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USchool Intro
2. Design

Virpi Roto
Professor of Practice in Experience Design
30.9.2020

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Agenda

➢ What is Design? What do we do? How do we do it?
➢ Check against the learning objectives
  • the foundations and scope of human-centred design
  • the need for and practices in multidisciplinary design
➢ Assignment

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Department of Design @ Aalto

- 800 students
  - 70 doctoral students
- 22 professors
- 13 lecturers
- 50 researchers & teaching assistants

- One of the top design departments in the world
- Aalto ARTS ranked the 7th best art & design schools (QS'20 ranking)

Andrea Mancianti: Blindphones limit sight, enhance music listening

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- product design
- industrial design
- service design
- co-design
- interaction design
- spatial design
- fashion design
- textile design
- craft design
- sustainable design
- design management

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Introductions

Expectations of USchool courses in Design

- Which courses you are interested in?

- What are your wishes for the design courses?

MUO-E3024 / MUO-E3025 - User Inspired Design, Period 1

MUO-E3041 - Designing for Services, Period 1

MUO-E3036 - Interaction design, Period 3

MUO-E3039 / MUO-E3040 – Design for social change, Period 2

MUO-E1051 – Wearable Technology and Functional Wear, Period 1

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Design – a noun

A design:

- *a plan or specification for the construction of an object or system or*

- *a plan or specification for the implementation of an activity or process, or*

- *the result of that plan or specification in the form of a prototype, product or process.*

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Design – a verb
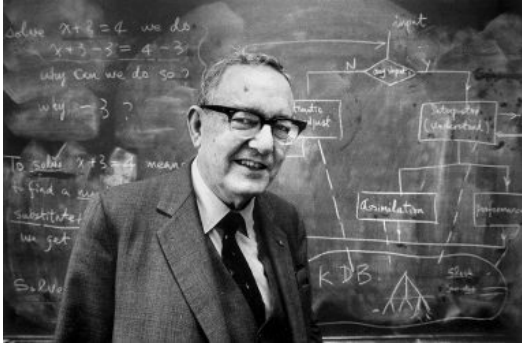
Herbert Simon:

Everyone designs who devises courses of action aimed at ***changing existing situations into preferred ones.***

Simon, H. (1969) The sciences of the artificial. MIT Press

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What do designers do?

- Transformation of the world from its current state to a preferred state

- Wicked problems (Rittel & Webber, 1973)

  - *problems that have no correct answer, but an innumerable number of better or worse solutions*

- Interventions

  - *Change the state of the world and see if it results into a preferred state*

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Rittel, H. W., & Webber, M. M. (1973). "Dilemmas in a General Theory of Planning." Policy sciences, 4(2), 155-169.

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Wicked problems

How to make studies more inspiring?

How to keep in contact during pandemia?

How to remove poverty?

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How do we do it?

Design thinking

Empathise   Define   Ideate   Prototype   Test

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Dam, R. F., & Siang, T. Y. (2019). What is Design Thinking and Why is it so Popular? Interaction Design Foundation

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Design compared to scientific reasoning
Basic formula to produce an outcome
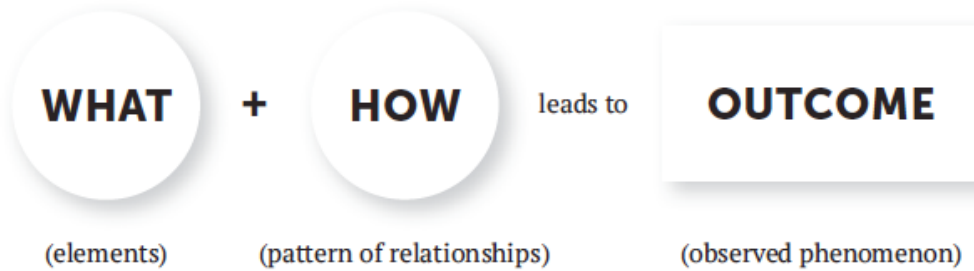
| WHAT | + | HOW | leads to | OUTCOME |
| (elements) | | (pattern of relationships) | | (observed phenomenon) |

Kees Dorst: Frame Innovation – Create New Thinking by Design. MIT Press (2015), Chapter 3

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Types of Logical Reasoning
Deduction: Rock-solid Cause ➡ Effect

Design thinking not needed

| WHAT | + | HOW | leads to | ??? |
| **Planets** | | **Movement rules** | | **Planet locations** |

Kees Dorst: Frame Innovation – Create New Thinking by Design. MIT Press (2015), Chapter 3

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Induction: Discovering patterns
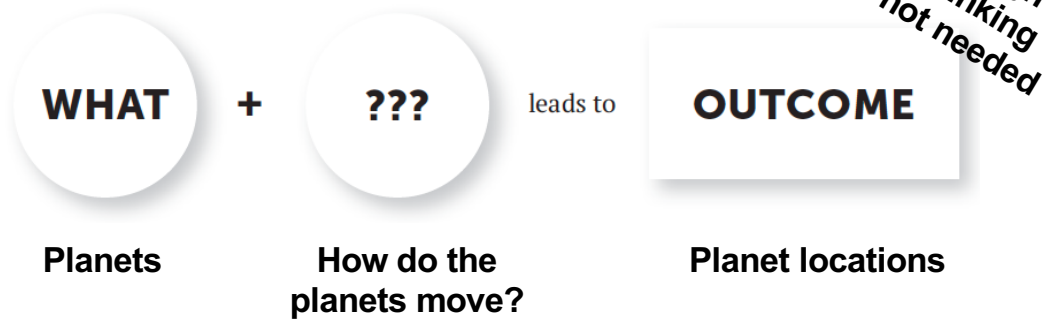
Design thinking not needed

WHAT + **???** leads to **OUTCOME**

Planets   **How do the planets move?**   **Planet locations**

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Normal Abduction: Solid problem-solving
based on previous experience

Design thinking not necessary

??? + **HOW** leads to **OUTCOME**

What needs to be designed to get a cup of coffee?   Drink a cup of coffee   Energetic feeling

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Design Abduction: Creative exploration
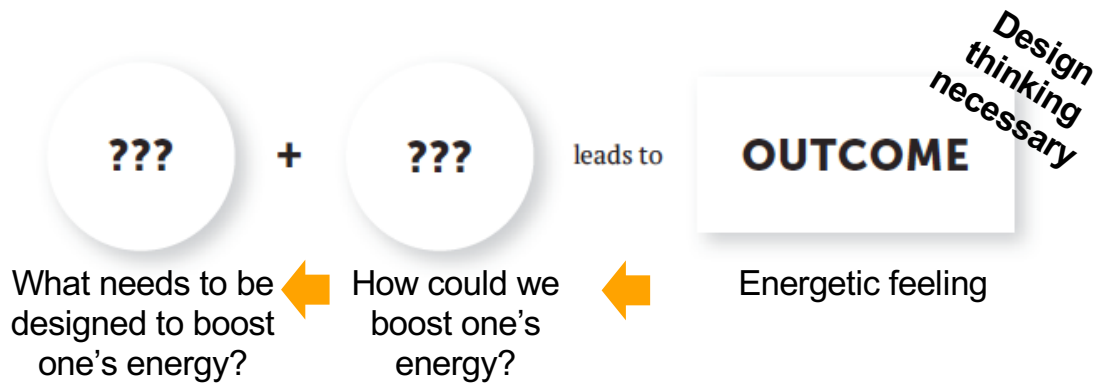
Design thinking necessary

???	+	???	leads to	OUTCOME

What needs to be designed to boost one's energy? ← How could we boost one's energy? ← Energetic feeling

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Human-Centred Design

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Learning objectives

After this course, you understand
   • the foundations and scope of human-centred design
   • the need for and practices in multidisciplinary design

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Human-Centred Design (HCD)

Group discussion: What do you currently think HCD is?

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Human-centred design   **ISO 9241-210:2010(E)**
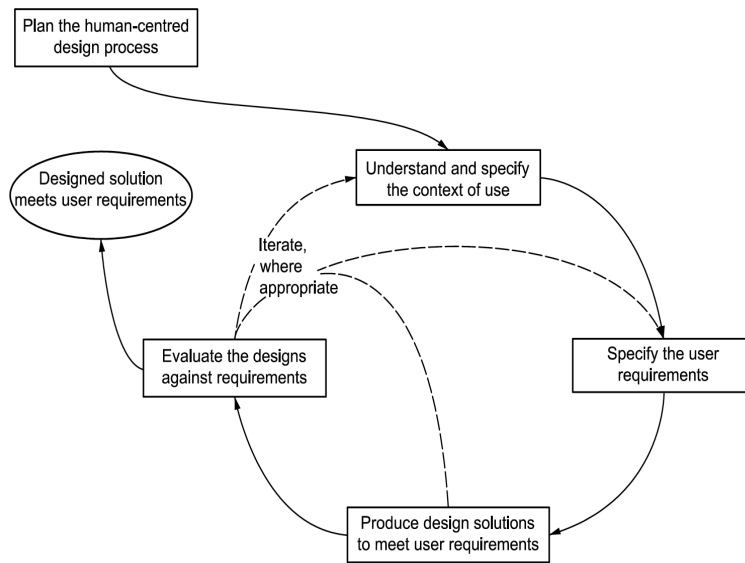
Figure 1 — Interdependence of human-centred design activities

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Design Thinking Process vs. HCD?

Empathise Define Ideate Prototype Test

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Involving people in design

Developer Immersion in Use

Human-Centred Design

Co-Creative Design

Hybrid User Innovator Community

User Experience

Collaborative Design

Independent User Innovator Community

User Inspiration

Firm-Hosted User Design

designers active

users active

inspiration investigation cooperation community

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Sampsa Hyysalo et al.

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Multidisciplinary design

- University: Like-minded students & teachers

- Uschool: Students from three disciplines

- Company: More diverse

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Teamwork assignments

What have you done so far?

Norman's seven-stage model
a description of human goal-oriented action

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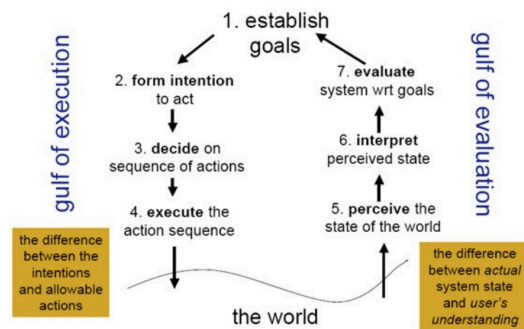
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Design Assignment

1. Pick a small (wicked) problem that requires design abduction
   - Use a similar topic as for other assignments, or pick a new one

2. Involve the target user group in the design process
   - Empathise in the beginning and/or test your design with people outside this class

3. Sketch a solution
   - Slideware (scenario, storyboard, visualization of the design)

4. Prepare a 15min presentation of your project for November 19 session

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Next: assignment presentations

4.11.   Aalto SCI Marko Nieminen

11.11. HY, Cognitive Science

19.11. Aalto ARTS Virpi Roto
Thursday!

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