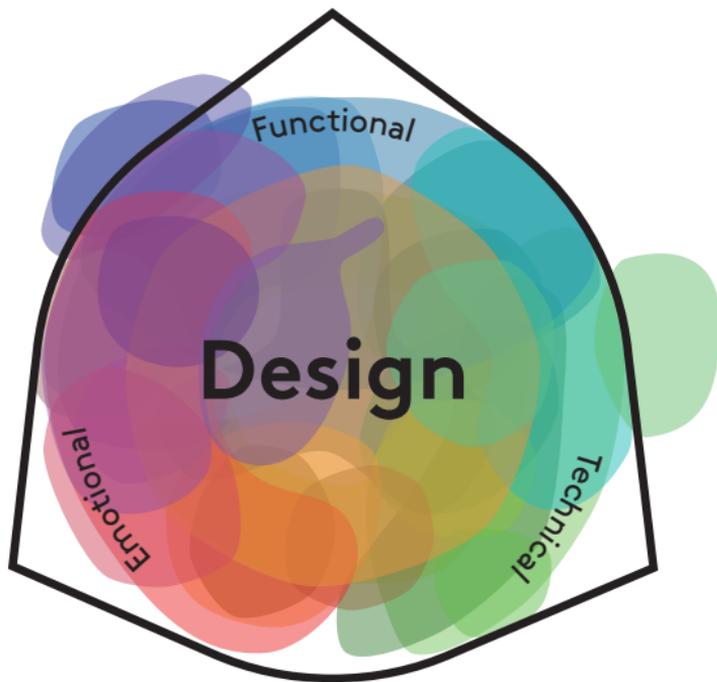
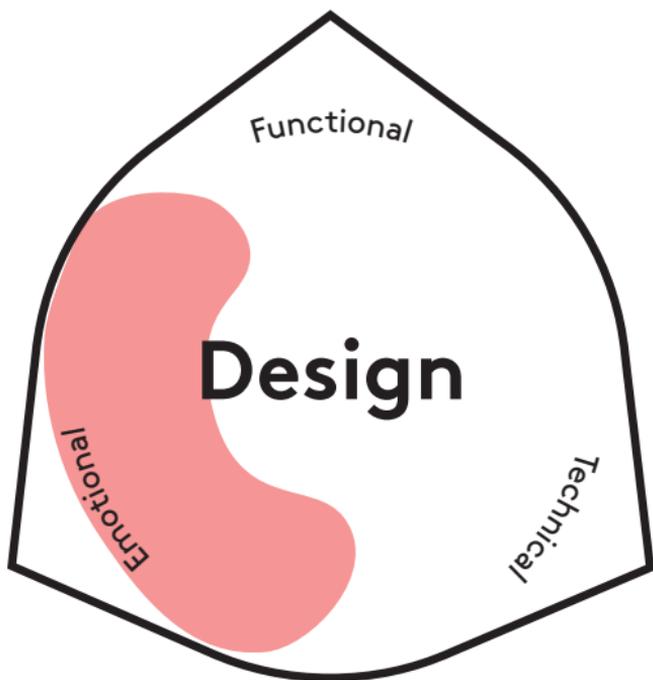


Sustainable Design Cards



Aesthetic Lifetime



Aesthetic Lifetime

WHAT?

Aesthetic features (e.g. forms and material selection) that support the intended lifespan of a product.

WHY?

Working with aesthetic lifetime strategies can:

- support product longevity.
- ensure that a product ages gracefully, without losing (or even gaining) aesthetic value.
- ensure that the product remains desirable through successive use cycles.

CHALLENGES

The aesthetic lifetime and aspects that define it are difficult to predict.

EXAMPLES

- The 2006 **Super Normal** exhibition by J.Morrison and N.Fukasawa presented a selection of timeless designs.
- Classic and simple aesthetics less influenced by fast changing trends. See e.g. the company **Armoire Officielle**.
- Working consciously with patina as an aesthetic value, that only increases over time such as full-grain leather and furniture. Someone who works with this is **Lovia Collection**.

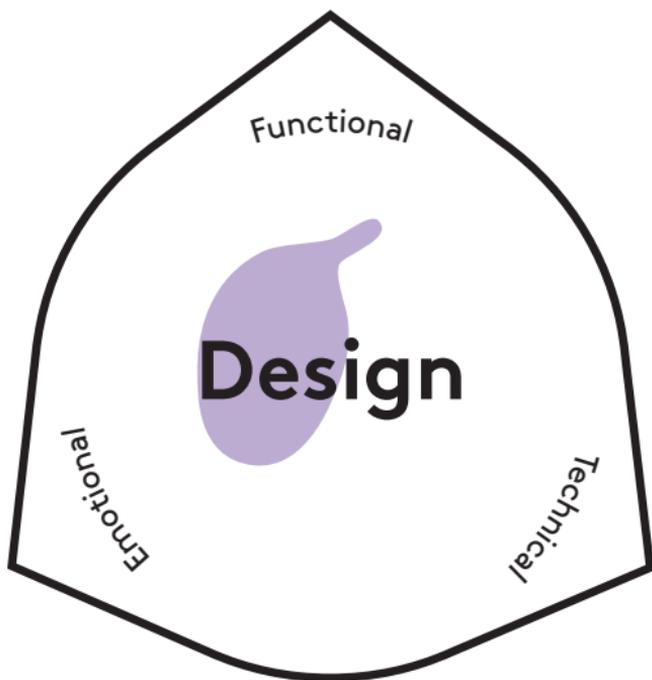
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Co-Creation



Co-Creation

WHAT?

The design process is carried out, fully or partly, in collaboration with future users or other relevant actors.

WHY?

Co-creation can support product longevity through:

- Designing from user-specific insights, desires and needs.
- Creating a sense of product ownership amongst stakeholders, as people involved in the design of a product/solution will be more likely to adopt it, advertise it and keep using it longer.

CHALLENGES

- Users may not be conscious about or able to articulate needs and desires.
- Various actors involved in the co-creation of a product can have conflicting agendas and 'languages', making their cooperation difficult.
- Temporal and/or financial limitations within the design process.

EXAMPLES

- Design tools such as the **Co-Creation cards**, by Silje K. Friis.
- **Birger Christensen's** past practice of involving users in the design process via dialogue between designer, patternmaker and costumer in the shop and during fitting.
- Berlin based studio **Raumlabor** works with diverse citizen-engagement media and channels to reinvent cities.

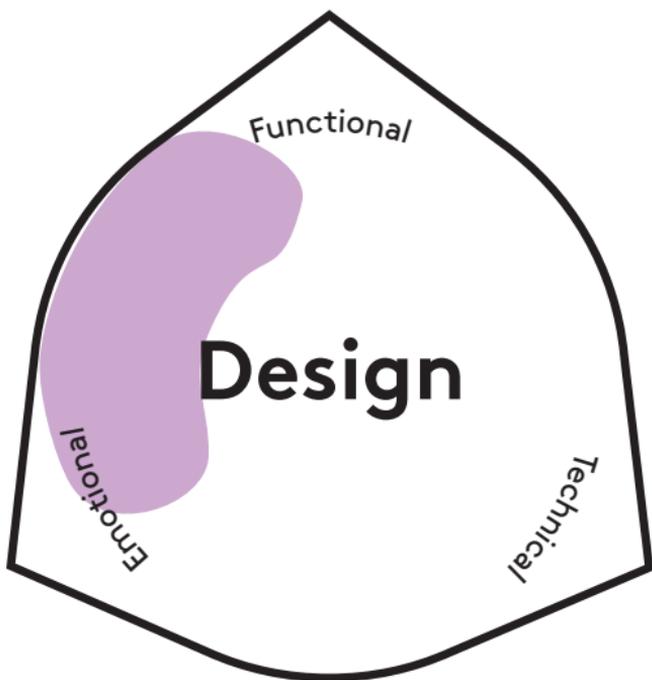
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Customisation



Customisation

WHAT?

Users can influence the final product, before production, in relation to individual user needs and aesthetic preferences.

WHY?

Customisation can support product longevity through stronger user satisfaction and emotional investment.

CHALLENGES

- Users may not want to make choices, or choices might be influenced by trends.
- Requires a user friendly system.
- Requires a flexible production infrastructure.

EXAMPLES

- The online platform **Apliiq** offers high flexibility and customization opportunities for entrepreneurs willing to launch small batches of garments.
- Some furniture companies offer customers high degrees of personalisation, as seen in **Moebe's** shelving system.
- **Unmade's** demand-driven software for the fashion industry.

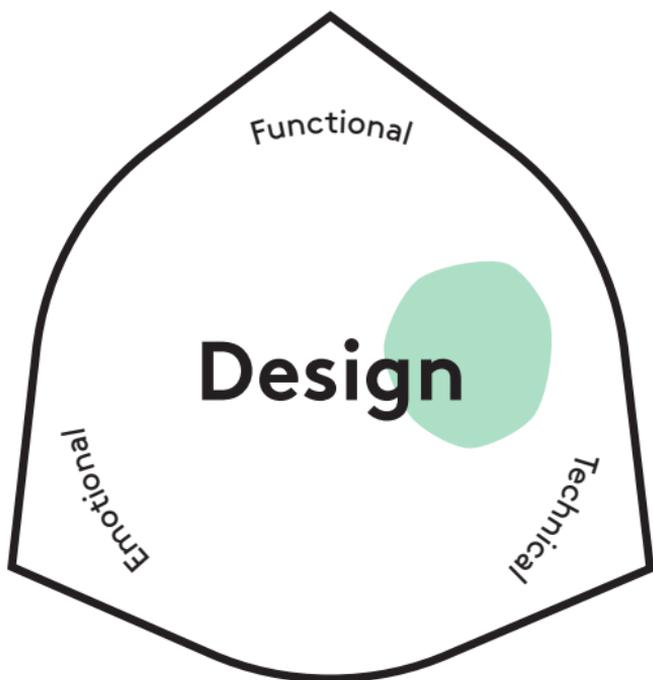
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Design for Disassembly



Design for Disassembly

WHAT?

Working with materials in a manner that allows for easy material separation once the product is discarded or in need of repair.

WHY?

Design for Disassembly can ease and support re-use of materials.

CHALLENGES

Design for Disassembly may challenge the intended design expression and/or economic considerations.

EXAMPLES

- The soles of the **Repair-it-yourself shoes by Eugenia Morpugo** are mechanically fastened, meaning that the user can replace them easily when they wear out.
- Design that makes it easy for the user to **disassemble the product** and replace the exact broken part, such as the **Fairphone**.
- Design that makes it easy to understand how it is built and how it could be disassembled, as seen in **TAKT's** furniture range.

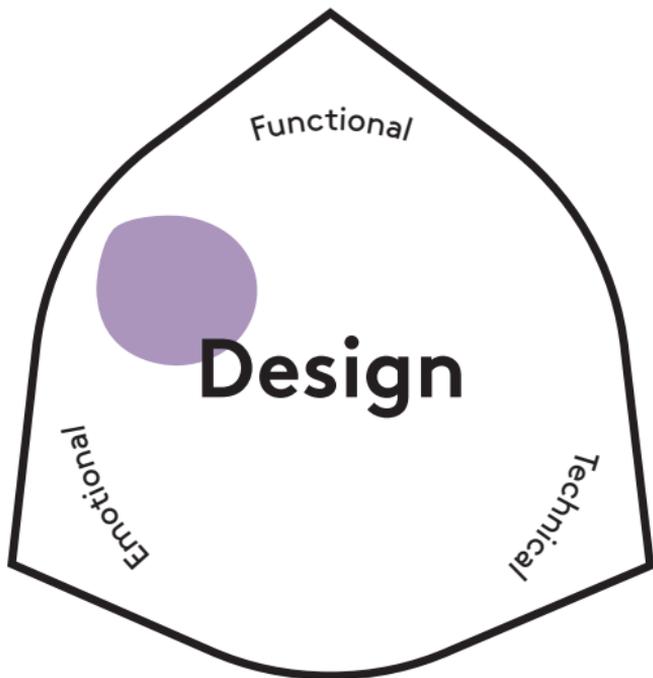
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E-Shop



E-Shop

WHAT?

Online shop and platform that allow customers to purchase products via internet. Conversely, it allows the company to communicate its strategies and products to users.

WHY?

An E-shop can:

- offer more channels for customers and companies to 'meet' and communicate.
- support engagement in product and process transparency.
- support economic efficiency.

CHALLENGES

It might be difficult for users to test and experience the product before purchase if they only experience it online.

EXAMPLES

- **Patagonia** uses its shopping website as a community activism platform and a communication support for its transparency policy.
- **Real Fábrica** is an online store promoting local craft products from Spanish regions, reflecting the crafts and culture of each of them.
- **Unspun** developed an online application for users to scan themselves and get a tailored pair of jeans, limiting return risk.

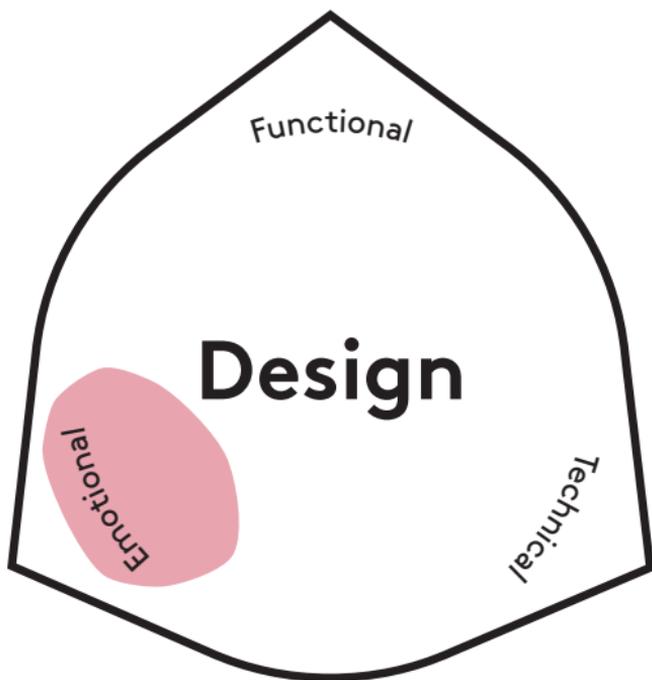
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Embedded Storytelling



Embedded Storytelling

WHAT?

Narratives embedded in a product, either by the designer or by the user via use, aiming at generating emotional value. The storytelling can be supported by a product's ecosystem, e.g. through specific brand communication or services.

WHY?

Emotional value may prolong a product's overall lifespan by enhancing the bond between the user and the product.

CHALLENGES

Emotional value is difficult to pinpoint, predict and make tangible.

EXAMPLES

- Torafu Architects' gold wedding ring reveals its golden core as the initial silver layer wears off during use.
- Cycling gear brand **Rapha** markets its products thanks to fine visuals, videos, interviews and athletes' portraits that immerse customers in a universe of connection with oneself, Nature and breaking boundaries.
- The **Similes** lamp collection by **Isabel Alonso** makes the user interact with the lights in the same way glassblowers fabricated them.

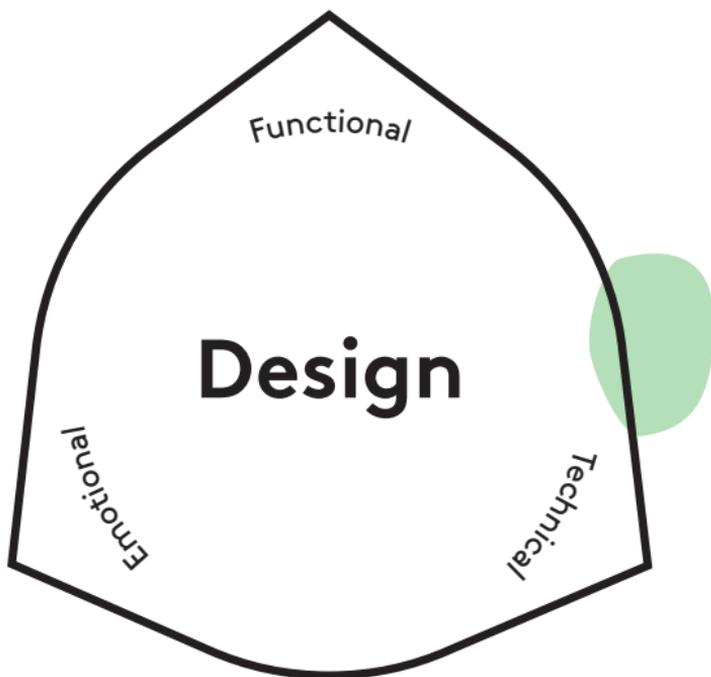
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Environmentally Friendly Materials



Environmentally Friendly Materials

WHAT?

Materials processing and production methods that are mindful of their environmental impact and that intend to reduce or cancel it.

WHY?

Environmentally friendly materials minimize pollution and use of resources throughout their life cycle, from extraction, transformation and use to their end-of-life phase.

CHALLENGES

- The 'environmental friendliness' of a material can be difficult to assess, as it depends on contexts of extraction and use.
- A product might not necessarily be environmentally friendly even if the material it is made of is.
- Environmentally friendly materials often compete with less expensive or more popular alternatives.

EXAMPLES

- Syntegon and BillerudKorsnäs created a paper-only packaging suitable for all dry food, replacing soft plastic packaging.
- Conventional plastics (such as Polyester and Nylon) that are made by using **renewable resources**, see for example the **Plantbottle** initiative.
- Leather alternatives such as the **Hemp Bio leather** or **Piñatex**.

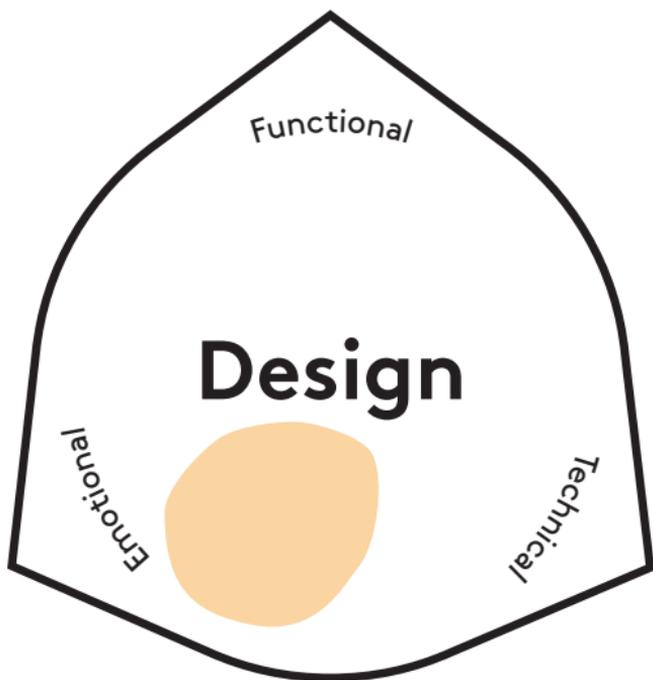
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Ethical Supply Chain



Ethical Supply Chain

WHAT?

Initiatives towards responsible labour conditions in a product's supply chain. This is often incorporated in a company's corporate social responsibility (CSR) strategy.

WHY?

Striving for ethical supply chains ensures that workers involved in a product's life cycle (from extraction to end of life) have dignified working conditions. It is also a way to fight against e.g. child labour, slavery or hazardous work sites.

CHALLENGES

It can be difficult, time-consuming and expensive for a company to audit its suppliers and sub-suppliers to make sure that they share its ethical values.

EXAMPLES

- Local policies, like the **California Transparency in Supply Chains Act**, pushes manufacturers to investigate their supply chain and eradicate slavery or other forms of unfair work.
- The organisation **Clean Clothes Campaign** aims at improving working conditions in the global garment industry.
- The company **Fairphone** focuses on using materials from conflict-free areas and allows workers to form labour organisations.

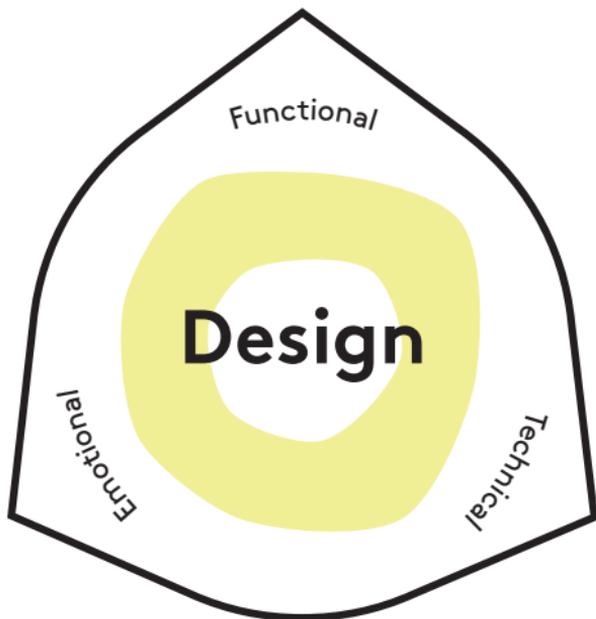
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Formal Alteration and Modification



Formal Alteration and Modification

WHAT?

Users and specialists to have products adjusted or modified. This can be part of a larger service system.

WHY?

An existing product have a higher use potential and/or emotional value than a new equivalent product.

CHALLENGES

- Lack of specialists and craftsmen.
- How should the service system be created to support this?

EXAMPLES

- The **European Remanufacturing Network** gathers tools, documentation and case studies.
- **Sojo** is a London-based app connecting users and seamstresses to have garments repaired or altered.
- Furriers often offer traditional services to do with modification of garments; see for example **Maison Elama**.

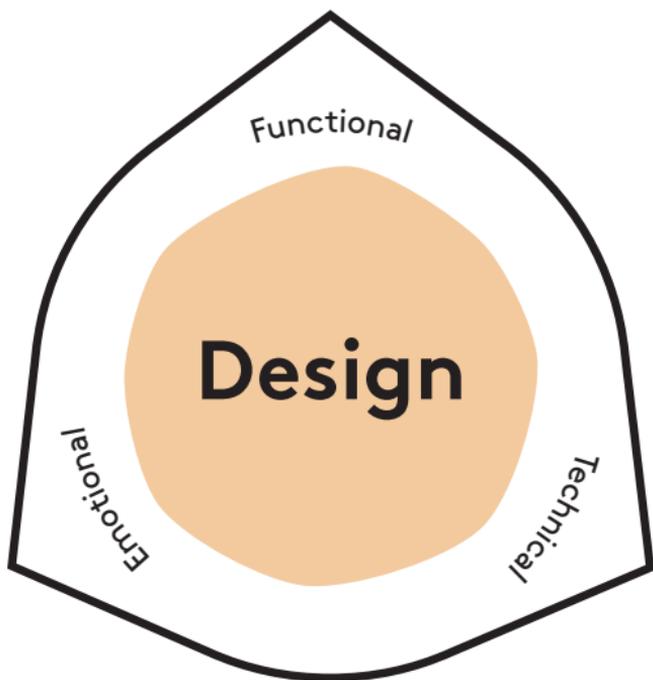
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Formal Sharing and Heritage



Formal Sharing and Heritage

WHAT?

Systems and services that allow diverse actors to share products.

WHY?

- It speaks into the current sharing paradigm that promotes more responsible consumption and resource use.
- It can represent an economic advantage for users.
- Formalised platforms can guarantee 'safe' sharing spaces.

CHALLENGES

- It can be difficult to answer 'how?', 'what?', 'for whom?' when a service system is formalised.
- Formalised sharing platforms may require large data systems to process information on product flows or users.

EXAMPLES

- Systems may focus on optimising the **use-extent of a product**, as seen at textile rental and laundry service company **Elis**.
- **Too Good To Go** allows users to find and purchase food from restaurants after closing hours to avoid food waste.
- Enablers of the **gift economy** such as "Free & take" groups on Facebook or the **Freecycle network**.

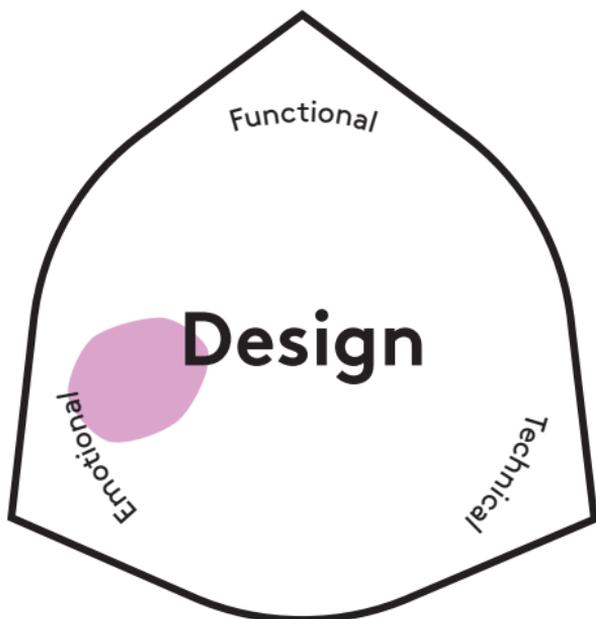
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Informal Alteration and Modification



Informal Alteration and Modification

WHAT?

Users adjust and modify products themselves, for themselves and near relations. This is self-driven and un-systematised.

WHY?

In order to prolong product lifespan and to adapt a product to the changing needs of its users.

CHALLENGES

- It relies partly on the product's emotional value.
- Many users do not have the necessary skills to make alterations and modifications.

EXAMPLES

- In the project, **Local Wisdom**, British scholar Kate Fletcher, has documented ways in which users adjust and modify garments over time, e.g. through craft and couture techniques.
- Life hacks, tutorials and community support provided by platforms such as **Instructables**, **Thingiverse** or **Ikea Hackers**.
- The **Objects of Necessity** made by Ernesto Oroza.
- See the cultural practices of **Jugaad**, **Shanzhai** or **Gambiarra**.

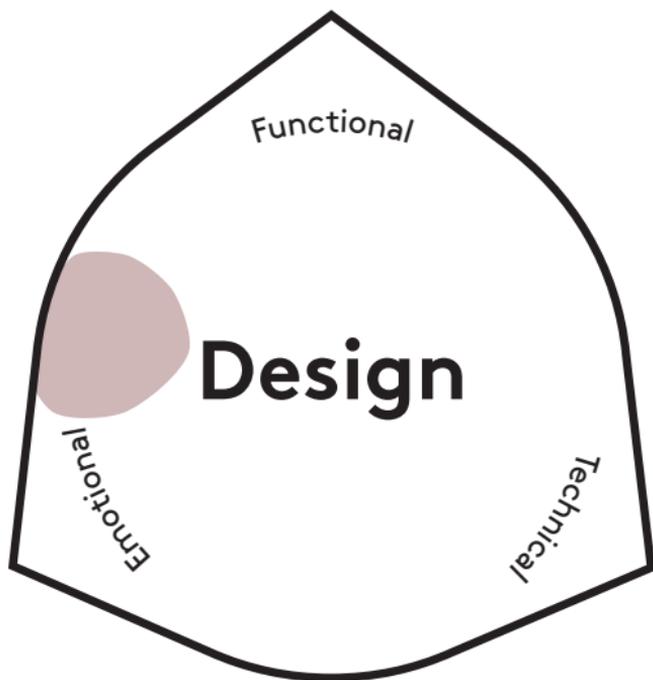
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Informal Sharing and Heritage



Informal Sharing and Heritage

WHAT?

Users who share products in a self-driven and un-systematised manner.

WHY?

This approach taps into the current sharing paradigm that focuses on prolonging the lifespan of a product. Sharing and heritage can be:

- an economic advantage.
- a way of passing on/creating emotional value in a product.

CHALLENGES

- Products may not fit new users.
- Unwanted traces of time and use in product may occur such as e.g. smell and stains.

EXAMPLES

- People tend to share valuable and little used items, such as baby clothing or fur garments.
- **Swapping parties**, as with the **Copenhagen Fashion Exchange**.
- **The Freecycle network** locally connects people willing to give away free items for others to benefit.

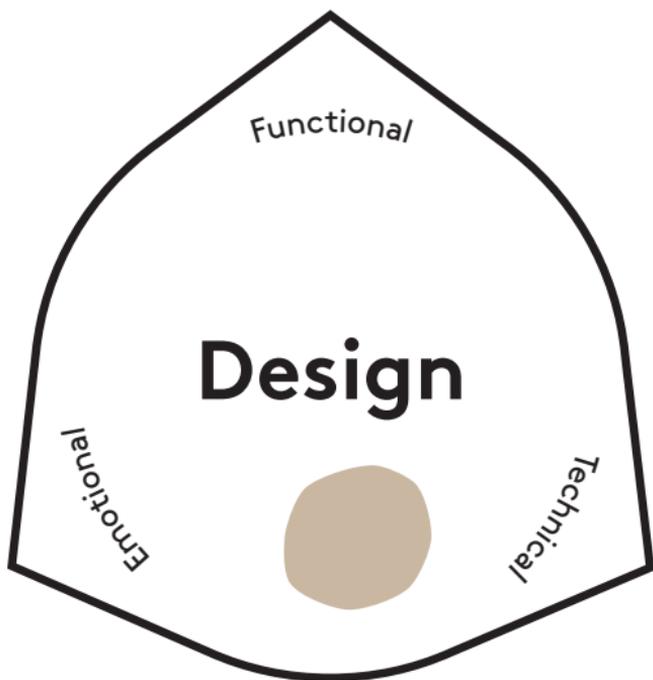
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Information



Information

WHAT?

Information and data that empower the user to understand and take more informed decisions in relation to active sustainability-related initiatives.

WHY?

Information makes knowledge visible, accessible and transparent to actors such as internal collaborators (within the company), external partners and users.

CHALLENGES

- To make the information comprehensible, attractive and relevant to the user.
- To get the necessary information from sub-suppliers, and to ensure its veracity.

EXAMPLES

- Leveraging Open Data to improve the access to more trustworthy and reactive services, like **CityMapper** or **OpenActive** platforms.
- **Dave Hakken's Story Hopper** videos explore sustainability related topics, myths and questions.
- Strategic information as from the company **Patagonia**.
- Companies allowing customers to ask direct questions on online platforms, such as **Everlane's Transparency Tuesdays**.

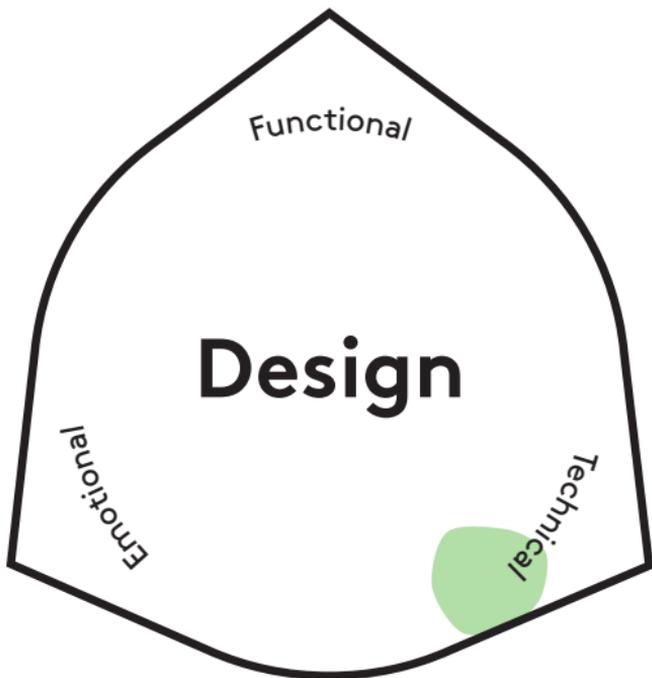
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Labelling



Labelling

WHAT?

Formal information provided by labelling systems. Labelling can inform on aspects such as material composition, origin, maintenance or optimal end of life.

WHY?

Labelling can represent a guaranty from the user perspective and provide guidelines for the users.

CHALLENGES

- The current labelling 'jungle' creates information fatigue.
- Users do not always read the labels.
- Labelling can be costly – especially if the included information is standardized.

EXAMPLES

- The Genesis jeans, by **Unspun**, feature a QR code label providing extra information about product care, resale and recycling.
- An overview on eco labels can be found in the **Eco Label Index**.
- In the European Union, there is a regulation, Regulation 1007/2011, regarding which information that should be included on labels for textiles and clothing.

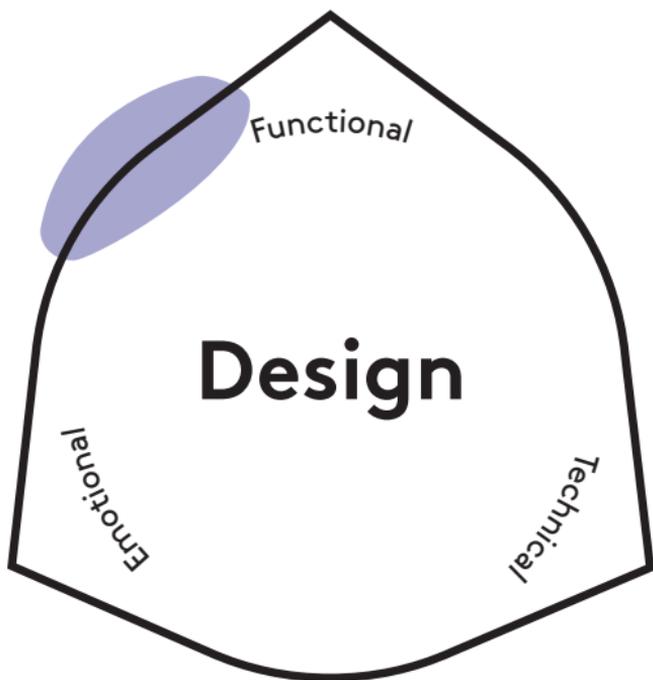
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Local Production



Local Production

WHAT?

The product's manufacturing phase takes place as close as possible to development, material production and/or retail.

WHY?

Local production can:

- minimise use of resources i.e. transport costs and CO₂ emissions.
- enable design innovation and production flexibility, in close collaboration with manufacturers.
- support local communities.
- support transparency in the supply chain.

CHALLENGES

Lack of locally situated manufactures in Denmark, Scandinavia and Western Europe due to the general outsourcing.

EXAMPLES

- High-end textiles company **Wallace & Sewell** use their choice of local production as part of the **product history build-up**.
- Local Production can be used to promote a specific geographical area through a **joint platform**, see for example **MINYC**.
- **OpenDesk** lets customers choose their furniture design online, and connects them with local carpenters or makerspaces.

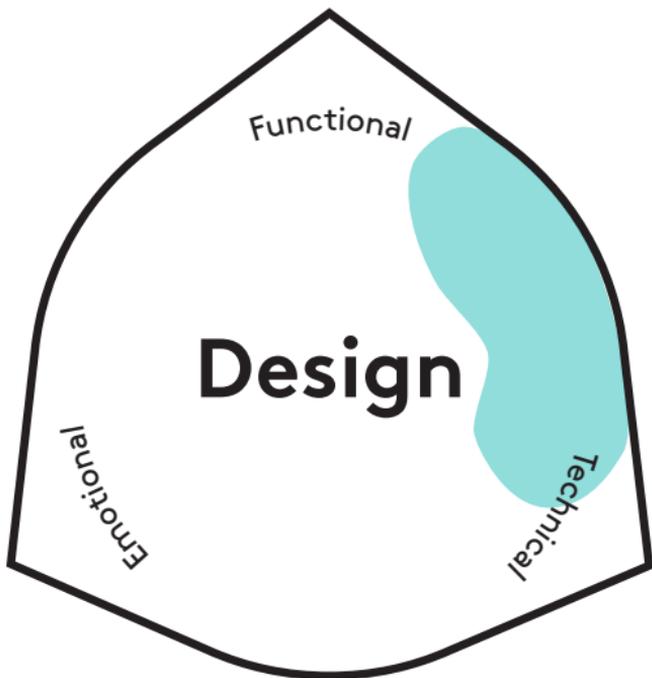
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Maintenance



Maintenance

WHAT?

To motivate and empower users to maintain products with a low level of energy consumption through e.g. initial choice of material or information and guidelines (low wash temperature, zero tumbling, airing...).

WHY?

- The energy consumption in the use/maintenance processes can be minimised with the right handling.
- The product lifespan can be prolonged by handling with care.

CHALLENGES

- Users may not read care labels, are habit driven and have, on average, limited knowledge on materials and maintenance.
- Poor material or product quality makes maintenance difficult.

EXAMPLES

- **Konaka** has developed a 'shower clean business suit'.
- Rubber belt drives by the company **Gates Carbon Drive** that require less maintenance than conventional steel chains.
- **Themaintainers.org** - a global network about maintenance.
- Documentaries such as Horne's **Maintenance** (2012) or Block and Riesewieck's **The Cleaners** (2018), showing the dark tasks of maintenance.

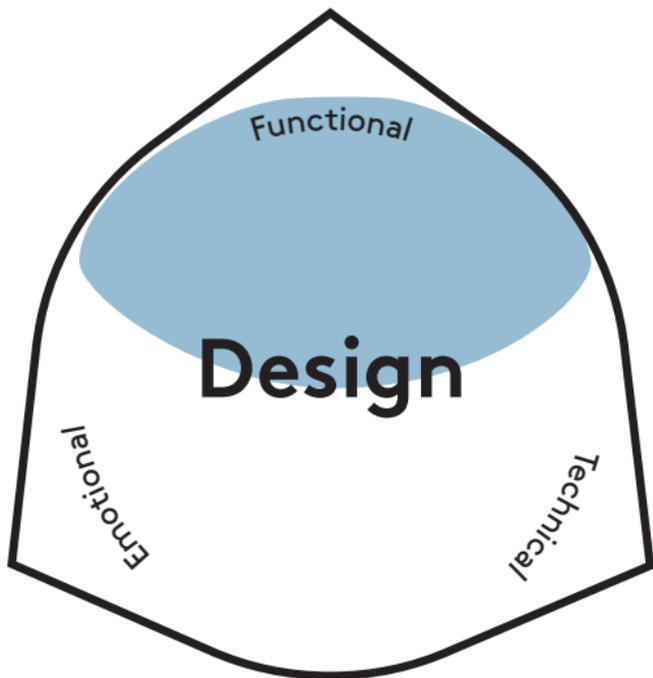
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Modularity



Modularity

WHAT?

Design that is based on a modular approach. Modular products (or systems of products) contain separable parts (modules) that can be replaced or upgraded individually by the user.

WHY?

Modularity can:

- support the functional lifespan and overall product longevity through the replacement of faulty components.
- enhance users' emotional attachment thanks to modules that adapt to their specific needs and economic resources.

CHALLENGES

- Users may find it challenging and complicated in use.
- Product continuity is needed to secure user satisfaction.
- Cheap modules can lead to wasteful trends-led replacement.

EXAMPLES

- Modularity understood as bits to be built together by the user such as the garment experiment by **Berber Soepboer**.
- The **Phonebloks** project created a surge in interest in modular smartphones, showing also the concept's limitations.
- **Thomas Lommée's OpenStructures** gather open and highly modular elements to trigger repair and product alteration.

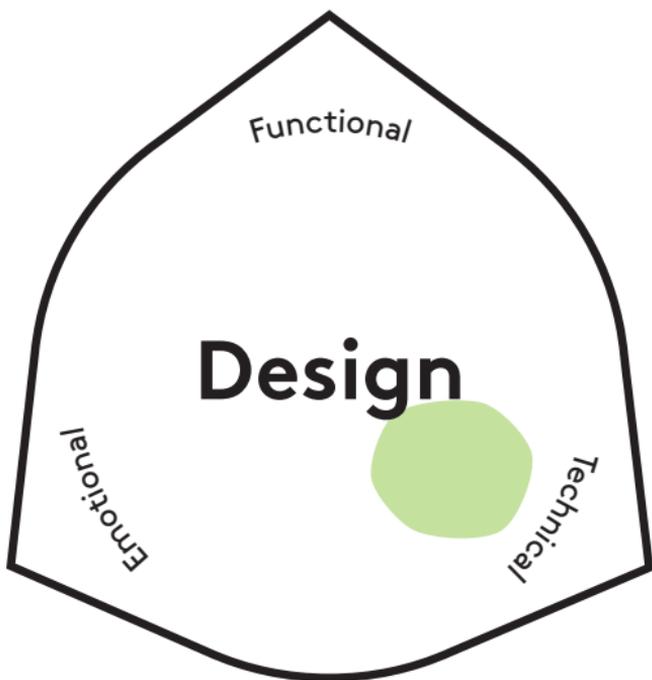
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Mono-Material



Mono-Material

WHAT?

A product that is composed of a single type of material or a product with components that are each made of a single type of material and that can be split apart.

WHY?

Mono-materials can ease the maintenance, re-use and effective disassembly/recycling of products.

CHALLENGES

- There are limited possibilities for re-utilisation due to lack of facilities that process into new high value materials.
- Compromises on for example functionality and quality of the product may be necessary.

EXAMPLES

- Mono material can be a creative constraint and concept, see for example **Pleats Please** by Issey Miyake, **Helly Hansen's MonoMaterial** collection or the **Nobody chair** by Komplot Design, all made of 100% polyester.
- The sports hall built for **Panyaden School** in Chiangmai, Thailand, only uses bamboo.
- **Adidas' FutureCraft.Loop** experiment to produce a mono-material and fully recyclable sneaker.

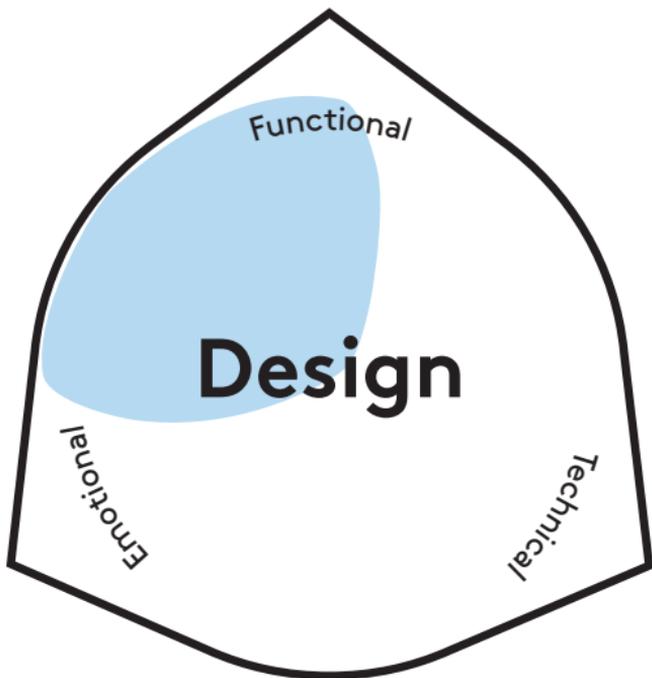
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Multi-Functionality



Multi-Functionality

WHAT?

Product that can serve multiple functions for one or for several users, through transformation of function (1), transformation of function to context (2) or transformation to body-type (3).

WHY?

Multi-functionality can minimise use of resources by optimising product usability.

CHALLENGES

- It demands user friendly design.
- It creates a risk of low product functionality overall.

EXAMPLES

- The **EMPWR Coat** by **The Empowerment Plan** is a jacket that can transform into a sleeping bag initially developed to help homeless people.
- **Houdini's** transformable **Cloud jacket**.
- **Seung Yong Song's** poetic and hybrid furniture.
- The **resourcefulness** seen in e.g. tiny homes, campervans or boats' interior design.

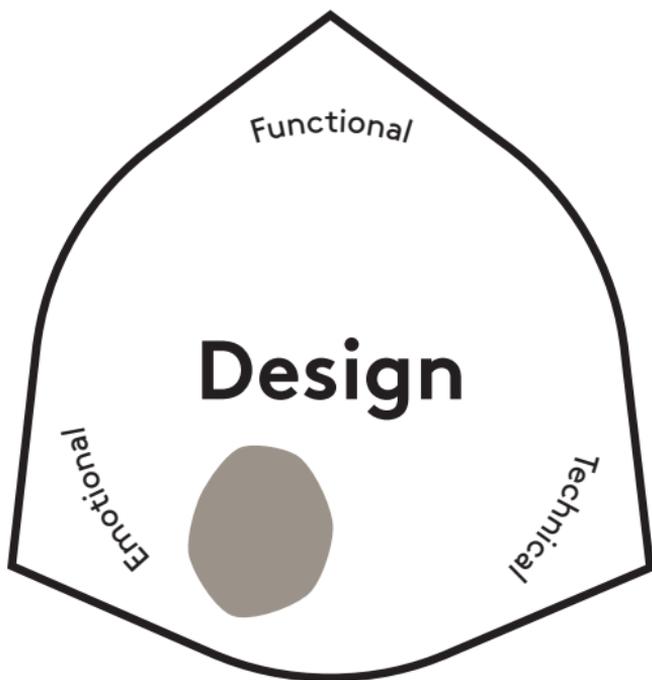
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Product Honesty



Product Honesty

WHAT?

Visible markers supporting transparency and informing the user about a product's development, manufacturing and potential former use.

WHY?

Visible and honest product characteristics can support emotional attachment between the product and the user.

CHALLENGES

The selection, by the company, of what information should be made visible can generate biases and challenge the overall credibility of the strategy.

EXAMPLES

- TAKT provides extensive insights into its furniture' fabrication process, from the the origin of the materials to the design and flatpack shipping.
- **The Wild Concept** as the story of fur design based on fur bought from local hunters, by **Marita Huurinainen**.
- The company **Lovia Collection** works with a 'product DNA' to demonstrate the complexity of the fashion industry and to provide transparency in the supply chain.

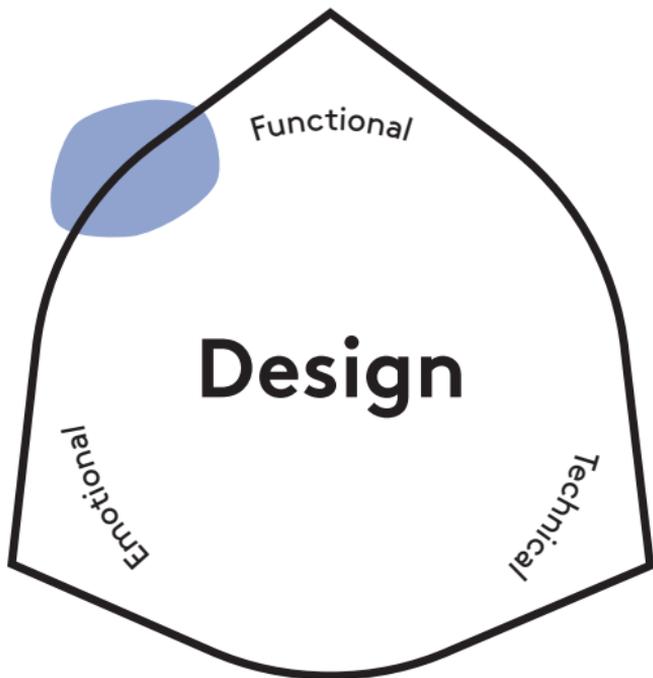
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Production on Demand



Production on Demand

WHAT?

Products get manufactured only once a user has placed an order. The concept is also called Manufacturing on Demand (MoD) and Demand-driven Manufacturing (DdM).

WHY?

Less over-production can reduce overall resource wastage.

CHALLENGES

- The user may find it difficult to understand the product if it is not physically available.
- Users must be patient due to increased time between purchase and acquisition.

EXAMPLES

- Pre-order options as offered by **EE12** or **TwoThirds** ensure minimal stocks and less garment wastage.
- **Unmade's** demand-driven software for the fashion industry.
- **Crowdfunding-based models** ensure customer demand before initiating production, and can enable user-funded small scale projects, such as cultural initiatives or media production. See **Kickstarter** or **Indiegogo**, and e.g. the podcast **99% Invisible**.
- Digital manufacturing services such as **3D Hubs**.

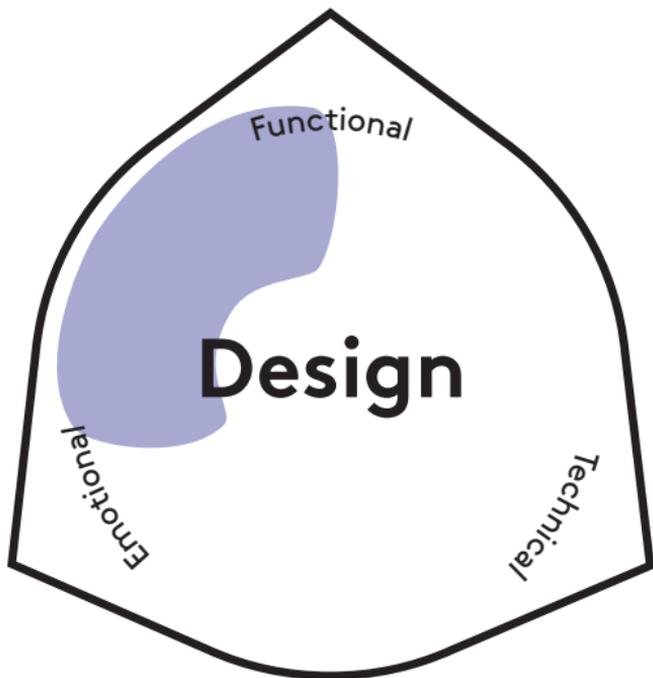
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Re-Use



Re-Use

WHAT?

Re-use of products and materials in their original state or after transformation.

WHY?

Re-use can prolong a product lifespan and increase the circularity of resources as they will be used again instead of becoming waste.

CHALLENGES

- It requires collections systems that are easy to engage with for users in everyday life.
- It can be difficult for producers to process re-used materials.

EXAMPLES

- Deposit systems allow to re-use products in their original form, with actors such as the well-established **Dansk Retursystem**, or **Loop Store**.
- **Harvest maps** are tools for 'mining' locally available resources.
- **Studio Basurama** develops an array of projects and interventions playing with the **perception of what is considered to be waste**, and how to valorize it.
- Initiatives such as **H&M's** fabric collection are debatable since they also fuel the consumption of new garments (with vouchers).

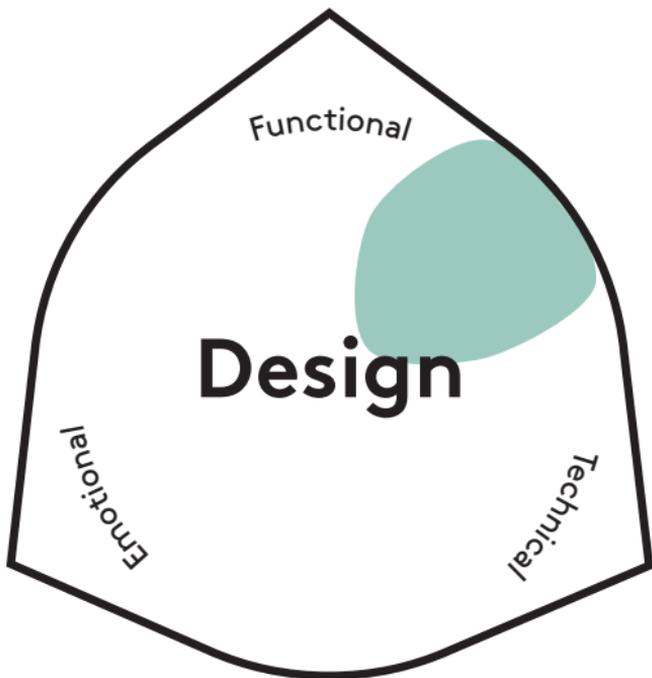
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Rental Service



Rental Service

WHAT?

Re-use of products through rental services such as subscription services and leasing. Rental services as a concept is part of the sharing economy societal paradigm.

WHY?

Rental service models can minimise 'dormant assets' (e.g. private vehicles or specialized equipment) and the use of resources. They can also make certain products accessible to a wider public.

CHALLENGES

- Products should be designed for extensive use, which can be a design challenge.
- Users may not want to pay for used products.

EXAMPLES

- **Husqvarna** proposes rental services for its tools in collaboration with local dealers.
- Leasing of rapidly outsized or high-end products, such as **Vigga's** baby cloths (now part of **Circos**) or **Mud Jeans'** organic and recycled jeans.
- **Kwipped** or **Floow2** are B2B platforms where professionals can rent costly or specialized equipment.
- **Elis** offers rental and laundry services for textile products.

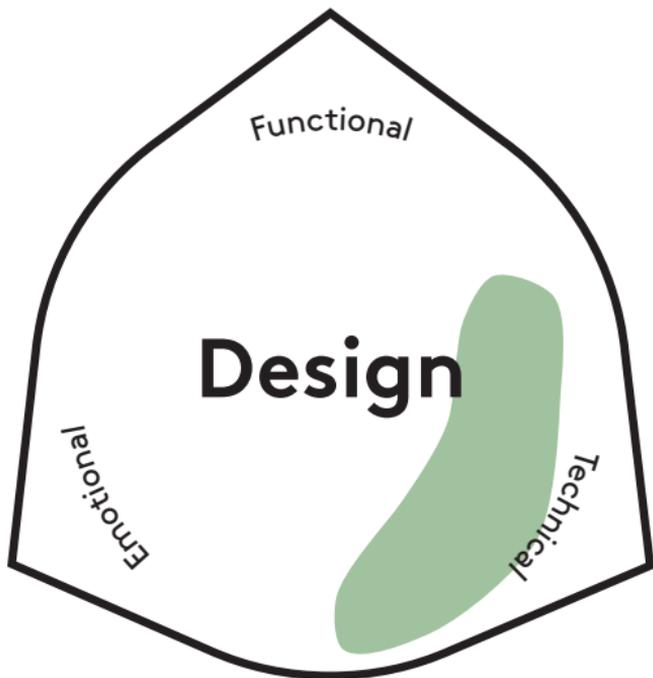
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Repair



Repair

WHAT?

Action carried out on a defective product by the user or by a specialist in order to restore its functionality.

WHY?

Repair can prolong the product lifespan. It can be motivated by user economy, ideology and/or emotional attachment to a product.

CHALLENGES

- User skills and motivation might be limited.
- It can be difficult to get hold of spare parts, and overall product structure might discourage repair initiatives
- The lack of economic incentives associated with inexpensive items may not motivate repair.
- The lack of knowledgeable specialists proposing repair services.

EXAMPLES

- **Online communities** for all types of repair is a growing phenomenon such as **ifixit.com** , while **Repair Cafes** bring people together physically around **skills sharing** and repair.
- The **Restart Project** teaches Londonians how to fix their items, and how to consume them in the first place.

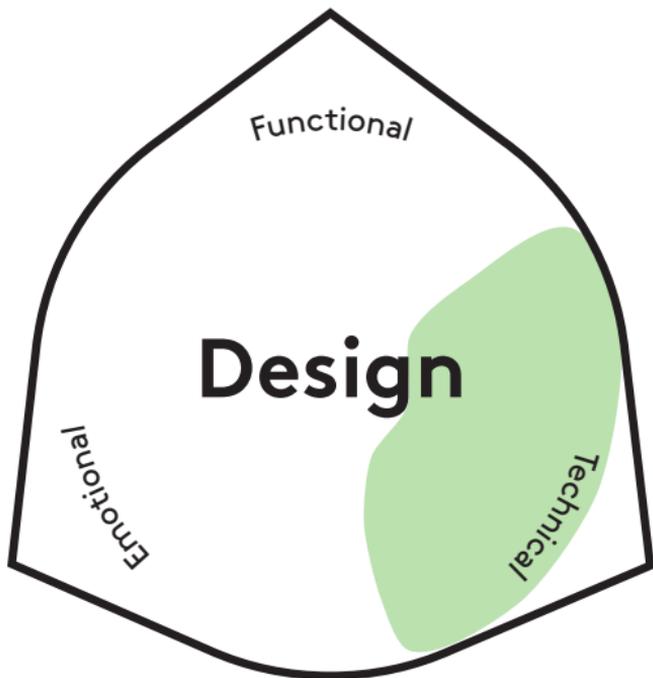
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Technical Durability



Technical Durability

WHAT?

To align a technology and material's durability with the intended product lifespan, with respect to functional properties such as abrasion, supportability, degradability or ageing.

WHY?

Optimizing or estimating the product lifespan can minimise resources use and ensure the right material choice. One example could be that for disposable products (like a paper plate) a criterion may not be 'long lasting' but 'compostable'.

CHALLENGES

- It can be difficult to estimate wear and tear in use contexts.
- It can be costly and troublesome to perform standardised tests.

EXAMPLES

- Waste management bags made of **Mater-Bi**, by **Novamont**, are biodegradable and compostable.
- Product and material specifications that define performative properties, such as abrasion (e.g. ISO 12947-1:1998) and tearing resistance and dimension stability (e.g. ISO 6330:2012).
- See the work of **Julia Christensen** on the obsolescence of Hard Copies and on the 'upgrade culture'.

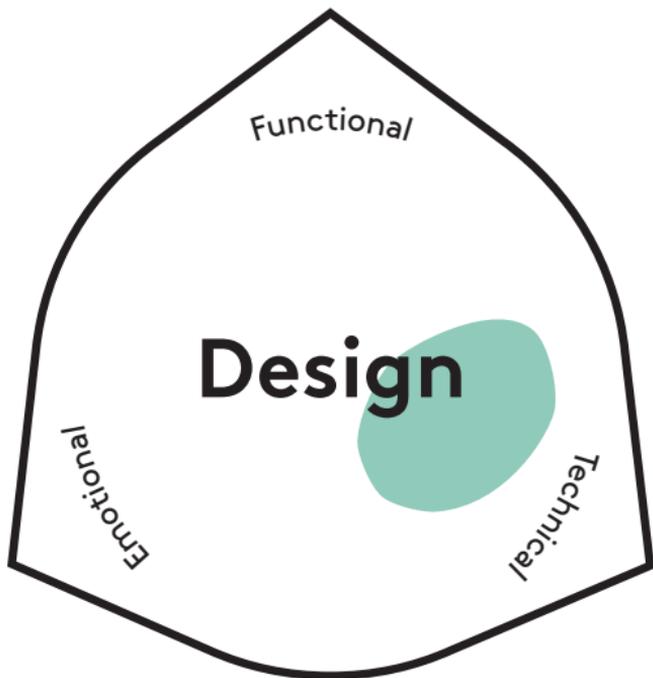
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Up-Cycling



Up-Cycling

WHAT?

To inject new and higher value to a used, and possibly discarded, product through design.

WHY?

Up-Cycling ensures that resources retain the highest possible value for as long as possible throughout their successive use cycles. It is a prerequisite to a truly circular economy.

CHALLENGES

- It can be difficult to ensure clean material fractions.
- Access to and development of up-cycling supportive technology are limited.
- It can be difficult to define what 'higher value' is.

EXAMPLES

- **Precious Plastic** empowers people around the world to kickstart local plastic upcycling facilities.
- **Refunc** collective re-uses and upcycles materials into architectural interventions and installations.
- Fashion brands such as **Looptworks** re-use other brands' leftover materials.
- The material **Newspaperwood** from **Vij5** is made out of old compressed newspapers.
- **The Upcycl** is a Danish B2B platform aiming at connecting professionals with material waste streams.

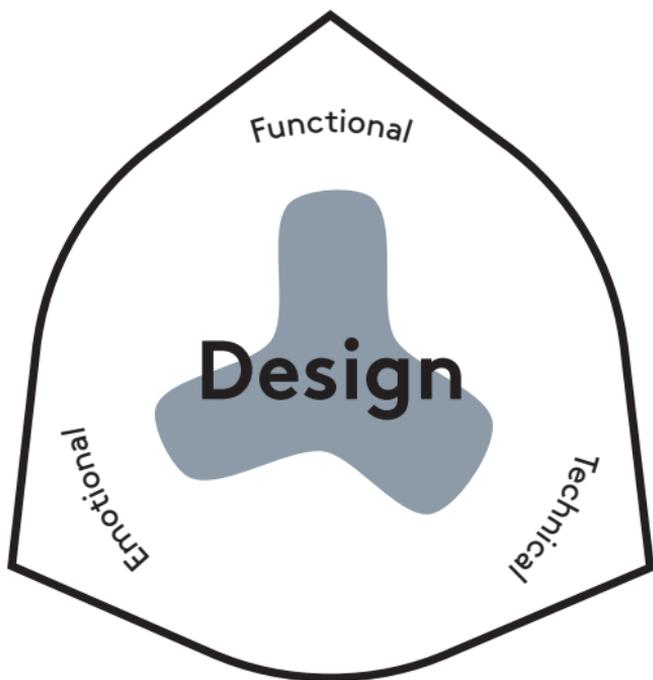
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User Understanding



User Understanding

WHAT?

Conducting research about intended or potential users in order to base product/service design on concrete insights regarding, for example, their values, economic resources or practical life.

WHY?

Understanding the user can prolong product lifespan through:

- Enhanced product/user match.
- Meeting diverse user needs.

CHALLENGES

It can be a challenge to incorporate users and user understanding into design processes.

EXAMPLES

- Agencies such as **Is It A Bird** or **Naboskab** are specialized in generating deep users insights before designing solutions.
- Danish baby clothing company **Vigga** (now part of **Circos**) initially built its business model and product range thanks to in-depth user understanding and community building.
- The **Nike Flyease** has been specially developed for athletes of all abilities and ages making them easier to take on and off.

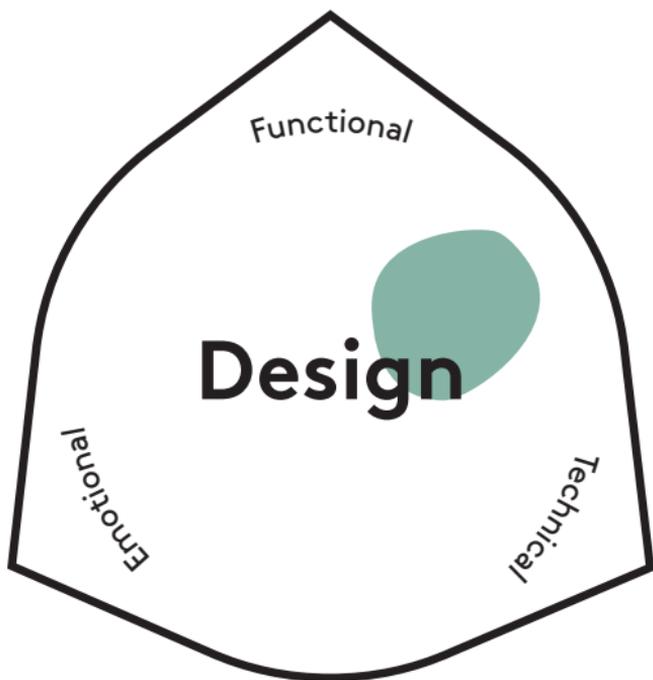
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/ Co-Creation / Customisation / Embedded Storytelling / Formal Alteration and Modification / Formal Sharing and Heritage / Informal Alteration and Modification / Informal Sharing and Heritage / Multi-Functionality / Re-Use

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Zero-Waste



Zero-Waste

WHAT?

To minimise or cancel, through design choices, the generation of waste during the production and use phases. It can be understood as 'absolute' Zero-Waste or as Zero-Waste to landfill (ZwTL).

WHY?

Working with a zero-waste approach can minimise material waste through, for example, smart pattern placement or the re-use of material scraps (in the context of the apparel industry).

CHALLENGES

- It may demand aesthetic compromises or technical upgrades.
- It can be difficult to get access to quality material leftovers.
- It requires companies to adopt very holistic approaches.

EXAMPLES

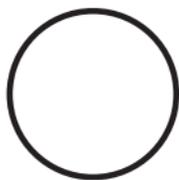
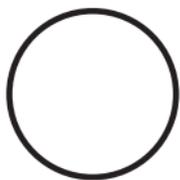
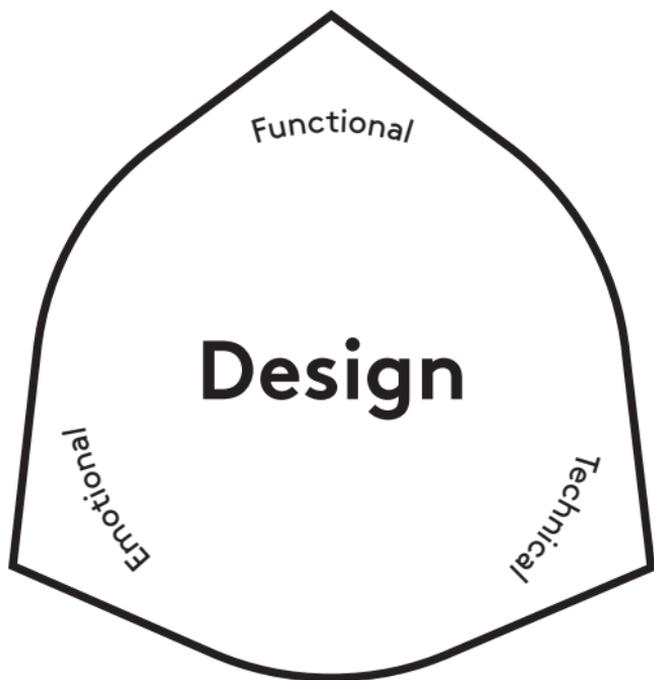
- **Industrial Symbiosis** is a model where neighbouring factories use each other's excess resources (heat, water...) as inputs for new processes. See an example in the Danish city, Kalundborg.
- The Australian company **Closed Loop** offers a comprehensive range of services and products aiming at waste reduction.
- **Additive manufacturing techniques** can reduce the generation of excess materials. See Nike's Flyknitsneakers or 3D printing platforms such as **Materialise**.

THIS CARD LINKS TO

/ Modularity / Mono-Material / Multi-Functionality / Re-Use

FURTHER READING

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WHAT?

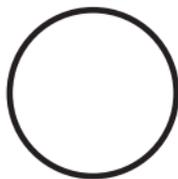
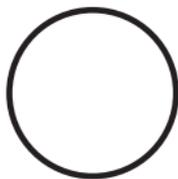
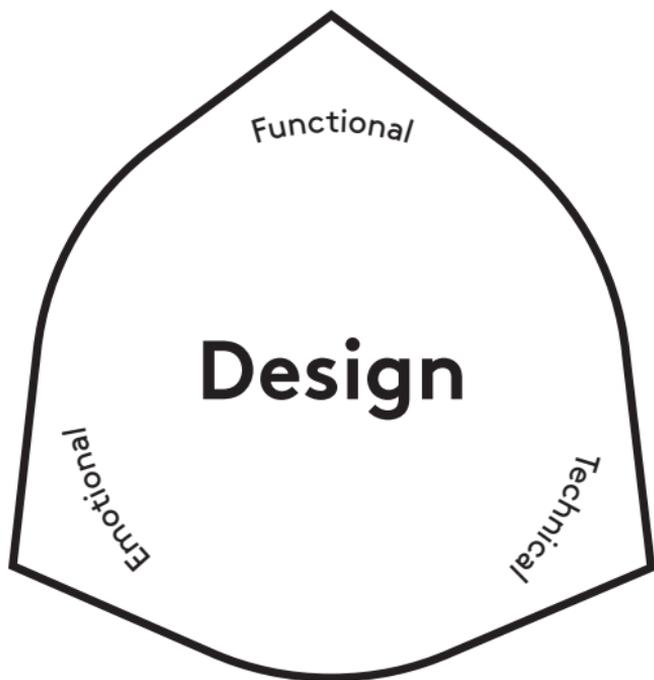
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WHAT?

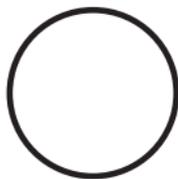
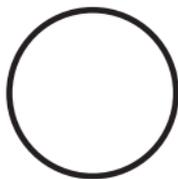
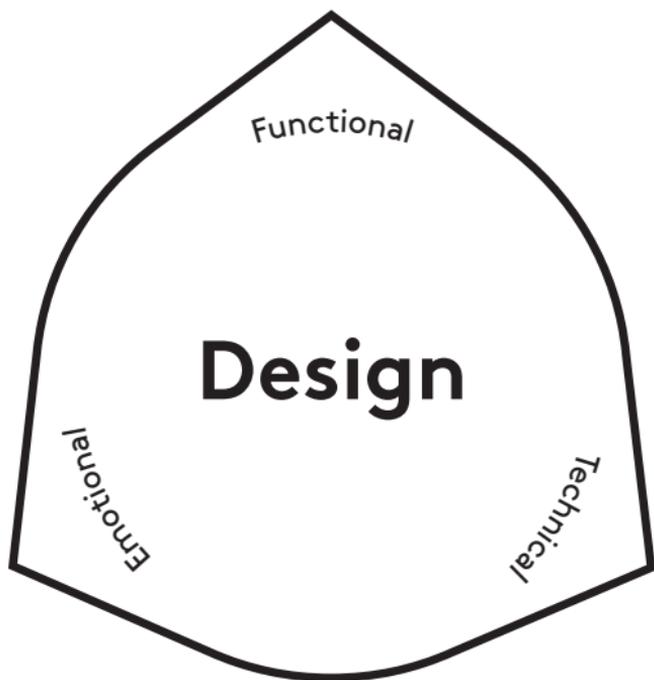
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WHAT?

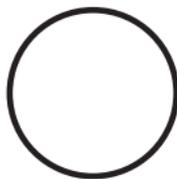
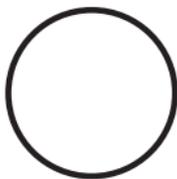
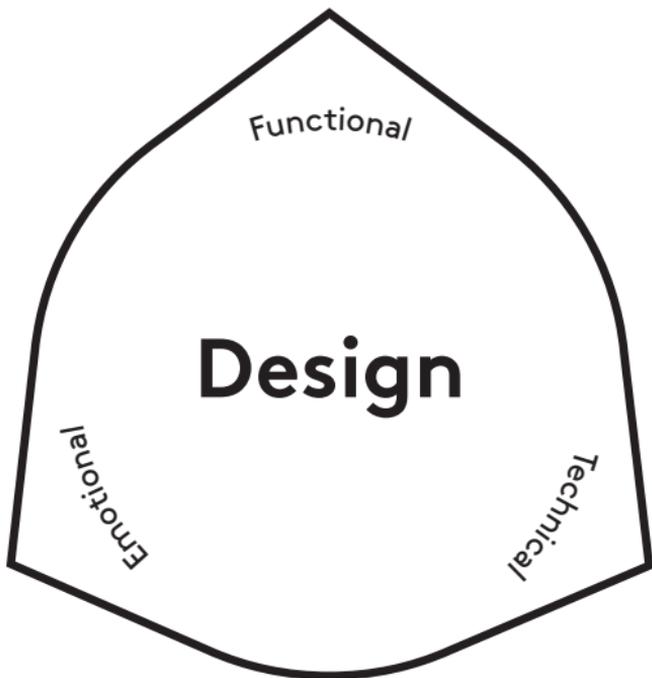
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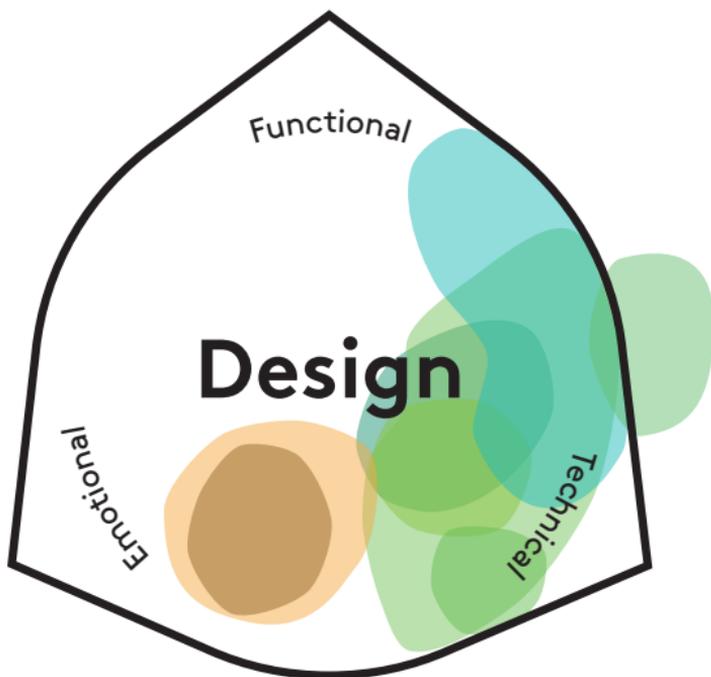
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Materials

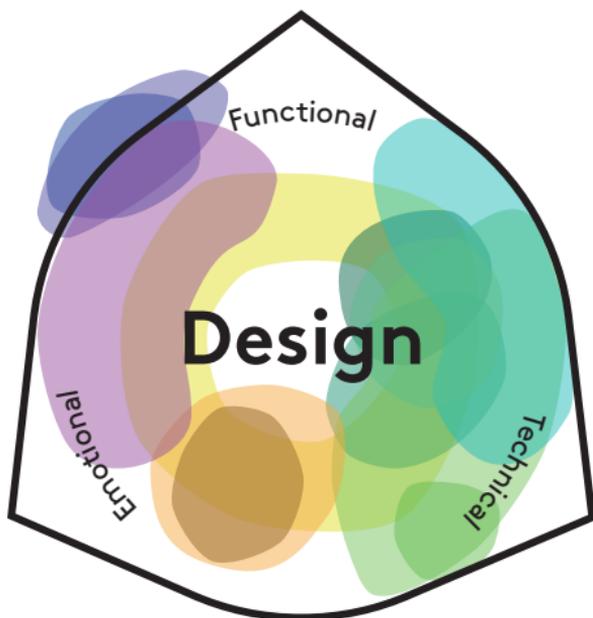


Materials

- Environmentally Friendly Materials
- Ethical Supply Chain
- Labelling
- Maintenance
- Mono-Material
- Product Honesty
- Technical Durability
- Up-Cycling



Production

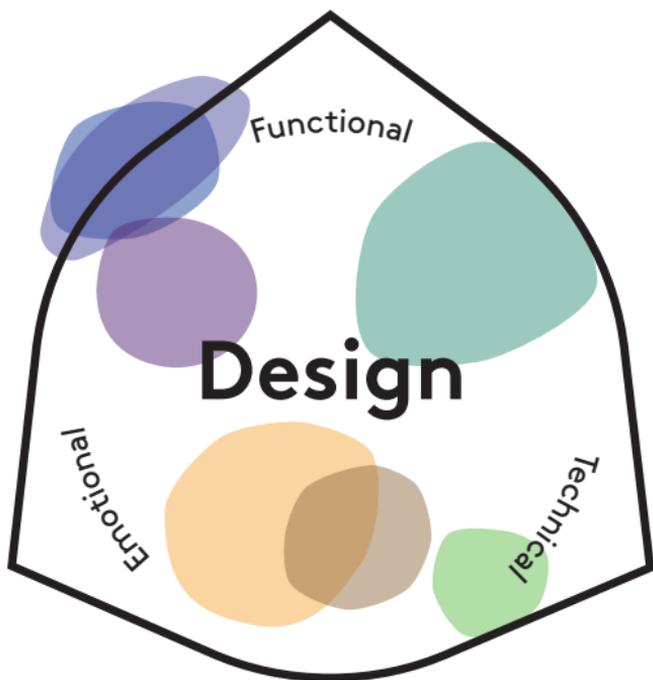


Production

- Customization
- Design for Disassembly
- Ethical Supply Chain
- Formal Alteration and Modification
- Labelling
- Local Production
- Maintenance
- Product Honesty
- Production on Demand
- Technical Durability
- Up-Cycling
- Zero-Waste



Transport and Retail

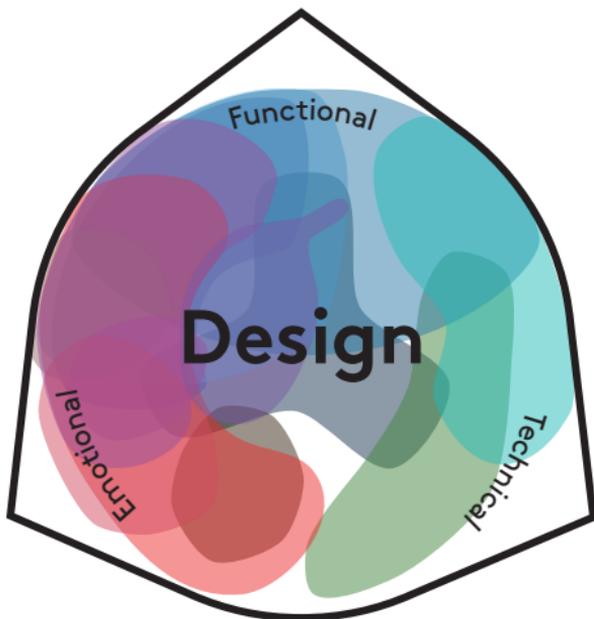


Transport and Retail

- E-Shop
- Ethical Supply Chain
- Information
- Labelling
- Local Production
- Production on Demand
- Rental Service



User and Practice

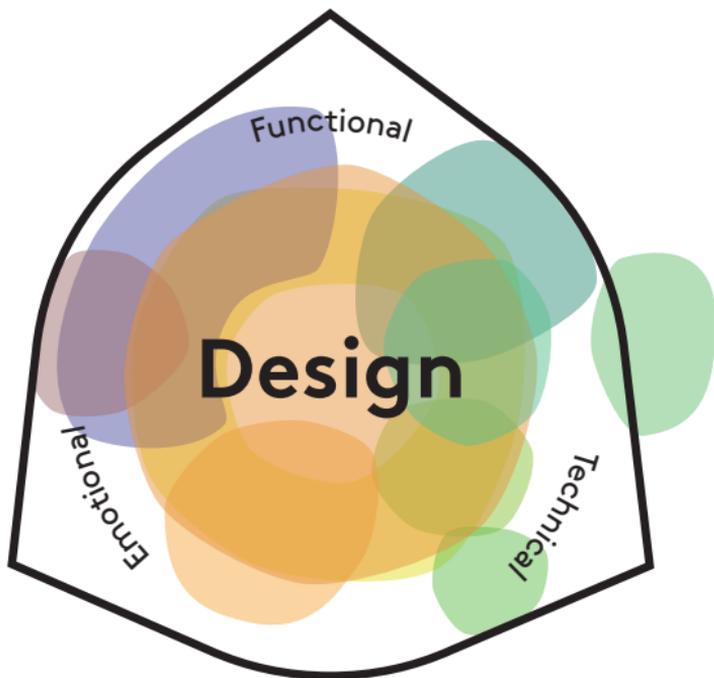


User and Practice

- Aesthetic life time
- Co-Creation
- Customization
- Embedded Storytelling
- Informal Alteration and Modification
- Informal Sharing and Heritage
- Maintenance
- Modularity
- Multi-Functionality
- Product Honesty
- Repair
- Re-Use
- User Understanding



Disposal and Recovery

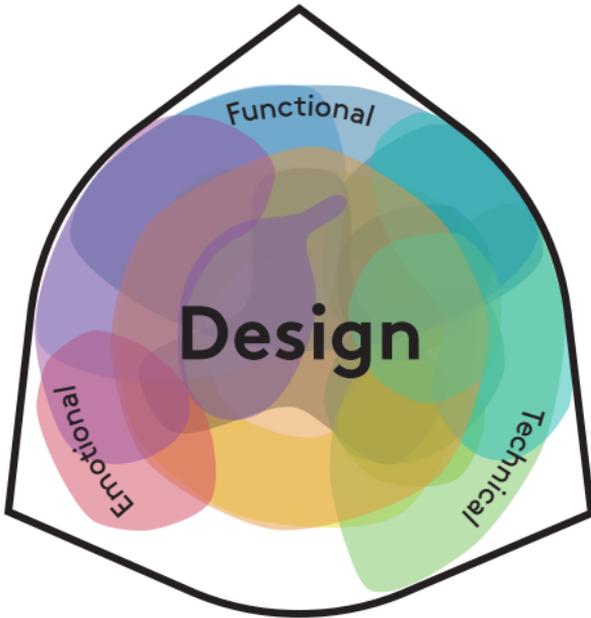


Disposal and Recovery

- Design for Disassembly
- Environmentally Friendly Materials
- Ethical Supply Chain
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- Formal Sharing and Heritage
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- Labelling
- Mono-Material
- Rental Service
- Re-Use



Design and Concept



Design and Concept

- Co-Creation
- Customization
- Design for Disassembly
- Embedded Storytelling
- Formal Alteration and Modification
- Formal Sharing and Heritage
- Maintenance
- Modularity
- Mono-Material
- Multi-Functionality
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- Up-Cycling
- User Understanding
- Zero-Waste



The collection of cards introduces and describes selected approaches to sustainability within design. The cards have been developed as an inspiration and methods toolkit to be used in sustainable design practice.

The cards are distributed in six categories that together account for the stages in a product life cycle.



SUSTAINABLE DESIGN CARDS

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