

a HOPE of
the FUTURE

FABRICADEMY 2022-2023

FINAL PROJECT BY ALIONA RARU



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Abstract

Fashion, second polluting industry in the world's. If they end up in the trash, clothes become a source of pollution. Instead of throwing away the clothes we no longer need, we can donate or recycle them. In Republic of Moldova there aren't technologies for recycling or upcycling textile waste. I want to make as many people as possible aware of the negative impact of fast fashion on nature. This project is organized according to the principle of co-design. By creating new models of clothing products from old ones we together contribute to the reduction of textile waste.



Acknowledgements

This project is carried out with the support of the Future Technologies Activity Project, funded by USAID and Sweden.



Introduction

The global production of textile fiber has doubled in the last 20 years, reaching an all-time high of 111 million tons in 2019 and maintaining growth forecasts for 2030. The recycling rate for textile waste is very low. The aim of my project is to create new clothing products without bringing a negative impact on the environment. My project is aimed for teenagers and it is organized according to the principle of co-design. Why teenagers? Because they are the ones who want to have some fashion in their wardrobe. By creating new models of clothing products from old ones we together contribute to the reduction of textile waste.

State of the Art



Parsons MFA
SPRING 2018



MEM
REVOLT 2017



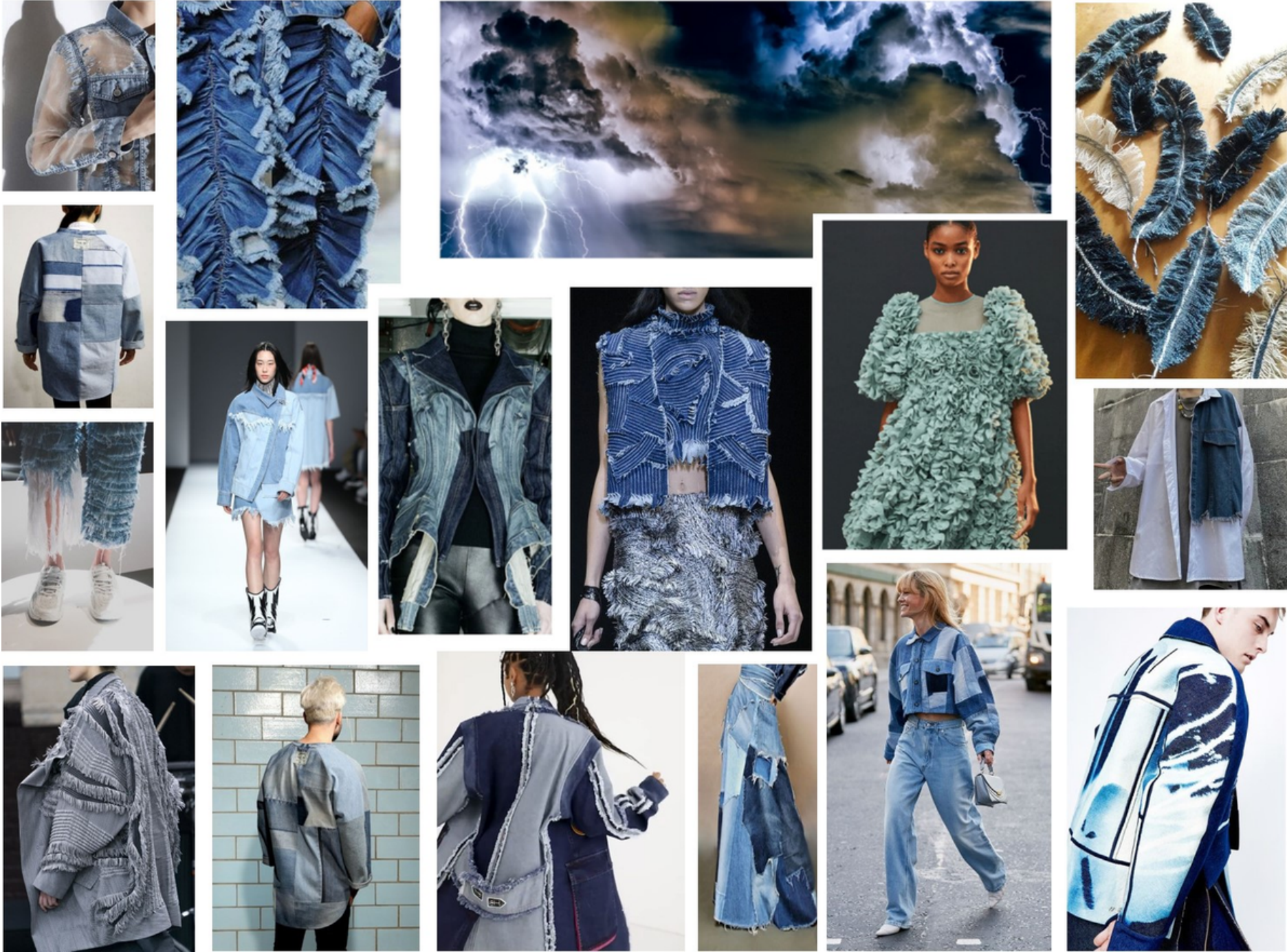
KSENIASCHNAIDER
Spring 2021 Fashion
Collection.



Maison Mihara
Yasuhiro Fall 2022

The idea of recycling textile waste, especially old jeans, is also supported by designers all over the world.

Moodboard



Research

negative impact of the textile industry

- 92 million tones of textiles waste is created each year.
- Globally the fashion industry is responsible for 10% of all greenhouse gas emissions.
- It takes 10,000 liters of water to produce one kilogram of cotton.
- The fashion industry is responsible for 20% of global waste water
- One pair of jeans, including its production and general wear uses up to 2,900 gallons of water.
- Approximately 3,000 liters of water for one cotton shirt.
- Globally just 12% of the material used for clothing ends up being recycled.

The problem

My research explores the process of creating new clothing designs without bringing a negative impact on the environment, thus making a new clothing product from old ones (from textile waste).

The process of creating new clothing products was realized with the help of the future wearer.

My project is organized according to the principle of co-design.

Co-design is a design-led process that uses creative and participatory methods.

Every beneficiary of the project is not just a client, but also they become ambassadors of the idea.



BoM

BoM
bill of materials

Qty	Description	Price
1	Old jeans	-
2	Thread for sewing machine	1 \$
3	Snaps	0.5 \$



Tools

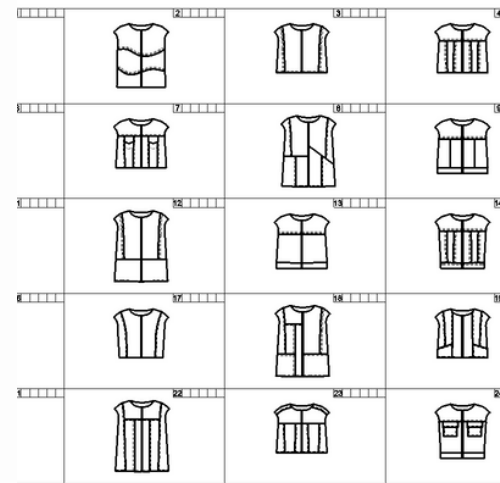
Software
and
machines

Qty	Description	Price	Link	Notes
1	Clo3D	50.00 \$/month	https://www.clo3d.com/en/	paid online
2	Laser machine	-	-	FabLab
3	Sewing machines	-	-	ZipHouse

Experimentation and Research process



Collecting old jeans



Catalog of models



First prototype



First beneficiary

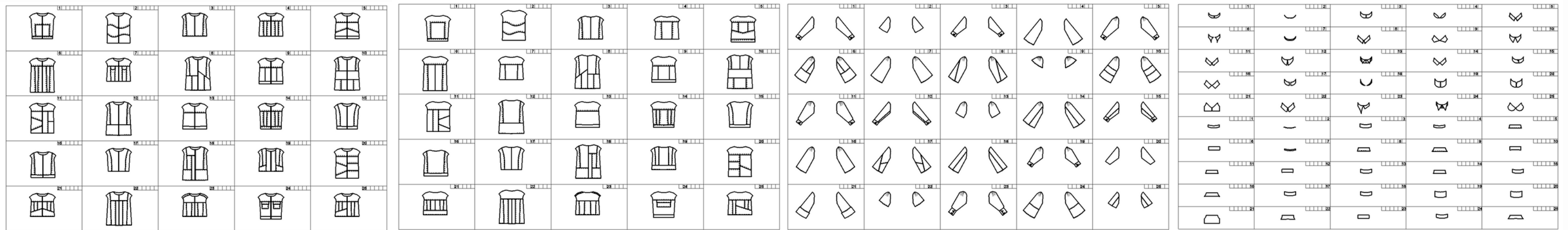
Collecting old jeans

To begin with, I started a mini-company that was collecting old jeans. In the end, I contacted friends who have teenage children and urged them to become part of my project.



Catalog of models

At the same time, I developed a catalog of models that can be made from old jeans. I developed the catalog according to the modular design principle. I drew some patterns of the front, back, sleeves and collars.



By clicking on the link <https://class.textile-academy.org/2023/aliona-raru/images/development/catalog%20of%20models.pdf> you can download the model catalog

First prototype

A quick prototype. Necessary materials: sketches and patterns, 3 pairs of jeans, scissors, thread for sewing machine, sewing machine.

To download the pattern for the first prototype click on the link below::

<https://class.textile-academy.org/2023/aliona-raru/images/development/first%20prototype%20patternl.pdf>



First beneficiary

Marie is a 16-year-old teenager. She likes nature and to spend her free time in nature. She's a young fashionista. Marie is not aware of how much harm we are doing to nature by excessive consumption of fashion.

Next, Marie will participate in the collaborative process of creating a new model of clothing product using clothing waste.



Development process



Model choice



3D prototype

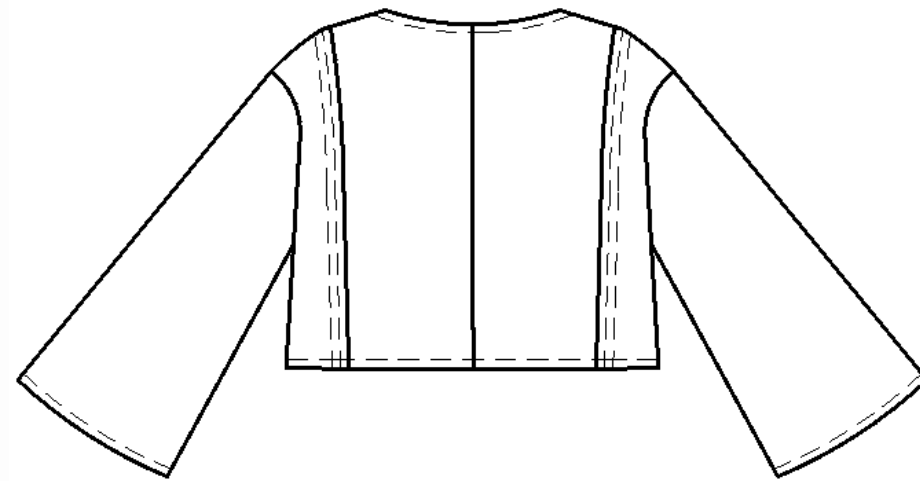


Final prototype



Promoting the idea
of the project

Model choice



First, together with the first beneficiary, we choose the model selecting the product elements from the catalog created by me previously.

3D prototype

- Avatar customization (by wearable sizes).
- Pattern construction.
- Assembling details.
- Checking the positioning of the garment product.
- Texture placement on the fabric.
- Designed clothing product simulation.

I will make the 3D prototyping. So the future wearer can see exactly what the garment will look like on their individual body.



For the 3D prototyping steps click on the link: <https://class.textile-academy.org/2023/aliona-raru/development/02-process/>

Final prototype

- 3 pairs of regular jeans for men (size 34);
- ruler;
- tailor's chalk;
- scissors;
- needles;
- thread for sewing machine;
- 3 snaps with a diameter of 0.8 cm;
- 2 snaps with a diameter of 0.5 cm.



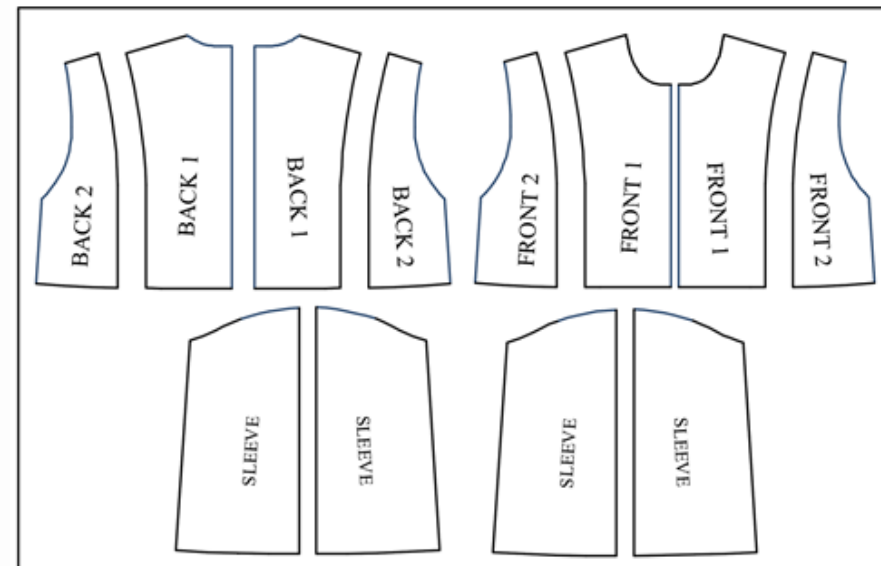
More details about the process of making the final prototype can be found by clicking on the attached links:

<https://class.textile-academy.org/2023/aliona-raru/development/02-process/>

<https://class.textile-academy.org/2023/aliona-raru/development/03-deliverables/>

STEP 1. Pattern & basic details

- First, you will need the pattern!
- Prepare jeans for tailoring.
- With chalk for tailoring, draw the outline of the details on the pieces of denim. You need to sew: FRONT 1 - 2 pieces; FRONT 2 - 2 pieces; BACK 1 - 2 pieces; BACK 2 - 2 pieces; SLEEVE - 4 pieces.



To download the pattern for the final prototype click on the link below::

https://class.textile-academy.org/2023/aliona-raru/images/development/m1_pattern_.pdf

STEP 2. Laser engraving

On the back piece I made a decoration by applying the technique of laser engraving.



STEP 3. Assembling the details of the front and back

- Overlay face-to-face details;
- Assembling the details and process the edges;
- Iron the accomplished seam;
- Apply a decorative seam, at a distance of 1-2 mm from the edge of the seam

More details about the process of making the final prototype can be found by clicking on the attached links:

<https://class.textile-academy.org/2023/aliona-raru/development/02-process/>

<https://class.textile-academy.org/2023/aliona-raru/development/03-deliverables/>

STEP 4. Decor the jacket with scrapes of jeans

- Cut the remaining jeans scraps into strips of 2 cm wide. The length of the strips can be different;
- Apply these strips on the basic pieces, abstractly, for creating the decor;



More details about the process of making the final prototype can be found by clicking on the attached links:

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STEP 5. Assembly of jacket parts

- Applying sleeves to the jacket
- Assembling the jacket on the upper lines (shoulder lines and upper sleeves lines)
- Assembling the jacket on the side lines and lower lines of the sleeve.

STEP 6. Closing system

- The locking system is of a hidden type.
- The reserve of the left side of the locking system is fixed with two snaps with a diameter of 0.5 cm.
- To close the product, on the inner edge of the fastener (front left and front right) we sew 3 snaps with a diameter of 0.8 cm.

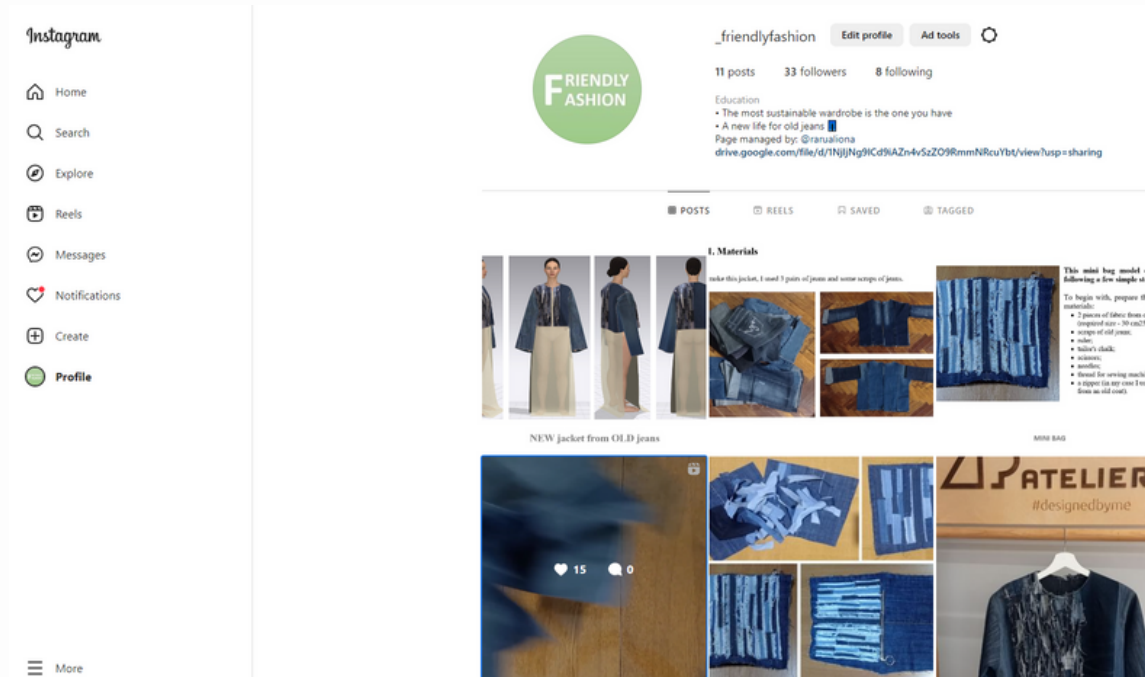


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Promoting the idea of the project



Instagram page https://www.instagram.com/_friendlyfashion/

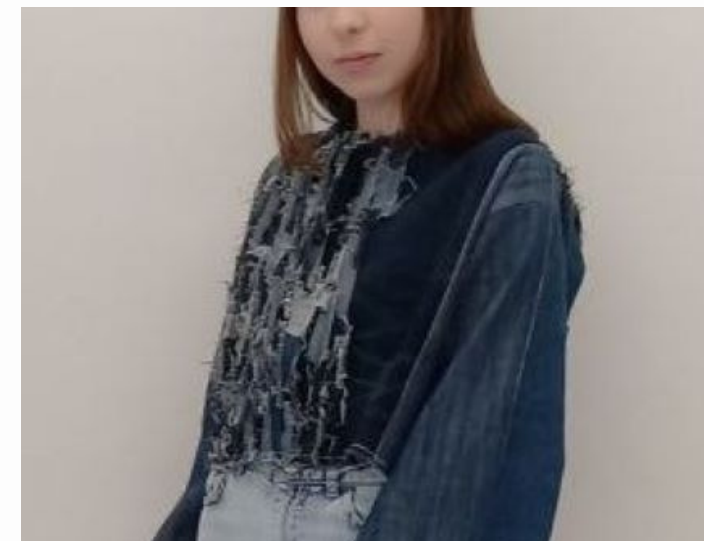
In the aim of promoting my idea, I made an Instagram page where I post stories from the lab and tutorials of the model. The idea is also promoting during my classes from Faculty of Design.

Results



The result was as expected. Marie learnt how to make a new clothe just by recycle another one.

Now she is the ambassador of the idea and her task is to send the message of the project to other young people. Marie is ready to split between two dreams: playing the guitar and helping to reduce textile waste.



Presentation and final video on the links:

https://www.canva.com/design/DAFeOHviREU/vBWB2_69wZyYyyJVD3SZbQ/watch?utm_content=DAFeOHviREU&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink

https://www.canva.com/design/DAFefZUxdfk/ooH3ISTYV-k6cWV0dQvcZw/watch?utm_content=DAFefZUxdfk&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink

RESULTS

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Conclusion and Discussion

This project is an initial step in promoting the idea of nature-friendly fashion in the Republic of Moldova. The people behind this project believe in the goal of a circular economy and want to demonstrate that circular fashion is possible. New outfits using old jeans - I know it's not a new idea, but I think that it does not apply to the maximum. Although it is a project initiated with the idea of involving young fashionistas, anyone can become part of this project.

If you want to see a change in your life, you need to change your mind first. The most sustainable wardrobe is the one you already have! Fashion can be bio!

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- How much water it takes to make a pair of blue jeans? Available: <https://easycotips.com/it-takes-up-to-10-000-liters-of-water-to-make-a-pair-of-jeans/>

Biography

- I'm a professor at Technical University of Moldova, Faculty of Design.
- I'm a researcher/analyst in the textile industry, being interested about functional clothing intended for persons with special needs.

email: aliona.raru@dtm.utm.md

