there anything unexpected you noticed about yourself or your skills while using the kit?
5. Did you learn something about yourself during this process?
6. Can you imagine recommending this experience or product to someone?

Emotional response (use Premo)?

7. How would you describe the overall experience?
8. How did you feel while making the pouch? PREMO
9. How did you feel after making the pouch? PREMO
10. How do you feel about repairing your clothing after making the pouch? PREMO

Value

11. What are your thoughts on keeping the pouch?
12. What would feel like a fair price for a kit like this, in your opinion?

Confidence

13. The booklet includes examples of reworking clothing. What was your reaction to that?
14. Is there any kind of repair you would feel more prepared to try after using the kit?

Empowerment

15. Did making the pouch affect how you think about your sewing or making skills?
16. Has this experience made you feel like you could teach or show someone else a skill?

