

Sustainable Design

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Design Problem Breakdown

Context: The context of this project is sustainable design. Fundamental to sustainable design is the principle that designers should create new designs that can be supported indefinitely in terms of their economic, social and ecological impact on the wellbeing of humans. Sustainable design opportunities come from an understanding of circular design methods as well as considering the economic, social and ecological impacts and the nature of the design cycle.

Problem: Society needs to consider its impact on the world we live in, and designers have a huge role in changing the way we think about production, consumption, use and waste to build a more sustainable future.

Task: To redesign a product, service or environment to extend its useful life beyond its original intended purpose?

Stakeholders:

People:

- Families
- Couples
- Singles
- Disabilities

Products:

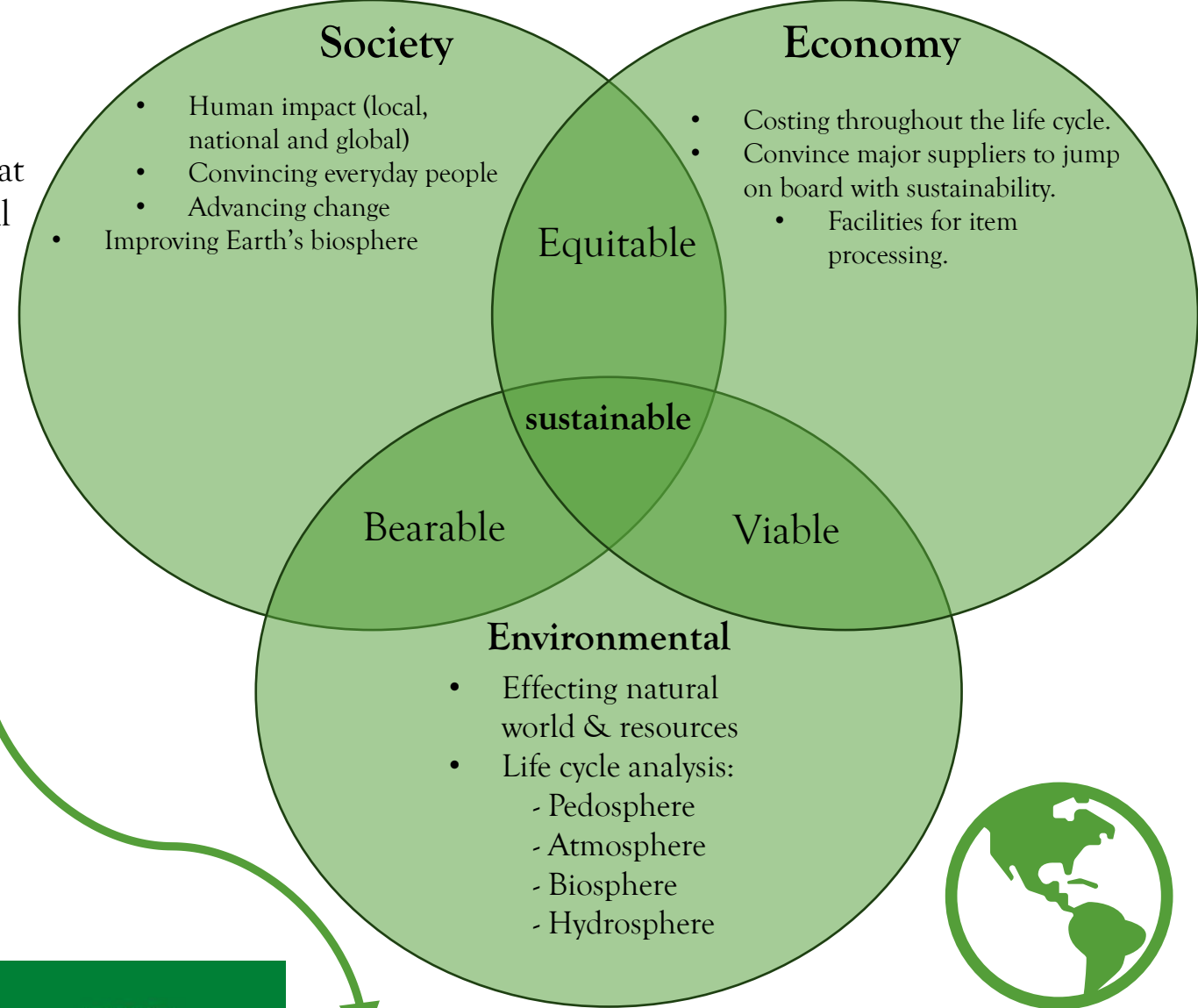
- Farmers
- Manufactures
- Factories/companies
- Transporters

Consumer Industries:

- Local, national, international
- Supermarket chains
- Independent stores
- Suppliers
- Workers
- Owners
- Customers

Principles of Good Design:

- Environmentally-friendly
- Aesthetic
- Useful
- Long-lasting



Definitions

Sustainability: Refers to the ability to maintain or support a process continuously over time. Society, the economy and environmentally.

Redesign: To design (something) again or in a different way by revising the appearance, function or content.

Circular Design: A form of design that advocates rethinking the process of creating a product from the beginning. The ultimate aim of circular design is to protect the environment, so designers must adopt sustainability and respect for the environment.

Research and Ideation

I see a possibility to increase the sustainability in the fashion industry by redesigning either their products (tops, skirts, or pants), services (a recycling bin for materials) or environments (fashion shows).

Incorporate: Renewable energy (solar panels), Ecological value (environment), Passive strategies, Whole life costs (money), Transport (shipment), Health and wellness (breathing), Sustainable materials (material source), Reusing or Recycling a product.

Organisation's that support sustainable design:

- Fashion Revolution: A non-profit global movement represented by The Fashion Revolution Foundation and Fashion Revolution CIC with teams in over 100 countries around the world. Clothing made out of recycled or leftover/scrap/excess pieces from other clothing. Founded in 2013. They campaign passionately for a clean, safe, fair, transparent and accountable fashion industry.
- Clean Clothes Campaign: A global network dedicated to improving working conditions and empowering workers in the global garment and sportswear industries. They amplify the workers voices and advocate for their well-being and human rights.
- The Slow Fashion Movement: A movement that advocates for environmental and social justice in the fashion industry. Its defining point is that it zeroes in on the problem of overproduction and overconsumption. Slow fashion came at the heels of the "slow food" movement. Its goal is to preserve crafts and the environment, and provides value to all, slow fashion brands, consumers and retailers. With slower production schedules, smaller collections, zero waste designs and the use of sustainable materials, Slow Fashion brands aim to reduce the textile waste and the consequent pollution. (social issues: cost efficiency, usually too expensive).

What opportunities exist for REDESIGN within the fashion industry?

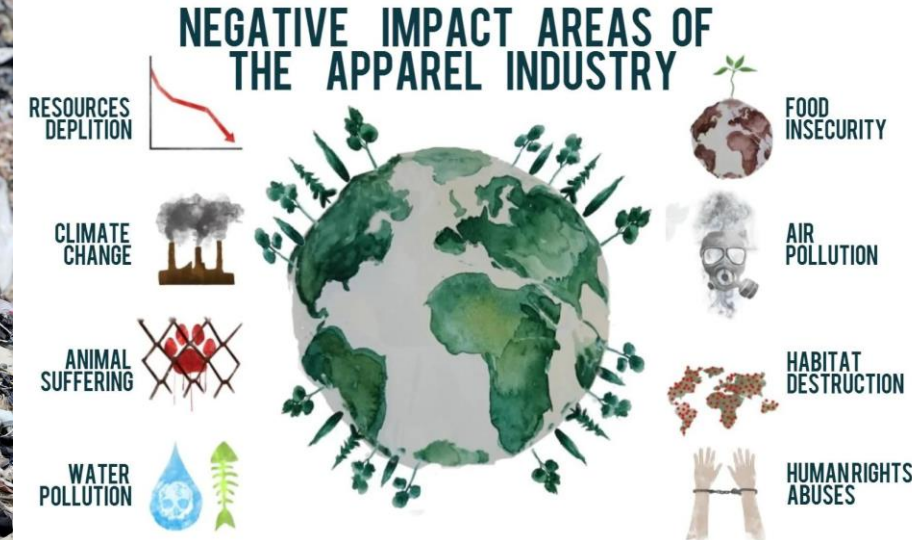
People need to be encouraged to stay away from fast fashion brands as they have multiple negative impacts including worker harassment, diseases due to toxic chemical use, poverty, wage theft, increased green house gas emissions, biodiversity loss and resource and soil depletion. It is responsible for various environmental and social issues. To make fashion more sustainable people need to choose slow, fair and ethical fashion, choose to shop second-hand, on-demand & custom clothing, clean & green fashion, repair, redesign and upcycle fashion. Slow fashion is better.

Product? Recycling, Reusing and Redesigning excess pieces of material and fibres to create new, unique and timeless fashion products.

Service? Redesign a fashion industry waste system that collects scrap materials to recycle and reuse.

Environment? Redesign a fashion show with a sustainable environment and materials.

The product I create will be slow fashion utilising sustainable fabrics and fibres; avoiding synthetic fibres. The styles will be classic, timeless pieces; avoiding trends. It will be ethically made, clean and safe.



Essential Design Criteria:

1. Must support slow fashion
2. Must be sustainable
3. Must be aesthetic

Existing Ideas

Is the current fashion industry effectively sustainable? No

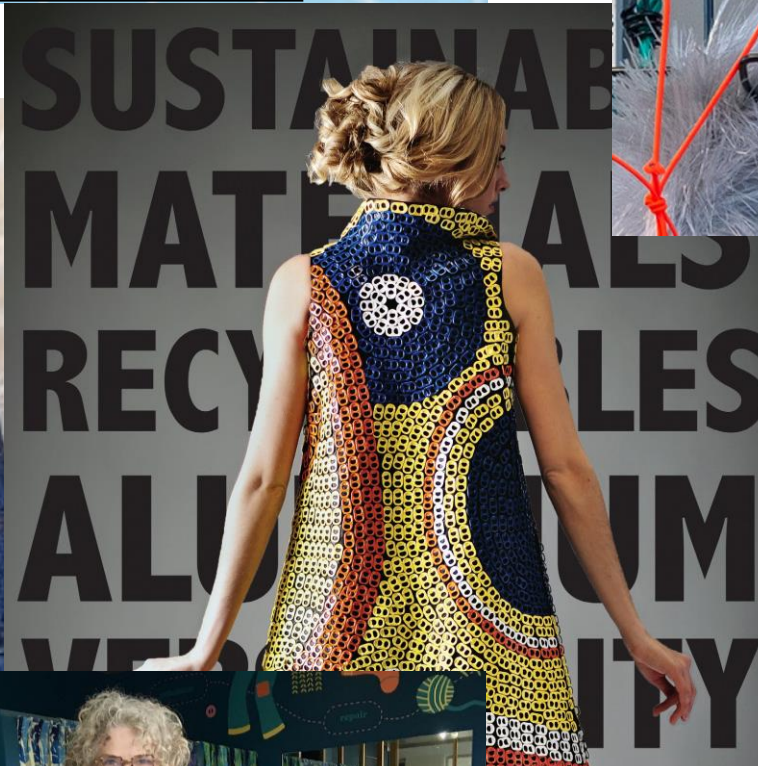
What are some existing ideas that make the fashion industry more sustainable?



Redesign a shirt into a rag/cleaning cloth



Redesign jeans into a bag

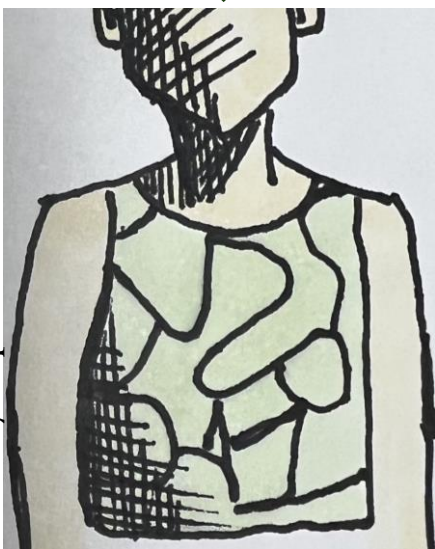


Ideation

Idea #1 ✓



Scrap materials from recyclable and excess products and supplies (reusing).



Clothing item (product) made by redesigning, reusing, repurposing and recycling scrap fabrics.

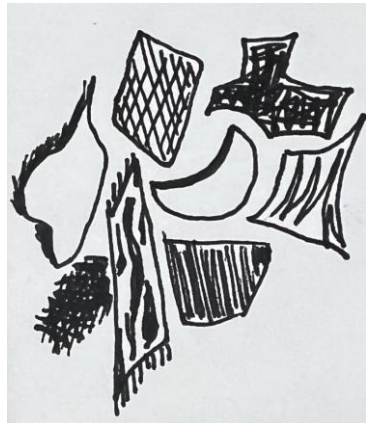
UNIQUE every top will be different.

Could combine (SCAMPER) Ideas #1 and #2 together to create a circular design?

Essential Design Criteria (1-5 stars):

DC1	★	★	★	★	
DC2	★	★	★	★	★
DC3	★	★	★	★	

Idea #2 ✓



Scrap fabrics from leftover cuttings of fashion items and supplies (reusing).



Redesign of an organised waste/materials service bin (recycling).



A garbage truck that will gather the recyclable, assorted materials, and transport them to be redesigned or repaired.

Essential Design Criteria (1-5 stars):

DC1	★	★			
DC2	★	★	★	★	★
DC3	★	★	★	★	

Idea #3 ✓



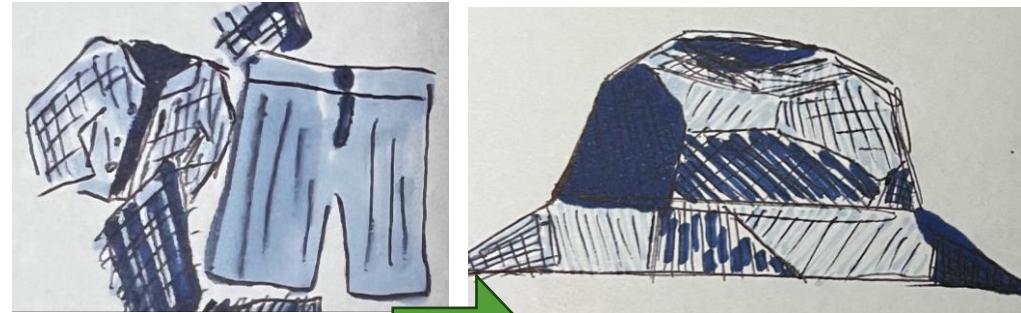
A fashion show **environment** made from entirely repurposed, reused or recycled things. The fashion modelled will only be slow fashion.

Essential Design Criteria (1-5 stars):

DC1	★	★	★	★
DC2	★	★	★	★
DC3	★	★	★	

Idea #4

Redesign of a bucket hat made from recyclable scrap denim pieces (recycling).

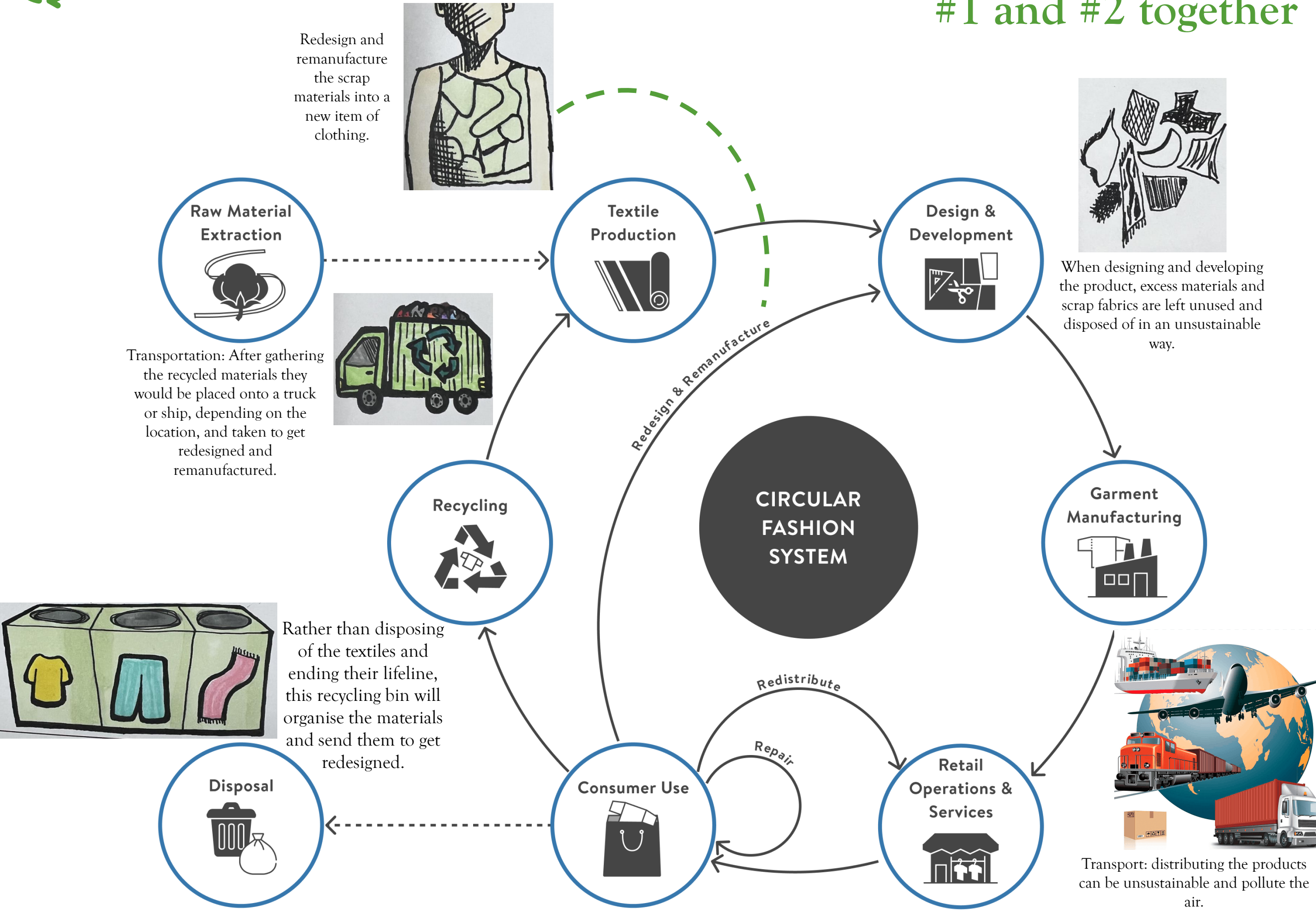


Essential Design Criteria (1-5 stars):

DC1	★	★	★	
DC2	★	★	★	★
DC3	★	★	★	★



Circular Design of the Fashion Industry and combining Ideas #1 and #2 together



Part B

Design Brief

Society needs to consider its impact on the world we live in, and designers have a huge role in changing the way we think about production, consumption, use and waste to build a more sustainable future.

The product I create will be slow fashion made from sustainable, recycled, and reused fabrics and fibers. My goal is to reuse perfectly good materials that are unwanted or scraps, to sustain their lifeline and create a circular design in doing so. The styles will be unique and new to attract customers but also of high quality and comfortable. It will be ethically made, clean and safe. This product will encourage the stakeholders to support other slow fashion brands, and therefore aid the environment.

Design Criteria

Must:

1. Be sustainable (environmentally friendly and useful)
2. Encourage stakeholders to purchase from slow fashion brands (environmentally friendly)

Should:

3. Be aesthetic (aesthetic)
4. Be unique (innovative)

Must not:

5. Be inaccessible to customers (accessible)



Strengths, Limitations and Implications of the best two redesign opportunities for the fashion industry



Idea #1 and #2 combined (SCAMPER) Scraps Top

Idea #3 Recycled Fashion Show



Strengths: A strength of my redesign opportunity is that it is sustainable as it is made of reused and recycled materials that would otherwise be thrown away creating harm to the environment and not sustaining the life of the garment. Another strength is its uniqueness, every top will be different as scrap materials come in various sizes and shapes, so when they are sewn together the pattern and colours will be unique to every shirt. This will encourage the stakeholders to want to purchase this product as it creates a personal experience for them. The price of developing the product will be cheaper as the materials used to create it will be donated by whomever uses the service bins. A strength is that the product is environmentally friendly and ethically made, avoiding all social issues like work harassment, wage theft and poverty. It is slow fashion. The redesign opportunity is circular, meaning it minimises waste, maximises resource efficiency, and promotes regeneration and reuse. This product is accessible to everyone and will be inclusive.

Limitations: A limitation to my design is the transportation. The scrap materials will be placed in a truck and driven to a slow fashion manufacturer which will require fuel and therefore pollute the air. The service bin is made from normal materials that aren't very sustainable, this is a limitation. The design could be more aesthetic.

Implications: To lower the amount of air pollution caused by the distribution of materials, the chosen truck could be an electric car or hybrid. An identified refinement is the service bins unsustainable making, it needs to substitute its materials with recycled or reusable ones. Like unwanted wood or recycled plastics. To make the design more aesthetic the materials could be sorted into colours, and the different shades of each colour would be used for each top. To encourage stakeholders to support slow fashion brands I could create a catchy slogan.

Strengths:

A strength of this redesign opportunity is that it is highly sustainable. The clothing modelled will be entirely slow fashion. The stage and chairs are made entirely out of recycled, reused, repaired and repurposed materials. Some features of the design are aesthetic.

Limitations:

A limitation to this redesign opportunity is that it would be very costly to create. It would be hard to source the recyclable materials to make it as there would need to be a large amount of everything. To transport all these materials would also cause air pollution which is not sustainable. The cost to create this was make attending any fashion shows in this environment very exclusive and not accessible to everyone.

Implications:

A refinement to this design is to minimise the air pollution created when transporting the materials, the transportation type will need to be considered. An electric or hybrid powered vehicle will need to be used.

Critical Evaluation of Ideas After Implications

Ideas #1 and #2: Scraps Top



Idea #3: Recycled Fashion Show



Essential Design Criteria:		Rating:
DC1	★★★★★	5/5
DC2	★★★★	4/5
DC3	★★★★★	5/5
DC4	★★★★★	5/5
DC5	★★★★★	5/5
Total		24/25



Essential Design Criteria:		Rating:
DC1	★★★	3/5
DC2	★★★★★	5/5
DC3	★★★★★	5/5
DC4	★★★★	4/5
DC5	★★★	3/5
Total		20/25

The Scraps Top rating is clearly better with a star rating of 24/25, compared to the Recycled Fashion Show's star rating of 20/25. By combining ideas #1 and #2 I have created a thorough, thoughtful redesign opportunity that utilises circular design methods. I will continue to develop the Scraps Top idea.

Further Ideation of Ideas #1 and #2

Each top will be inclusive and accessible, available to everyone. The tops will not cost as much as other high-end brands.

This product will be high-quality and comfortable, fit for everyday use.

The products range of colours and unique, one-of-a-kind patterns will attract customers and increase desirability. Grouping the individual colours together has made the design more aesthetic.

To lower the amount of air pollution caused by the distribution of materials, the original recycling truck has been substituted for an electric truck.

The service bins will now be made out of recycled materials too, like unwanted woods or recycled plastics.

The design has been made more aesthetic by choosing to sort the materials into colour groups, meaning each top will be made out of different shades of the same base colour.

Symbols for sustainability:

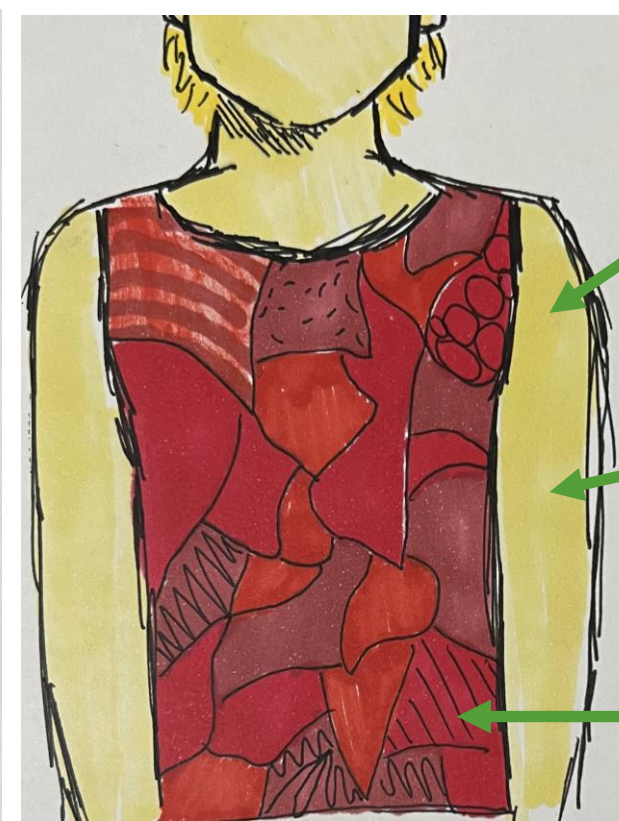
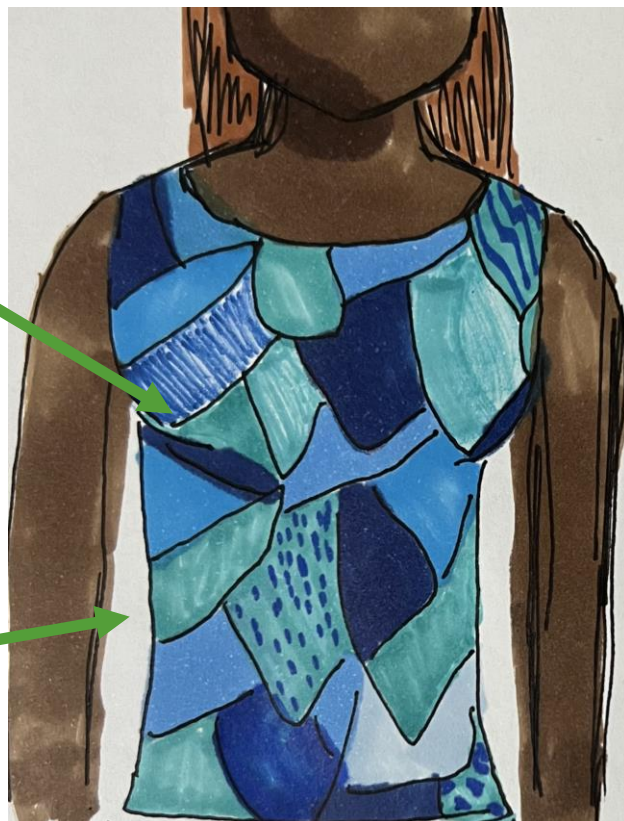
The colours of the Earth and nature: greens and blues.



Scraps Top:

Unique, one-of-a-kind patterns

Aesthetic and thoughtful designs



Ethically and environmentally-friendly made

Inclusive sizing and fit - a top for everyone

Vibrant colours

Developing

Name Ideation: 1. Scrap it. 2. Mix n Match 3. Earth's Design 4. 5R's

Logo Ideation: Colour: green

Possible logos:



Slogan?

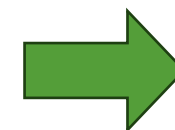
“Help the world and look good doing it.”

This slogan will help with Design Criteria 2: To encourage stakeholders to support slow fashion brands.

Marketing? I want the marketing of this redesign opportunity to support slow fashion brands too. The commercialism needs to look aesthetic and of good-quality so people will be interested. By developing a name, logo and a slogan this design is more aesthetic and Design Criteria 2 will increase from 4/5 stars to 5/5.



DC2: ★★★★★



DC2: ★★★★★

Redesign Opportunity Final Proposal

“Help the world and look good doing it.”

Unique, one-of-a-kind patterns

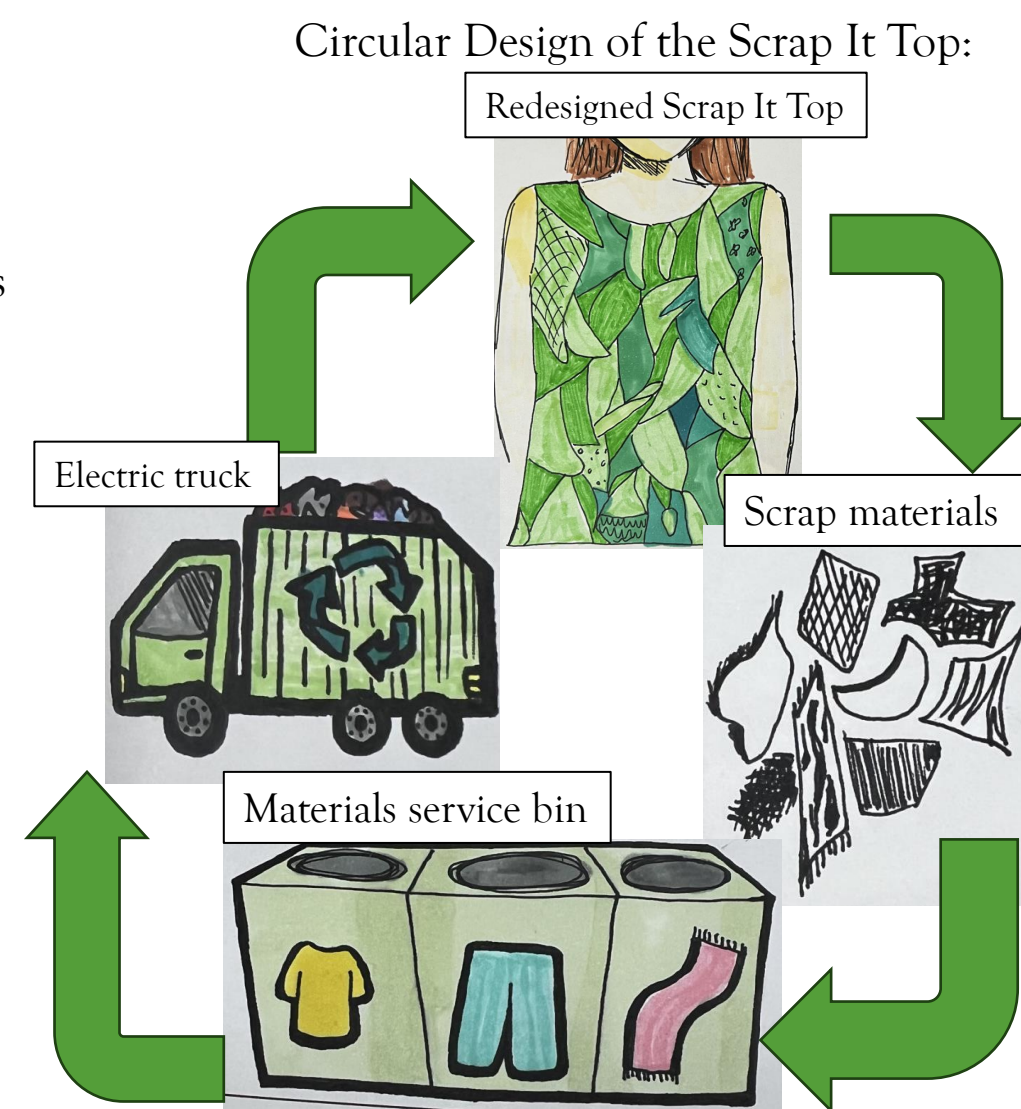
Aesthetic and thoughtful designs

SCRAP IT Top:

Ethically and environmentally-friendly made

Vibrant colours

Inclusive sizing and fit - a top for everyone



Essential Design Criteria:					Rating:	
DC1	★	★	★	★	★	5/5
DC2	★	★	★	★	★	5/5
DC3	★	★	★	★	★	5/5
DC4	★	★	★	★	★	5/5
DC5	★	★	★	★	★	5/5
Total						25/25