

Chapter 7



2010 IMT 540B

VALUE SENSITIVE DESIGN

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Outline for today



- Introduction
- Value Sensitive Design (chapter 7)
- Quiz
- Design Challenge
- Pitches and discussion
- Completion and evaluation

Value Sensitive Design (VSD)

- Instrumentalism
- Substativism
- Interactionism



Instrumentalism

- Technology is value-free
- National Rifle Association (USA)



**GUNS DONT KILL PEOPLE
PEOPLE KILL PEOPLE**

Substantivism

- Technology is value-loaded
- No human influence
 - Neglected in creation and use

Interactionism

- Value is created and embedded
- Interaction (used and designed)
- Human influence in creation and use



Value Inclusion

- Problem:
 - Value pluralism
- Distinction in values:
 - Instrumental values
 - Intrinsic values
- Value Hierarchy

Value Pluralism

- Incommensurable values
- Example: Life of a nun vs life of a mother



Value distinction

- Intrinsic values
e.g. Happiness
- Instrumental values
e.g. Wealth



Value Hierarchy

- An order of value importance
- Max Scheler:

Top

Values of the Holy

Spiritual values

Vital Values

Pleasure Values

Bottom



All sciences are now under the obligation to prepare the ground for the future task of the philosopher, which is to solve the problem of value, to determine the true hierarchy of values.



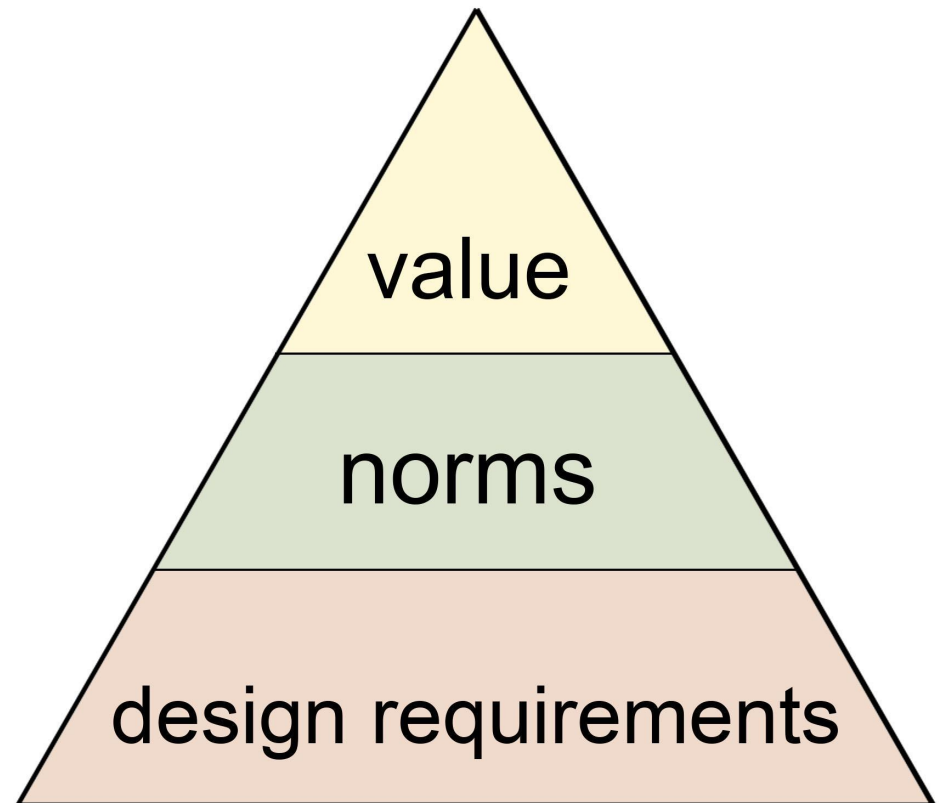
Friedrich Nietzsche
German Philologist

QUOTEHD.COM

1844 - 1900

VSD

- Topdown
- Bottom up



READY, SET, INNOVATE

DO THIS, DON'T DO THAT:

Don't save creative thinking for last-minute brainstorming sessions -- make it a way of looking at your world. This infographic will help you change your thinking, down to your brain's chemicals, so you can embrace new solutions and your next great big idea.

Quiz

DO PAY ATTENTION.

Listen closely. Be observant and informed. Be patient and in the moment.



DON'T PASS JUDGEMENT.

The creative process is just that: a process. Work to understand the problem, not just to solve it.



DO SAY, "YES, AND."

Great improv actors listen to one another and build a scene with each new comment. They have open minds and think on their feet to move ideas forward.



DON'T SAY "THAT NEVER WORKS."

Old patterns can bring old results. Research shows that repetitive thinking etches "grooves" into the brain, reinforcing the old at the expense of the new.



DO PUSH BACK.

To truly innovate, you must diverge from the norm. Question assumptions; draw out new solutions by asking pointed, open-ended questions.



DON'T ARGUE.

New ideas require risk. People need to know it's safe to express new thinking.



DO GET MOVING.

Let the body wander, and your mind will follow, according to a recent study. During and after a short walk, creative output and thinking increase 60%.



DON'T BE LAZY.

Challenging ideas — and even hobbies — better prepare you for divergent thinking.



DO MEDITATE.

Studies show that those who meditate daily for at least 30 minutes have better focus.



DON'T STAY UP ALL NIGHT.

You'll have less capacity to learn. You need deep sleep for deep insights.



DO BE A SPONGE.

Constantly try new things. Seek out new viewpoints, pieces, ideas, music, and even food.



DON'T WAIT FOR INSPIRATION.

Give yourself the time—and energy—to address your most challenging questions.



DO TRUST YOURSELF.

When people believe they can grow their brainpower, they become more curious and more open-minded and are less likely to give up.



DON'T GO IT ALONE.

Consider generating ideas solo, then bringing them to a group for more insights. Complex problems often require multiple viewpoints.



DO MODEL THE GREATS.

Think, *What are smart people doing, and what can that teach me?*



DON'T BE A SHEEP.

Just because someone else is doing it, doesn't mean it works for you. Inspiration isn't imitation.



Week 1 Responsible innovation and applied ethics



- We discussed the subject responsibility
- What are the criteria for someone to be responsible?

Week 1 Responsible innovation and applied ethics



- We discussed the subject responsibility
 - What are the criteria for someone to be responsible?
-
- 1. Must be free to act
 - 2. Knowledge of outcomes
 - 3. Causal connection
 - 4. Transgression of norm

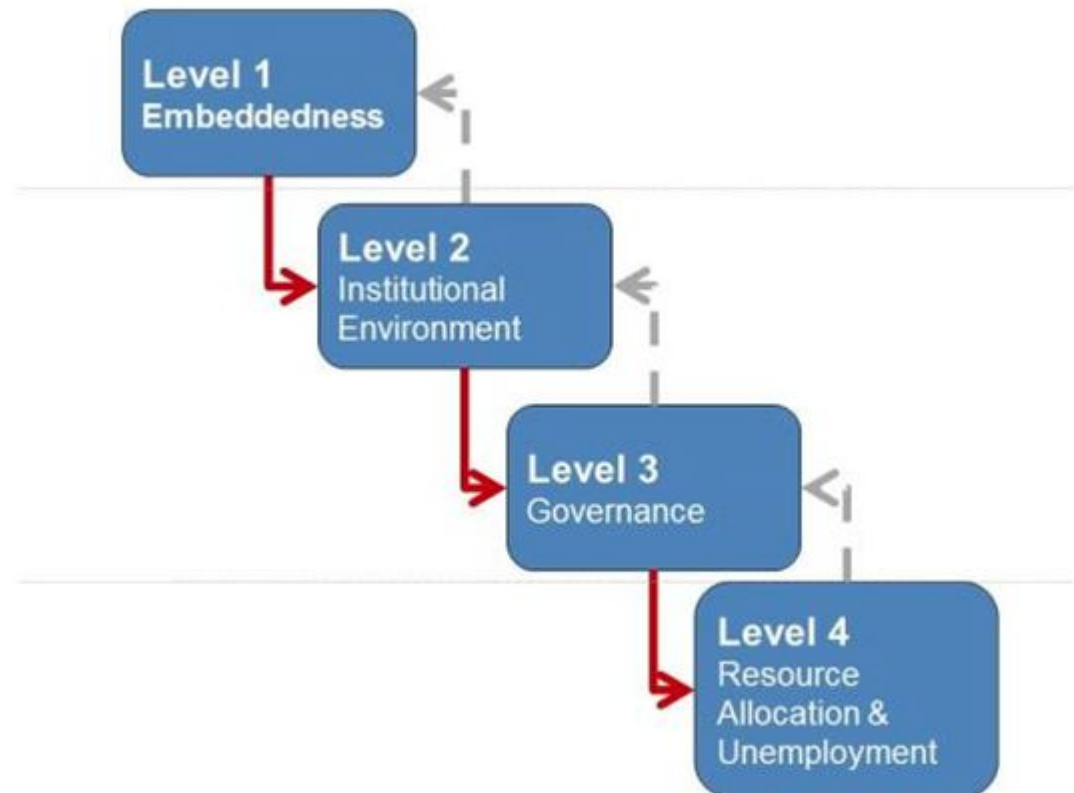
Week 2: institutions and values

Name the four levels out of which the four layer model consists



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Week 2: institutions and values

Which of the following statements is true?

- a. Technology and informal institutions embody values; formal institutions however are neutral.
- b. Technology embodies values. However, both formal and informal institutions are neutral.
- c. Technology and formal institutions are neutral, informal institutions embody values.
- d. Technology, formal and informal institutions embody values.**



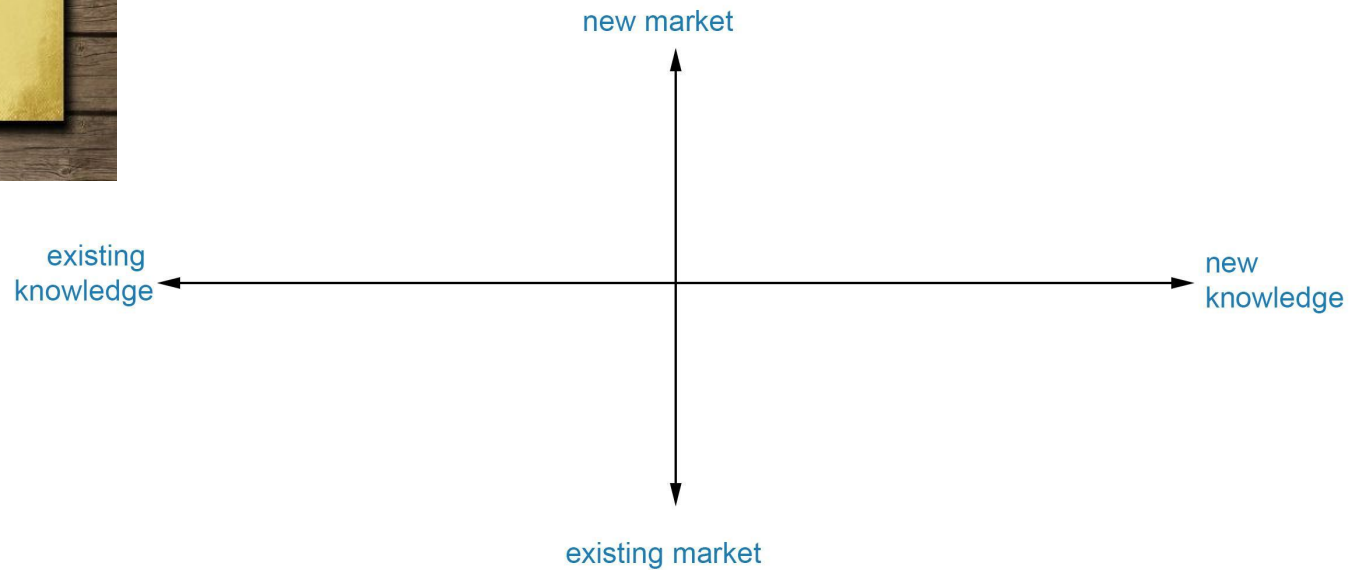
Week 3: How innovations come about?

When you have exhausted all possibilities, remember this:



You haven't.
- Thomas Edison

- What are the names of the four markets?



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Why is it often difficult for existing companies in a sector to develop radical innovations? (Choose the best answer)

- a. Radical innovation involves more uncertainty and is therefore more difficult.
- b. Existing companies tend to be less creative and to think more in terms of existing solutions.
- c. Radical innovations often destroy existing knowledge and markets and are therefore not so attractive for existing companies.
- d. For existing companies, radical innovation is only interesting when patents on current innovations have expired.

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Week 4: Frugal innovations

**DON'T
DESIGN
FOR
DESIGNERS**

**DESIGN
FOR
PEOPLE**

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- When are frugal innovations really responsible?

Week 4: Frugal innovations

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- When are frugal innovations really responsible?
- When they are inclusive for both poor producers and consumers

Week 4: Frugal innovations

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What is one reason that the current dominant path of innovation often results in increasing inequality? (Choose the best answer.)

- A. Government policies that target high tech innovations.
- B. Products that focus on the needs of the more wealthy.
- C. Smaller scale and high capital intensity of innovations.
- D. Reliance on low skilled labour.

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Week 5: understanding and indentifying risk

- Name the two forms of risk and corresponding examples

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- Risk as a harm



- Risk as a probability





Week 5: understanding and indentifying risk

- What does the Collingrude Dilemma mean?



Week 5: understanding and indentifying risk

- What does the Collingridge Dilemma mean?
- When a technology is new, it's extremely hard to predict its negative consequences, and by the time that one can figure those out, it's too costly to do much about it.



Week 5: understanding and indentifying risk

When do we apply the precautionary principle?

- A. If we know the risks and the impacts.
- B. If we do NOT now know the risks and impacts.



Week 5: understanding and indentifying risk

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B. If we do NOT now know the risks and impacts.

Week 6: risk analysis and safety engineering



The "many hands" problem in self-driving vehicles refers to...

- A. You need a multi-disciplinary team to develop the car.
- B. Besides technical issues, you will also have to think about regulation, etc.
- C. In some countries, AV will not be possible because the government will not allow companies to publish and re-use material required for digital road maps.
- D. In case of an accident, many parties can be blamed. There is more than just one cause.

Week 6: risk analysis and safety engineering



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Week 6: risk analysis and safety engineering



- Cost benefit analysis
- What does the NPV of a safety investment express

$$NPV = \sum_{t=0}^T \frac{X_t}{(1+r)^t}$$

X_t = cash flow in year t

r = discount rate

Week 6: risk analysis and safety engineering



- Cost benefit analysis
- What does the NPV of a safety investment express
- The difference between the total discounted present value of the benefits and the total discounted present value of the costs.

Week 7: Value Sensitive Design



VSD has its origins in?

- A. Television
- B. IT
- C. Ethics
- D. Mobile telephony

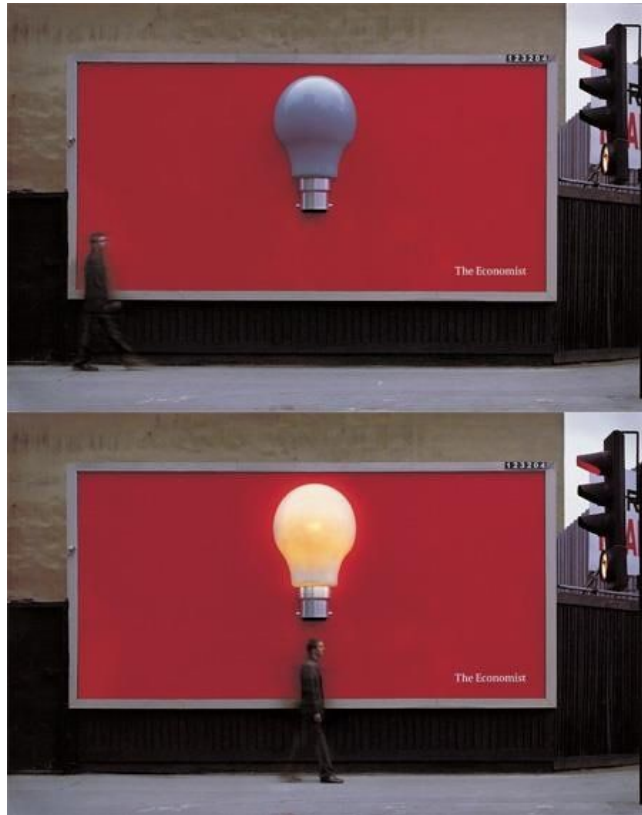
Week 7: Value Sensitive Design



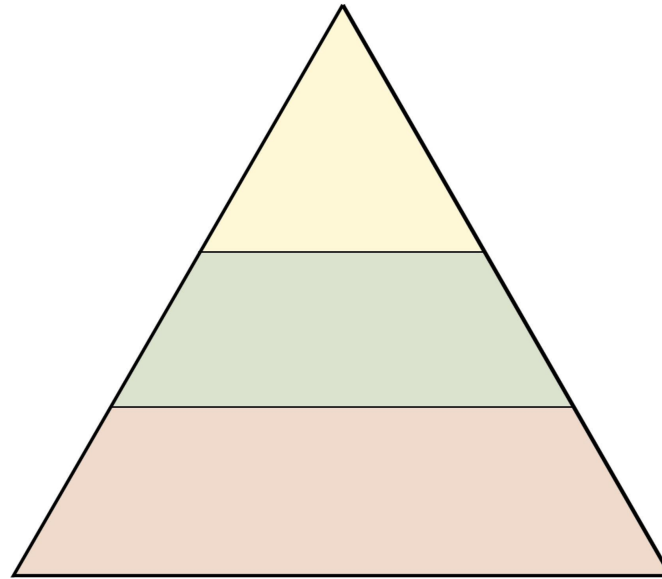
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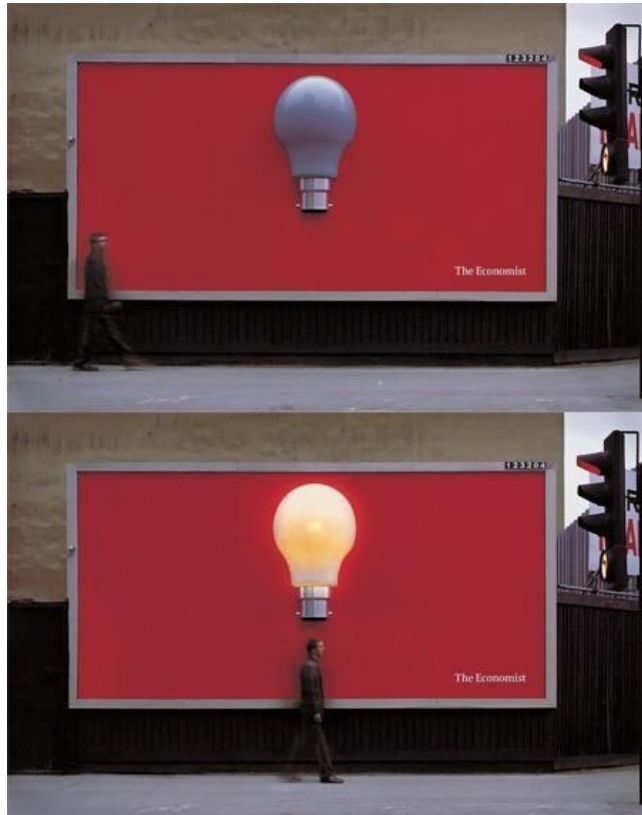
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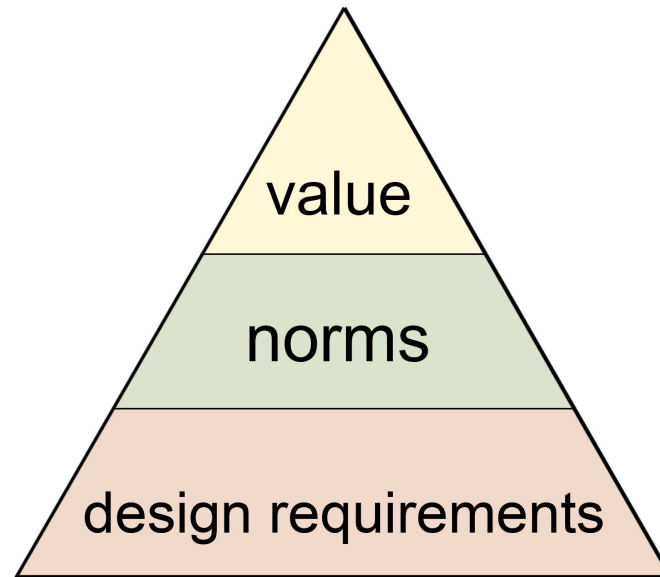
- Out of which elements does the value hierarchy pyramid consist?



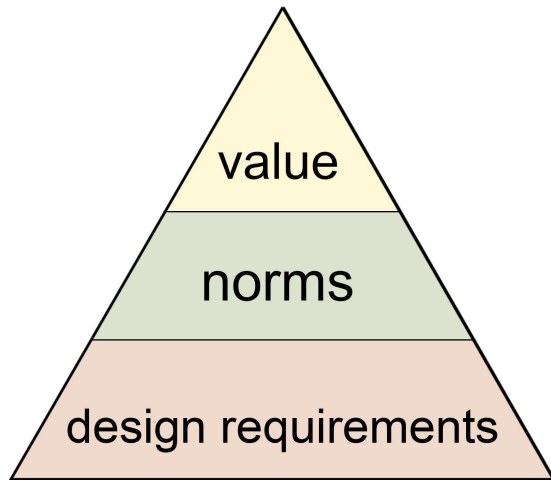
Week 7: Value Sensitive Design



- Out of which elements does the value hierarchy pyramid consist?



Design Challenge



- VSD hierarchy to translate values into design
- Bottom-up and top-down approach
- Values hierarchy
- A way to make sure values are represented in a design

Design challenge

We'll divide into three groups:

- VALUES (15 minutes) → Jesse
- NORMS (15 minutes) → Carmen en Lisa
- DESIGN REQUIREMENTS (15 minutes) → Emiel en Arjen

The assignment: Apply your design to your approach, to make sure values, norms and design requirements are represented in your design.

SPG1+SPG6: Design Requirements → Norms → Values

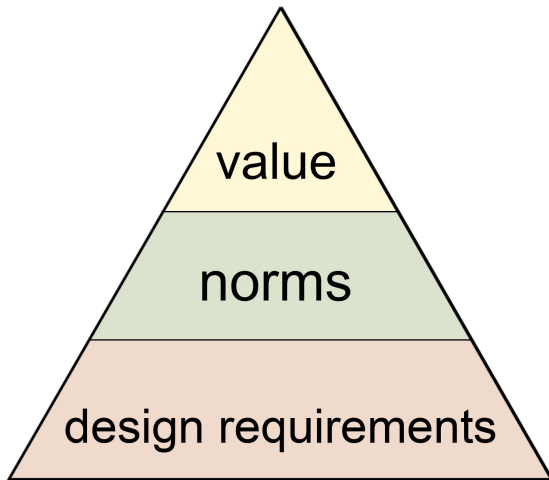
SPG2+SPG5: Norms → Values → Design Requirements

SPG3+SPG4: Values → Design Requirements → Norms

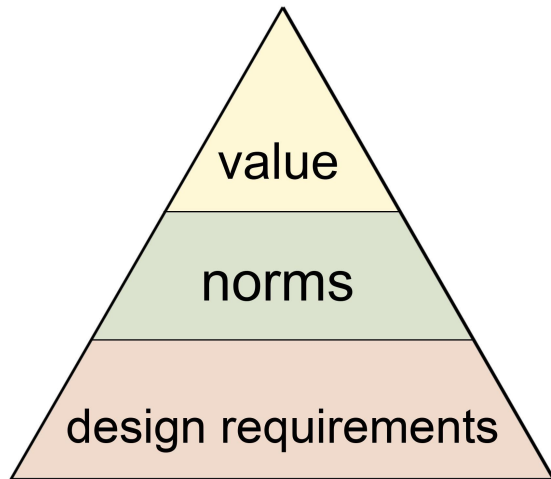
Finally you'll pitch your SPG project :

1 minute: the idea of your SPG

5 minutes: the approach(values/norms/design requirements) and the things you came up with.



Schedule



- 1st round 15 minutes
- 2nd round 15 minutes
- 3rd round 15 minutes
- Break 15 minutes (Finish your presentation!)
- Explanation of next steps 5 minutes
- Pitches and discussion

