

Aalto University School of Arts, Design and Architecture

Sustainable design S2

Mikko Jalas 28.4.2023

Agenda

- 9.15 9.45 Evaluation matrix. Last session. Footprinting exercise.
- 9.45 10.45 Levels/strands of design for sustainability (C&G)
- 11.00 11.40 Discussion a corners exercise
- 11.40 11.45 Next session: what are product labels and standards.



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sitra

FI/EN/SE Q SEARCH

TEST YOURSELF AND FIND OUT WHETHER YOU ARE A THREAT OR AN OPPORTUNITY.

Is your lifestyle good or bad for the environment? After this short test, you will get tips tailored for you. They will help you save time and money and improve your quality of life. And our planet will thank you!

START THE TEST

0

The test has been done 947 256 times and the average carbon



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footprint

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Consumption-based accounting



Territorial emissions



CO2 Emissions | Global Carbon Atlas



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Design for sustainability

'Radical transformational change in how human society operates'

- Pioneers like Buckminster Fuller and Victor Papanek.
- Evolution
 - Product innovation, eco-design, e.g. Rstrategies, renewable energy
 - Product-Service System innovation level
 - Spatio-Social innovation level
 - Socio-Technical System innovation level



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Product innovation

Green design, eco-design Sustainable material choices Life-cycle thinking/assessment R straregies: Re-use ... Recycle





e.g. http://www.ecodesign.at/research/ecodesign_toolbox/EN/



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Emotionally durable design

How?

Designing products that 'age with dignity'

Enabling product personalisation

Designing products that collect and store memories

Products that require skills

Caring relations with products Group affiliation



Photo: Vesa Härkönen



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Emotionally durable design

I was born in April 1950 in Gamleby, Sweden. Designed with a stroke of the pen by my father Tore Holm my immediate future was to gambol over the blue waters of the Lake Geneva. My Christian name was Silène III

(http://www.6mr.fi/yachts.php?yacht_id=61)



Photo: Vesa Härkönen



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Design for sustainable behaviour

INITIAL CONCEPT - ALEPA WEEKLY RECIPE

- Based on our research and ideation we developed initial concept of Alepa Weekly Recipe shelf - a physical shelf that offers ingredients for vegan, vegetarian and meat recipe
- The concept displayed also data from the recipes carbon footprint and nutritional values

The initial concept was tested in

Chloe Hartman Ellen Saukkonen Esko-Matti Helin Darja Sergeeva Shubhajt Dutta

user tests



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Design for sustainable behaviour

Using products differently

Convenience/availability: make it easier for people to adopt a desired behaviour.

Desirability/acceptability: making people want a desired behaviour.

- Policy-related design
- Legitimacy of 'nudging' and undercover influence
- Influence through social norms





Bicycle communiting



A?

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Image: City of Helsinki City Planning Office

Product service systems (PSS) Sharing/Access economy

C&G: Designing PSSs requires a different approach to designing individual products. PSSs are complex artefacts composed of products, services, and a network of actors who produce, deliver and manage the PSS.

Incentives for resource efficient design? Why to own products? Functions? Ultimate needs?





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Product service systems (PSS) Sharing/Access economy

How?

Extending: adding services to the product

Exploring on 'down-time'

Building a network of related products.

Tailoring: right product for right purpose

Exploring functionalities of the products

Building business models on management of risks, life-cycle costs and data



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Spatio-social innovation

Innovation in human settlements Including also designing for the underserved market (BoP)

(Co-) Innovation/design that 'equips' people to strive for sustainability.

Supports and maintains communities. Making them more probable.

Replication is a key concern. Social innovation often does not connect to commercialization processes.





http://acs.aalto.fi/category/test-site/

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Practical Sustainability 'TestSite' at Aalto campus – Welcome (





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Systemic design

Industrial symbiosis Waste is a resource But ... symbiosis is a 'lock-in'. But ... does not address consumer demand



Flickr: Daril Extension





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Socio-technical system innovation

Long-term societal change supported by public policy and e.g. living labs & experimentation

Backcasting 'How to get there?' 'What are the steps?'

Transition design – destabilize the old and nurture the new. 'What are the hurdles and who are the gate-keepers?'

Urban design & changes processes in the 'infrastructure of everyday life'





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Add to favourites

National joint procurement of solar power systems open 2016–2020 – dozens of municipalities participating already

by SYKE | Published 2.9.2019

Together with the Finnish Environment Institute, Kuntahankinnat has put solar power stations to be connected to the electrical grid out to tender.



The agreement covers the solar power stations and installing them ready for use. In addition, the agreement covers maintenance and repair outside the warranty, as well as spare parts.





Discussion

Choose a design approach you are interested in.

Form groups of about four

Discuss the approach. What are the principles? Look of examples. Discuss how it connects to others

Be ready to share a few thoughts



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4.2023'. 21

For the next time

Find two product/service labels or certificates preferably from different areas

- Document the main criteria or data
- Find out who has created the label or grants it







